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Scottish Branch Annual Conference

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SYMPOSIA

Symposium: Advancing the psychological understanding of psychosis in Scotland
Convenor: P. CHETWYND, ESTEEM, Glasgow.

Advancing first-episode psychosis services in Scotland
P. CHETWYND, ESTEEM, Glasgow.
In recent years, psychologists have played a major role in developing alternative models of understanding the emergence of psychosis in a young person's life. The early phase of a psychosis is now viewed as a time of vital importance during which psychological interventions can make a decisive difference in outcome.
This paper will describe the rationale and evolution of a new early intervention service for psychosis in Scotland.

Theoretical developments in understanding psychotic experiences: Novel psychological processes, novel psychological therapies?
A. GUMLEY, University of Glasgow.
The paper will make the case that conceptual models of psychopathology based on syndrome-based approaches to classification of psychosis are inherently flawed (Bentall, 1990). Rather models developed from knowledge of key psychological processes such as attentional bias, self-consciousness and metacognition, which are common to a range of psychological problems, offer a greater understanding of the development

and maintenance of psychotic experiences. The implications of this research for the development of psychological therapies for individuals with psychosis are discussed.

Research into practice: Dissemination of findings in psychological therapies for psychosis into routine clinical practice
J. HARPER, Ayrshire & Arran Primary Care NHS Trust.
There exists mounting research evidence on the efficacy of psychological therapies for individuals experiencing psychosis. The transfer of research evidence into routine practice is problematic. This paper will discuss the strategies introduced at both National and Local levels to expand the clinical services available. Topics covered will include National Guidelines and Clinical Standards; Training - Psychologists and non-psychologists; Integration of training and service provision.

Models of affect regulation in psychosis and bipolar disorder – implications for service development and delivery
M. SCHWANNAUER, University of Edinburgh.
Recent developments in psychological models of bipolar disorder and psychosis emphasise the role of emotions and models of affect regulation. The combination of cognitive factors and elements of emotional processing presents new possibilities and challenges for the psychological interventions and their underlying theoretical assumptions. This paper will investigate the range of implications of these developments for clinical research and practice for severe and enduring disorder groups, including their affective components as well as core psychotic experiences.

Symposium: Novel experimental approaches to the self in depression
Convenor: J. SMALLWOOD, Glasgow Caledonian University.
There is a growing consensus in the literature on depression that the nature of cognition in depression is not necessarily negative in tone, but rather should be seen as a over-emphasis on the self (Teasdale & Barnard, 1993; Power & Dalgleish, 1997). Consistent with this new direction in research, it is important to develop new paradigms which will allow us to examine how the self is processed in states of dysphoria and depression. The three presentations in this symposium all share a common goal, to understand how the notion of the self is implicated in unhappiness, although each one tackles this issue in a contrasting fashion. With input from clinical, social and experimental psychology this symposium hopes to demonstrate that recent advances in our understanding of the self will make an important contribution to how we understand the relationship between the self and depression in the future.

An experimental investigation of repetitive information processing in clinical depression
D. GILLANDERS, Consulting and Clinical Psychological Services, NHS Ayrshire.
This talk will describe a novel experimental approach which explores the concept of ruminative thought as it applies to depressive disorder, in particular to determine whether depression is associated with a repetitive style of information processing not mediated by conscious, effortful cognition but associated with the self. An affective memory task was constructed, based upon the paired associate learning task. The task contrasted the: (i) emotional valence; and (ii) the self-

relevance of the stimuli on information processing. The performance on this task of 14 depressed individuals was compared to the performance of 14 non-depressed controls. The results indicated that depressed individuals evidenced a higher proportion of repetitive errors, whilst participants in the control group tended to be more random in the errors they made. Further analysis indicated that this was possibly mediated by whether the stimuli were seen as self-relevant by the individual. The implications of these results for our understanding of the role of the self in depressive thinking will be discussed.

The social self in depression
D. HEIM, University of Strathclyde.
This talk examines depression from a social psychological perspective which asserts that the social context plays an important role in complex human behaviours such as depression. The results of a series of studies are presented in which participants were asked to judge the severity of depression of vignettes in which contextual factors had been manipulated. These studies indicate that perceptions of the depressed state vary with context and that dysphoric participants appear particularly sensitive to information about the self. The results are discussed with reference to psycho-social theories of the self and its role in depression.

The consequences of self-referent thinking in dysphoria under laboratory conditions
J. SMALLWOOD, Glasgow Caledonian University.
This talk reviews the results of a series of ongoing empirical research investigations (Smallwood et al., 2003 A & B; submitted A & B) concerned with the effects of the experience of streams of thought which are focused on the self (task-unrelated thought, TUT) on ongoing task performance. Evidence will be presented that in two classes of task, (i) encoding and (ii) vigilance, it is possible to measure behavioural and physiological correlates which correspond to verbal reports indicating the participant attention was thinking about themselves, rather than the current task. In both tasks these differences, particularly heart rate, are amplified by the level of depression reported by the individual. The implications of these findings will be discussed in terms of their implications for our understanding of how self-referent thinking may contribute to the maintenance of depression.

WORKSHOP

Developing human potential by reclaiming the creative resources locked up in dysfunctional emotional responses
R. EVISON, Change Strategies, Pitlochry.
Purpose: To explore in theory and practice the idea that normal humans have resources of mind and body locked up in dysfunctional emotional responses, and that for adults greater gains commonly come from unlocking such resources than from concentrating directly on new learning.
Background: The Integrative Theory of Emotional Responses suggests that emotions form the operating system for all our interactions with the environment. Two main modes of operation occur – a learning mode in which resources of mind and body are flexibly available to devote to chosen tasks, and an emergency response mode in which those same resources are organised to provide a rapid response to threats. While mastery of threats produces reset of resources to flexible learning mode, failure can result in conditioned responses that lock up body and mind resources in rigid responses triggered by reminders of past threats.
Methods: Participants are invited to explore some of their own rigid responses using individual and pairs activities. The Integrative Theory model will be presented and linked to the generation of rigid responses. The differences between the conditions for unlocking resources will be compared with conditions optimal for learning. This will be followed by pairs work and discussion exploring applications of the models to participants' work interests.
Conclusions: In all arenas of developing human potential we need to consider the usefulness of

releasing locked up resources in parallel with direct developmental methods. Because the conditions needed for success differ between the two strategies we cannot do both at once.

INDIVIDUAL PAPERS AND POSTERS

Can psychology inform our understanding of infant feeding?
E.M. ALDER, Napier University, Edinburgh, O.M. DUNN & L.M. WALLACE, Coventry University.
Background: Breastfeeding is a Scottish health priority and WHO recommends exclusive breastfeeding for at least six months (WHO, 2002), but this is a target achieved by few. The proportion of Scottish mothers who were still breastfeeding at four months increased from 45 per cent in 1995 to 50 per cent in 2000. By six months 40 per cent of Scottish women who breastfed initially, were still breastfeeding. Ninety per cent of mothers who gave up by six weeks wanted to breastfeed longer. In Scotland at seven days 45 per cent were exclusively breastfeeding in 2002 (Guthrie Data). It is argued that psychological explanations could advance our understanding of breastfeeding duration.
Methods and results: A cohort study of women delivering in Fife, found that the introduction of solid food before 12 weeks was associated with the opinions of the maternal grandmother, deprivation, disagreement with advice, lack of encouragement to wait from friends and receipt of free food samples (Alder et al., in prep).
As part of a RCT of the effectiveness of a postnatal midwifery intervention on the duration of breastfeeding by first time mothers (Wallace et al., in prep), demographic information and TPB measures were collected from 338 first-time mothers at six weeks post-delivery. Using measures of the Theory of Planned Behaviour (TPB) (Ajzen, 1991), attitudes, subjective norms (SN) and perceived behavioural control (PBC) at six weeks predicted 69 per cent of the variance in intention to breastfeed to four months. The inclusion of TPB correctly classified 77 per cent mothers' breastfeeding status at four months, a significant improvement over demographic variables alone.

Scottish Neurological Symptoms Study (SNSS): Analysis at six months
L. ALDER, M. SELKIRK, D. McCONACHIE, J. SIM & C. HIBBERD, University of Edinburgh.
Background: Medical psychology within neurology is a largely unexplored field. The SNSS is a nationwide study looking at the prevalence of medically unexplained symptoms and their relationship with anxiety and depression, number of symptoms, and patient disability. This study expands upon an investigation by Carson et al. (2000).
Methods: The neurologists rated the extent of organicity of the patients' symptoms. The questionnaire included a symptom checklist, the Medical Outcomes Study Short Form-12 and the Hospital Anxiety and Depression Scale.
Results: After six months, 1736 patients were recruited (response rate: 91.2 per cent); [993 (57.2 per cent) female]. Neurologists' ratings indicated 12.2 per cent were 'not at all explained' (NAE) by an organic cause, 19.0 per cent were 'somewhat explained' (SE), 24.6 per cent were 'largely explained'(LE) and 43.5 per cent were 'completely explained'(CE).
Patients with lower organicity ratings scored higher on measures of anxiety (median: NAE=7, CE=5; p<0.0001) and depression (median: NAE=5, CE=3; p<0.005) than those with greater organicity ratings. Both male (median: NAE=8.0, CE=6.0; p<0.0005) and female (median: NAE=12.0, CE=8.0; p<0.0005) patients with lower organicity ratings reported a higher number of symptoms. Patients with lower organicity ratings showed increased impairment on SF-12 mental health measures (median: NAE=19.2, CE=26.1; p<0.005); there was no significant difference in the SF-12 physical measures (median: NAE=32.2, CE=34.6; p<0.09).
Conclusion: Approximately one-third of patients presenting to neurology clinics do not have an identifiable organic cause. Compared with patients with identifiable disease these patients have higher levels of anxiety and depression, an increased

number of symptoms and greater impairment of mental functioning as measured by the SF-12.

Advances in understanding communication and communication technologies
A.H. ANDERSON, University of Glasgow.
Psychologists interested in understanding language have traditionally studied written language, usually focussing on how isolated written sentences are processed. Most human communication however, is in the form of spoken dialogue where speakers and listeners have access to a wide variety of verbal, visual and contextual information. In this talk I will attempt to demonstrate that despite this richness and complexity, human communication in dialogue can be subjected to detailed experimental analysis. The substantive focus of the talk will explore the role of verbal and visual signals in problem-solving dialogues and the ways in which speakers do or do not utilise feedback from their listeners during a dialogue. In particular a strand of the research in our lab will be described which investigates the extent to which speakers' model their output to their listeners' needs. To explore these issues a range of research methods will be described. These include measures of task performance, dialogue analysis, speech intelligibility studies, and recordings of speakers' eye-movements. Contrasts will be made between how speakers use verbal and visual signals in face-to-face conversation and in interactions where new forms of communication technologies such as videoconferencing are used. Some implications of the research findings will be drawn for the design and implementation of new communication technologies.

The effect of dysphoric mood on informal, argumentative reasoning
A. ANDERSON, University of Strathclyde, University of Manchester & K. REID, University of Glasgow.
Existing research indicates that a depressed or dysphoric mood can impede the ability to solve both inter-personal problems and abstract formal reasoning tasks. However, to date, there have been no investigations of the effect of depressed mood on intuitive or informal reasoning processes. Intuitive reasoning is central to the solution of 'everyday' problems. Furthermore, it is crucial in some forms of therapy where individuals are required to critically evaluate their own dysfunctional beliefs. In the current study, the intuitive reasoning performance of dysphorics and controls on each of two topics (neutral and emotive) was investigated. It was expected that the dysphoric group would produce fewer arguments and less evidence especially for the emotive topic. Numbers of arguments of three different types (causal, allusion to alternatives, and arguments concerning subgroups/conditions) provided by participants were scored, as were numbers of items of evidence provided of each of four different types (anecdotes, claimed facts, generalisations and research evidence). It was found that dysphoric participants produced more arguments overall, and that dysphoria interacted with evidence provision such that dysphorics produced fewer instances of generalisations, claimed facts and research evidence, but greater numbers of anecdotes. The results were interpreted as providing some support for the view that dysphoria impairs argumentative reasoning, particularly in the co-ordination of evidence with argument.

Development of the DISABKIDS Instrument to assess health-related quality of life in children with cerebral palsy
C. ATHERTON, P. HOARE and the DISABKIDS Group, University of Edinburgh.
Objective: DISABKIDS is an EU-funded project which aims to develop, test and implement European instruments for the assessment of health related quality of life of children and adolescents and their families. The current paper will describe the development and adaptation of the DISABKIDS instruments for use with children who suffer from cerebral palsy and present results from the current field test survey.

Method: 111 children aged eight to 16 years of age from Germany, Greece, Austria and the UK completed the DISABKIDS instruments. A parent/carer completed the instruments and also a questionnaire to assess the severity of each child's condition.
Analysis and results: Validity and reliability will be examined using exploratory and confirmatory factor analyses to compare the field test measure with a model that arose from pilot test analysis. Second, parent and child responses will be correlated to investigate the level of concordance between child and parent ratings of quality of life. Third, cross cultural comparisons of children living in Greece, the UK, Germany and Austria will be made. Finally, regression analyses will be carried out to examine the relationship between severity of condition, age, gender and socio-economic status upon quality of life ratings.
Conclusion: Future plans to implement this new measure in a variety of clinical settings will be discussed.
N.B. The project is currently approaching the end of the field test phase. Analysis will take place during the months of October and November.

Achievement goals, cognitive and meta-cognitive strategy use and academic performance in British students

E.A. BOYLE, University of Paisley & A. ANDERSON, University of Strathclyde.

The achievement goal approach to understanding what motivates students academically has been the most influential perspective in the US. Research in this tradition has identified two distinct goals which motivate students, mastery goals and performance goal, which differ in terms of students' views of the nature of academic competence. Elliot (1999) argued for a more comprehensive explanatory model, subdividing performance goals into performance-approach and performance-avoidance goals and examined links between achievement goals and academic performance. The main aim of the current study was to assess the generality of this approach by examining links between achievement goals and academic performance in a sample of British students.

One-hundred-and-six first-year university students at a British university completed Elliot's goal orientation questionnaire (Elliot, 1999) and Entwistle's Approaches and Study Skills Inventory for Students (ASSIST) (Tait & Entwistle, 1996)
A series of regression analyses indicated a direct link between mastery goals and academic outcome, although a mediation analysis showed that this link was mediated by the amount of effort students put into studying. The performance-approach goal was not a predictive variable, while the performance-avoidance goal was linked to the negative mediating variable disorganisation, but not to academic performance. These results contrasted with Elliot's, who found that mastery goals were not a direct predictor while performance-approach and performance-avoidance goals were direct and mediated predictors of academic performance. Further studies with a broader range of British students are required to establish whether the current pattern of results reflects specific characteristics of the current sample of students or the non-competitive nature of the British educational system.

An Alcohol-related Attentional Bias in heavier over lighter social drinkers is found through the novel application of a Pictorial Stroop Paradigm

G. BRUCE & B.T. JONES, University of Glasgow.

The textual Stroop paradigm has consistently revealed an Alcohol-related Attentional Bias (AAB) in individuals abusing or depending on alcohol as compared with social drinkers. With such an AAB, alcohol-related objects are thought to capture attention more than otherwise, enter awareness more readily and influence consumption decisions more. AABs have helped explain both the perpetuation of abusive/dependent consumption in the face of rising problems and the high frequency of post-treatment relapse.
Textual Stroop AABs in heavier as compared with

lighter social drinkers have only been inconsistently found and consequently do not feature in explanations of social consumption variability. However, research with dot probe and flicker paradigms suggest that using pictorial rather than textual distracters might more appropriately test AAB in social drinkers. Consequently, a Stroop paradigm was employed in which 'lighter' and 'heavier' social drinking participants were required to colour-name red, green or yellow filters placed over photographs (not text) depicting alcohol-related and neutral objects and scenes.
More alcohol interference (calculated as colour-naming RTs for alcohol trials minus RTs for neutral trials) was found in heavier than lighter social drinkers—a significant and 'large' effect size (Cohen's d=0.82; 95 per cent confidence limits not capturing the zero d).
With this novel application of the pictorial Stroop paradigm we add to the small number of studies revealing a differential AAB within social drinkers. This adds, in turn, to other sources of implicit cognitions (subjective alcohol cue reactions and alcohol associations) that have been identified as having or as having the potential to impact on social drinking decisions.

Informing parliamentarians on the proposed changes to mental health legislation: What role do psychologists play?

N.A. COGAN, BPS Secondment at Parliamentary Office of Science and Technology, Westminster, London.

The Parliamentary Office of Science and Technology (POST) is an office charged with providing MPs and peers with background briefing on science-based public policy issues. Each year the British Psychological Society (BPS) funds a PhD student to work with POST in Parliament for three months. This year, the POST/BPS fellow is preparing a brief for Parliamentarians on proposed changes to the Mental Health Bill which Parliament is expected to debate in the forthcoming session and which are part of a wider review of mental health law. This will involve working closely with the Select Committee scrutinising the draft Mental Incapacity Bill, to ensure that the briefing reflects recent developments in this area.
The briefing will describe current mental health legislation, examine the proposed changes in the draft Bill and analyse the response to them from professional, clinical and mental health users groups. Contentious issues such as the government's proposal to introduce Community Treatment Orders and the development of a new legal framework for people with severe personality disorder who are regarded as dangerous, with the aim of ensuring that such individuals may be detained for public safety reasons, are discussed. The briefing will also examine concerns as to whether the new proposals will be compatible with the European Convention on Human Rights.

Assessing the methodological quality of research papers

M. COULTER, University of Strathclyde.

Quality and its assessment is a key issue within any area of scientific research, particularly within healthcare where trials should at all times inform evidence-based practice. A concurrent area of attention has been the rise of Complementary and Alternative Medicine and scientific standards are now being applied to this field of research. This study examined whether the commonly accepted weaknesses of CAM research do in fact exist when measured with a validated instrument (the Quality Index) in a random sample and in comparison with a similar sample of Orthodox medical trials. Trials were randomly selected from a population stratified by intervention type (CAM or Orthodox), health condition (depression, asthma & back pain) and date of publication (1992–2003 in four bands). 236 papers were coded, a random sample of 48 papers were independently coded to verify reliability using Cohen's Kappa. Analyses using ANOVA and Chi-square revealed no significant differences in overall quality score between CAM or Orthodox trials, or within the subscales. Although an overall positive publication bias was detected this did not vary according to type of intervention. The measure of quality used had been previously

validated and specifically developed to accommodate more than just randomised controlled trials. Despite limitations of language this study found no evidence that CAM research in general is of a poorer standard than Orthodox research. It also provides additional evidence of the measure's general applicability and raises interesting questions about the exclusion of some designs such as cohort and case control studies from review papers.

Measuring the impact of disability on Quality of Life, based on a population of adults with muscular dystrophy

J. EDSON, P. BANKS, S. RIDDELL, Strathclyde Centre for Disability Research & R. PETTY, Southern General Hospital and Scottish Muscle Network.

Presenting a section of results from a much larger study 'An Assessment of Unmet need in Adults with a Muscular Dystrophy (MD)'. Though rare, with estimates suggesting a prevalence rate of 900 affected adults in Scotland, the impact of the condition can be devastating. Although the aetiology and physical symptoms are well researched, the psychological, economic and disabling impact of MD is not.
Aim: To investigate the current situation for adults with muscular dystrophy, and to explore measures of Quality of Life, to determine their effectiveness in highlighting the impact of MD and disability.
Method: 46 adults with a muscular dystrophy from regions across Scotland completed the Adult Individualised Quality of Life Measure for Muscle Disease and one-to-one interviews. 30 of these participants also completed the SF 36 and a 16-page survey generating information regarding demographics, employment status, living conditions and diagnosis.
Results: The different measures of the Adult Individualised Quality of Life Measure for Muscle Disease demonstrated higher internal consistency (alpha=0.84) compared to the internal consistency of the SF 36 (alpha=0.58). The SF 36 approaches health but does not investigate aspects such as physical appearance, weakness, and effects of medication, which this study argues, has an impact on personal relationships, finances and employment. This is further supported by some significant differences that were found between groups using one-way anovas and independent t-tests (results have been collated but are too many to discuss here).
Discussion: General measures of quality of life/health are not sufficiently subtle to highlight the impact of disability. This research concludes that the Adult Individualised Quality of Life Measure for Muscle Disease is a much more accurate measure of quality of life with a sample of adults with a muscular dystrophy.

Can online stress intervention programmes help?

C. GIBBONS, Queens University Belfast & P. ELLIOT, PATRIAM.

Cognitive Behaviour Therapy, Behaviour modification and Humanistic treatment interventions are long established, as is there increasing use through integrated, eclectic programmes. What is relative new are attempts to offer such provision online. This study assessed the effectiveness of one such online stress management intervention
Twenty volunteers participated in 11 online sessions that made up a stress intervention programme known as Patriam. Each of the 11 sessions dealt with different aspects of the causes of stress and stress management. A focus was put on challenging the cycle of negative thinking and how this can be replaced through positive thoughts, self-affirmations and positive action. Online exercises in relaxation training were used to manage the physiological response to stress.
The programme was evaluated by asking volunteers to self-evaluate their psychological state on each month of the six-month programme by circling a number of positive and negative descriptors and, at the end of the programme to complete a short questionnaire, reviewing the programme, using a Likert scale.
A path analysis was carried out on the longitudinal responses and significant differences were found

between positive and negative descriptors across time with the positive self-descriptors increasing the negative ones decreasing over the six-month period.

Men's talk about weight: A challenge to the applied psychologist?

E. GILLON, Glasgow Caledonian University.

Psychological distress in the area of food and weight is traditionally associated with women. Despite this, a number of studies now suggest that growing numbers of men are experiencing difficulties in this arena. In this paper I consider the challenges facing applied psychologists in identifying, and initially working with, men encountering problems with weight. Drawing on the results of an discursive analytic study exploring men's talk about weight, I will suggest that a clear conflict can be observed between constructions of weight and bodily management as a positive attribute of self, and those constructs formulating a problem with weight in highly negative terms. This conflict may be linked to traditional assumptions linking 'weight problems' with notions of femininity, and the interaction of such assumptions with the growing emphasis on bodily management and health amongst men. The study suggests that men, in attempting to manage the contradictions inherent in these discourses, often employ rhetorical strategies that downplay weight as problematic while acknowledging their awareness of it as a site of potential concern. The nature and basis of such strategies will be explored, and their implications for the applied psychologist considered. In particular, it will be suggested that gendered constructions of weight are embedded within much psychological research and practice, hence leading to the possible scenario in which applied practitioners' theoretical understandings may mesh with rhetorical strategies employed by men in reporting their state of well-being. It will be suggested that one possible outcome of this process may be that men encountering psychological distress in the area of weight (and body) may not be identified and/or offered appropriate support. The dangers of this possible outcome will be discussed, and some key challenges identified. These include the need for practitioner sensitivity to 'language' used by men, a requirement for further 'baseline' research in the area of men and weight and the development of appropriate diagnostic protocols for manifestations of distress linked to weight within sub-groups of the male population.

How do children and adolescents cope with different types of bullying?

S.C. HUNTER, J.M.E. BOYLE & D. WARDEN, University of Strathclyde.

Background: When examining how pupils cope with bullying, it is important to differentiate between different types of bullying (e.g. physical, verbal) as different coping strategies may be differentially effective. However, only one study has been published in this area: Rivers and Smith (1994) reported gender differences in pupils' willingness to seek help when they experienced physical or indirect bullying, but no developmental differences. The current study extends that work by examining more coping strategies (10 in total). Furthermore, differences between persistently-, occasionally- and non-bullied pupils were examined with the aim of identifying potentially adaptive strategies.
Sample: Participants were 288 pupils aged 9–10 years (51 per cent female), 247 pupils aged 11–12 years (52 per cent female) and 170 pupils aged 12–13 years (54 per cent female).
Method: Pupils completed a vignette-based measure of coping strategy use (incorporating five bullying vignettes) and a self-report measure of involvement in bullying problems.
Results: A series of 50 logistic regression analyses were calculated to predict coping strategy use, each from three independent variables: gender, School-Stage (P5, S1, S2) and persistence of bullying (persistent, occasional, not-bullied). Gender and School-Stage were both important predictors. For example, girls were more likely to try to avoid direct bullying situations, as were Primary school pupils. Differences between persistently-, occasionally- and non-bullied pupils

coping strategies were negligible.
Conclusion: Persistently-, occasionally- and non-bullied pupils report that they would use the same strategies when faced with different types of bullying. Possible explanations for this are discussed, as are the implications for intervention strategies of the gender and School-Stage differences.

Stories unfolded – replacement activity theory

A. IMLAH

This presentation reports on an experiential study of people's lives before and after experiencing disability caused by physical injury or disease such as SCI or MS. 87.5 per cent of the participants lead fulfilling, positive and fruitful lives though they can no longer participate in previously enjoyed, everyday activities, which are normally taken for granted. Nor can they attain previous life objectives. Their life path has been thwarted and lifestyle changed. I decided to further examine the more contented 87.5 per cent after looking at the lifestyles of the less happy 12.5 per cent group. This minority group did not cope so well and so I wondered how the more contented and positive majority adjusted and managed life and change. There were apparent contrasts such as; getting out and being more independent from close others. This separation was often more positive and enabling than external support from close others. Fifty per cent of the subjects were from Scotland and the other 50 per cent were from England and the USA. Twenty-four disabled people, or their significant others were interviewed about how they perceive their lifestyle before and after their physically disability was experienced.
The results highlight novel ways of adapting to life changes such as increasing self worth to try anything, by taking risk, on the premise that the worst has already happened and varying degrees of reliance on family support.
Interestingly people living alone seem better adjusted and more accepting of themselves and less frustrated. Positive coping strategies such as denial and acceptance (which seemed to effect similar outcomes) were witnessed, as was the more permanent, management mechanism of substituting activities, beliefs and even goals, to enable a sustained positive and happy state of psychological well being. Being active outside the home encouraged a sustained independence and worth. It seemed to give meaning to some lives and could be, for example, education or work.
It is concluded that it is necessary to accept limitation and ill being to attain well being – understanding new needs and becoming flexible enough to replace old activities with different, more accessible ones. It is suggested that the idea of replacement activity could be used as an apt adaptation to, manage different novel, as well as limited human functions to develop a healthy way of being. This practice will similarly help people with mental health problems and children who have to cope with sudden change or thwarted life goals such as poor Higher results.

Item-generative tests in the measurement of cognitive deficits among older patients: A major advance for psychology

S.H. IRVINE, FBPsS, University of Plymouth & C.D. IRVINE, Pontefract and Pinderfields Hospital, Wakefield.

Single participant, repeated measure studies of cognitive performance using multiple parallel forms of reliable and valid psychometrically referenced tests in situations where cognitive deficit is known to occur are extremely rare. This landmark study reveals the nature and extent of individual post-operative cognitive decrements as a function of anaesthesia, and compares them with the effects of aging after a seven-year interval. In 1996, following critiques (cf. Irvine & Irvine, 1996; Irvine et al., 1998) of practices in the repeated measurement of cognitive deficit, a single male patient aged 65 took a battery of item-generative tests for a period of 10 days following minimally invasive endoscopic surgery. Nineteen weeks later the patient repeated the process. In 2003, the patient agreed to take the tests again for 10 successive days.

The results show significant and substantial post-operative effects on perceptual speed, spatial orientation and working memory tests involving calculations, alphabet restructuring and semantic identity. In the seven-year follow-up condition there was also evidence of cognitive performance decrement over time, but not of the same severity as that produced by anaesthesia.
The presentation briefly illustrates the cognitive tests and summarise the results, leaving time for discussion of the implications for psychology of the effects on test construction produced by item-generative theory (Irvine & Kyllonen, 2002). One advance has been the removal of memory confounds in studies measuring change.

Disability as behaviour: Measurement, prediction and theory

M. JOHNSTON, University of Aberdeen.

Disability has been conceptualised within three main frameworks: medical, social and psychological. The dominant medical model represented by the WHO ICIDH framework has recently been reframed as the International Classification of Function (WHO, 2001). The key construct of disability from the ICIDH model is now activity limitations (AL) and the role of personal and environmental factors are more prominent. Thus the construct is now clearly behavioural and, therefore, readily conceptualised within psychological theories that predict and explain behaviour.
Psychological theories make different predictions from medical and social theories and offer different modes of intervention. They suggest that changes in AL may occur even when no change has occurred in the medical condition or the social environment. The paper discusses studies that predict AL using social cognition models and the outcomes of behavioural interventions
Two measurement issues are discussed. First, the relationship of self-report, proxy, observed and direct measures of AL are discussed. Second, in order to use the model to develop testable research questions, it is necessary to be able to measure the construct of AL independently of the other constructs, impairment and participation restriction. Otherwise apparent relationships between constructs in the model may be due to contamination of measures.

Differential alcohol-related attentional bias in social drinkers: Is it real, is it really attentional?

B.T. JONES, University of Glasgow.

Recent applications of the Flicker paradigm for Inducing Change Blindness (FICB) revealing an alcohol-related attentional bias in heavier social drinkers have used groups of alcohol-related and neutral objects that have been poorly controlled for non-alcohol intrinsic and positional saliences. Two experiments are reported in which these are controlled.
In a FICB, the participants' task is to 'spot the difference' between an original stimulus and an identical one in which a small change has been implemented, when they are briefly presented in a continuously alternating series. Original stimuli comprised two 3 x 3 matrices of photographs of nine alcohol-related and nine neutral objects bilaterally arranged in a larger 3 x 6 landscape matrix. Nine pairs of alcohol/neutral stimuli were chosen in which pair elements matched on values of size, shape colour attributes. Changed stimuli had either the alcohol-related or the neutral object situated at the centres of the corresponding matrices (Experiment 1) or both (Experiment 2), substituted.
In Experiment 1, heavier social drinkers had a significantly shorter detection latency for the alcohol change than lighter social drinkers (although a predicted opposite effect was found for neutral objects it was not significant). In Experiment 2, participants who detected the alcohol change drank significantly more units of alcohol per week than those who detected the neutral change.
The results of Experiment 1 and 2 are consistent with the view that a differential alcohol-related attentional bias is found in social drinkers even when non-alcohol saliences are controlled. It will be discussed why this bias cannot be explained by

response competition as with, for example, the alcohol Stroop paradigm.

Our future leaders: Can attachment theory help us understand the role of parents in shaping leadership behaviour?

H. KAHN PhD, Heriot-Watt University, W.B. HOWIESON, Royal Air Force & T. THIAGARAJAH, The State Hospital at Carstairs.

Relatively little is known about how early childhood experiences shape the expectations about the self in relation to leadership behaviour. Attachment Theory may allow us better to understand the nature of individual difference and its impact on leadership behaviour.
In Attachment Theory, initial experience with the parent (or caregiver) during infancy results in internal working models, or schemas, consisting of expectations regarding the self and others. Moreover, variations in the responsiveness of the parent/caregiver yield three possible attachment styles:
● The secure attachment style resulting from consistent caregiver responsiveness.
● The anxious-ambivalent style resulting from inconsistent caregiver responsiveness.
● The avoidant style associated with consistent caregiver unavailability and non-responsiveness.
This paper will examine how a person establishes a template of himself/herself and others, via an internal working model. The importance of this internal working model can be understood as a cognitive schema that a person utilises to predict the likely behaviour of himself/herself and others, from which designated action follows in all aspects of a person's life including relationships, work, and illness.
The paper will propose that Attachment Theory (and associated attachment styles) may play an important role in shaping leadership behaviour. The paper will suggest that it is not leadership 'traits' that require further analysis. It may be that research into Attachment Theory offers the real predictor of future leadership behaviour.

Prevention of disabling practises in higher education

A. LAING & D. FRYER, University of Stirling.
In 2001, the UK's Disability Discrimination Act (1995) was amended by the Special Educational Needs and Disability Act to include Higher Education. Part IV (Education) noted that it was from then on an offence to treat 'disabled students' less favourably than other students.
My research was a multi-stakeholder exploration of the position of my own University with regard to the way disability issues were being handled within the context of changing practices, policy, legislation and attitudes. I focused on my own institution not because there was any reason to think it was any worse or any better than anywhere else but because I was already immersed in it, which aided access, and because I could add participant observation to my tool kit of research methods.
The research was framed within the social model of disability which emphasises the extent to which the nature and extent of disability is determined primarily by organisational and institutional practices rather than by personal 'deficits'.
I was committed to making recommendations advising steps that could be taken to reduce or prevent disabling practices within the university and to assist the university in developing a climate which is proactive towards disability as oppose to being reactive.
The research demonstrated that it was possible to transform an undergraduate assessment component into critically theorised action research which was simultaneously investigation and social change activism.

Scottish neurological symptoms study – recruitment progress for the first six months

D. McCONACHIE, J. SIM, L. ALDER, M. SELKIRK & C. HIBBERD, University of Edinburgh.
Introduction: A large proportion (30 per cent) of new patients attending neurology outpatient clinics in Edinburgh, presented with medically unexplained symptoms (MUS) (Carson *et al.*, 2000). These patients reported a similar level of disability, anxiety and pain than patients whose symptoms were explained by disease. We report on the recruitment process in a large ongoing study of this problem in Scotland.
Aims: The overall aims of the study are to:
(a) determine the percentage of new referrals with MUS at neurology outpatient departments across Scotland; (b) investigate relationships between MUS, anxiety/depression and patient health status; (c) explore the health care costs associated with MUS.
Design: This prospective cohort study aims to recruit 4000 new referrals to neurology clinics across Scotland.
Process of recruitment and maintaining participation: The study uses several strategies, around a core method, to maximise the quality and rate of participation.
Progress: 1736 patients have been successfully recruited, 91.2 per cent of eligible invited patients. The geographical distribution of recruitment will be indicated.
Discussion: The lessons learned to date in the conduct of a national, multi-centred study, the tricks and the pitfalls will be discussed.
This study is funded by NHS QIS and CSO.

Eradicating illiteracy: A social, political and economic analysis of why illiteracy is unnecessary

T. MacKAY, University of Strathclyde/ Psychology Consultancy Services.
Objective: Every year over 100,000 young people leave UK schools functionally illiterate. This paper argues that illiteracy is an unnecessary social evil. Results are presented from the first six years of a 10-year study using the entire population of school-age children in a Scottish council area. They indicate that a key aim of the project will be achieved – the eradication of illiteracy throughout the whole school population within 10 years (by 2007).
Design: This is a multiple-level strategy comprising two key design elements: (1) a longitudinal population study (N>7000 annually); (2) supplementary quasi-experimental and other studies with participants who have not met literacy targets.
Method: (1) Each year 4000+ participating children aged four to seven years are individually assessed and 3000+ aged seven to 12 years have group assessments. All receive a literacy intervention, and comparisons are made with pre-intervention baseline cohorts, allowing systematic population changes to be assessed. (2) Children who fail to reach literacy targets receive a further programme of intensive individual instruction. Comparisons are made with matched controls and by other methods.
Results: There are highly significant gains for all groups on every variable. There are overall gains in attainment for both high and low achievers, and those previously failing are progressing towards functional literacy.
Conclusions: By using a two-stage strategy – a general literacy intervention in the early school years followed by intensive support for those who are still failing – illiteracy in a population can be eradicated. The social, political and economic implications are discussed.

Who cares for the carer? Perceived support and coping strategies of student health professionals' on clinical placement

J. McKECHNIE, Glasgow Caledonian University.
Supporting student health professionals in clinical areas is an important issue relating to student

satisfaction. Davies *et al.* (2002) suggest that staff working in certain areas may not be adequately prepared for supporting student nurses. This study was designed to investigate the student health professional's experience on clinical placement, with respect to the role of support, and its impact on student satisfaction. A questionnaire/survey design was utilised comparing third-year Nursing (N) and Occupational Therapy (OT) students' experience of perceived support on clinical placements. Forty-four OT's and 60 N's completed a questionnaire, after they had experienced a number of placements, during a theoretical study block. There were significant differences between the number of coping strategies and social support used with the OT's utilising significantly more of these than the N's (p<0.001; p=0.007). The OT's scored significantly higher in the amount of time spent working with a mentor (p<0.001), feeling supported by a mentor (p<0.001) and overall satisfaction with support (p<0.001). For all students, if the placement experience closely matched what had been previously imagined, this positively correlated with perception of overall support (p=0.001). Overall support also positively correlated with working with a mentor side by side (p=0.002), and contact from a university lecturer (p=0.017). Students perceive that they are more supported while on placement if they use a range of coping strategies especially social support. Helping students to realistically imagine what a placement may be like could increase students' perceived support and overall satisfaction with clinical experience.

The use of Video Interactive Guidance (VIG) to increase the attunement between children on the autistic spectrum and their mothers

A. McMILLAN, University of Dundee.
Video Interactive Guidance (VIG) is a dynamic and interactive way of improving the attunement within human interactions. The aim of the work is to aid the client to gain a greater insight and knowledge of the nature of their communication. VIG is based on Trevarthen's theory of primary and secondary intersubjectivity, and theories of adult mediated learning experiences, i.e. Bruner, Vygotsky and Feuerstein. The approach involves structured feedback of video footage guiding the client to identify effective 'Contact Principles' to improve interactions and promote learning.
The inborn prelinguistic interactive system of intersubjectivity, the core of VIG, is also the system that is affected in the development of children on the Autistic Spectrum. VIG was adopted to improve attunement between two children on the Autistic Spectrum and their mothers. Following intervention both mothers showed an increase in the attuned use of the 'Contact Principles' and changes in their pattern of interaction. There were increases in the length and quality of interactions, and both mothers reported being more 'in tune' with their children.
VIG allows individual, and different, processes of learning to take place and suggests that change is more effective if reached in a context of collaboration rather than prescription. Mothers were able to chose their own strengths with visual evidence of their efficacy. Both reported this as the most effective aspect of the intervention. VIG is inherently grounded in a variety of psychological theories and represents psychology in action. It allows opportunities to advance psychology by empowering psychologists to move further toward dynamic, collaborative ways of delivering services to clients.

Reconsidering the attribution/ adjustment relationship in pain

J. McPARLAND, Glasgow Caledonian University, A. WHYTE, Liverpool John Moores University & T. MURPHY-BLACK, University of Stirling.
There is no scarcity of research investigating the attribution/adjustment relationship in pain/illness/injury situations. However, inconsistent findings about the nature of this relationship have been attributed to methodological variations that remain unconsidered. The present study explored two of these. Firstly, self-defined adjustment was examined to establish attribution/adjustment

interactions that may go undetected by more structured adjustment measures. Secondly, retrospective and current attributions and adjustment were measured because research suggests they may be associated more when considered at similar times, i.e. both at condition onset or currently, than different times, i.e. retrospective attributions and current adjustment. Additionally, the study aimed to distinguish between cause, responsibility and blame in order to limit their interchangeable use in the interpretation of results.

Participants consisted of 62 pain sufferers (68 per cent female, mean age=51.05 years, mean pain duration=8.15 years), with varied pain complaints, including back/spinal pain (29 per cent), arthritis (27 per cent), and upper (23 per cent), middle (13 per cent), and lower (8 per cent) body pain respectively. Cause, responsibility and blame attributions, and self-defined adjustment were measured using an interview schedule.

Three main findings emerged. Firstly, descriptive analyses indicated cause was distinguished from responsibility and blame, which were indistinguishable from each other. Secondly, few attribution/adjustment relationships were found, indicating attributions have little bearing on adjustment to pain. Those found indicated they were not related at any particular time. Thirdly, positive self-statements towards pain approached significance in being associated with self-blame (χ^2, 3.63, df=1, p=0.06, Cramer's V=0.30, p<0.05), suggesting that aspects of adjustment not measured by more structured measures may interact with attributions. Implications of these findings for future research are discussed.

Innovations in parapsychology research

R. MORRIS, University of Edinburgh.

This paper will survey some of the recent developments in Parapsychology research procedures, including those involving state and trait variables as well as psychophysiological ones. Anomalous effects continue to be manifest as research methodology improves, and we are starting to identify certain conditions that seem to be more favourable to the production of the effects. There remain many methodological issues that are intriguing in themselves, and we are increasing our knowledge of how we can be misled by ourselves and others as well.

Predicting hopelessness: The case for positive future thinking.

R. O'CONNOR, University of Stirling.

Objectives: Hopelessness is thought to be the psychological characteristic most closely connected to suicidal behaviour. Hence, the central objective of this study was to investigate further the conceptual clarity of this psychological dimension within a self-regulatory framework. Of particular interest was whether positive future thinking (PFT) and stress moderated the relations between life orientation (generalised pessimism/optimism) and subsequent hopelessness. The role of PFT in suicide risk assessment is important as it is well established that parasuicide patients are impaired in their ability to generate these specific prospective cognitions.

Methods: This was a prospective study. One-hundred-and-twenty-one participants completed measures of hopelessness, perceived stress, life orientation and MacLeod *et al.*'s (1997) future thinking task at Time 1. Approximately three months later, at Time 2, a total of 91 of these participants completed the measure of hopelessness again.

Results: As predicted, participants generated more future thoughts that they were looking forward to (PFT) than the number of expectancies that they were worried about. Zero-order correlations revealed that PFT was not independently correlated with hopelessness at Time 1 or Time 2. However, hierarchical regression analyses revealed that stress and PFT moderated the relations between life orientation and Time 2 hopelessness. Specifically, those who were high on pessimism, low on stress but also low on PFT, these participants reported significantly higher levels of hopelessness than those who were high on PFT. These findings remained significant after controlling for Time 1 hopelessness. Other findings are described.

Conclusions: These findings extend our understanding of hopelessness. Positive future thinking is a key risk factor for suicidal behaviour. This is the first study to demonstrate the moderating effect of future-oriented cognitions to predict changes in hopelessness. The implications for cognitive therapy in suicide prevention and the promotion of positive mental health are discussed.

Apples or pears? Women's perceptions about the outcome of weight loss diets

S. O'CONNOR, D. HEFFERNAN & D. McWILLIAM.

Objective: Evolutionary psychology suggests that body shape is as important as body size and that, in women, certain body shapes are considered more attractive, specifically a waist-to-hip ratio (WHR) of about 0.7. Research has shown that the WHR does not change as a result of weight loss diets although it may be that women do not appreciate this. We hypothesised that women would report diet outcomes that included shape change. This was investigated using a signal detection paradigm.

Method: Two groups of female participants (high and low WHRs) were presented with images that had high and low WHRs and were asked to choose those images they could resemble through dieting.

Results: Both groups of women selected low WHR images as the outcome of their diets, supporting theories of evolutionary psychology.

Discussion: We conclude that women in the high WHR group may find adherence to diets problematic because the desired change in shape does not occur.

Hopelessness and memory: The role of mood regulation expectancies

S. RASMUSSEN & R. O'CONNOR, University of Stirling.

Introduction and aims: Psychological research on the aetiology of suicide has highlighted the importance of understanding how vulnerable individuals reason, problem solve, and interpret experiences in rigid and constricted ways. In particular, interest in the perfectionism construct reflects the importance of individual difference variables in producing, as well as maintaining, various psychological symptoms. On this basis, the present study set out to investigate further the correlates of a proximal predictor of suicidal behaviour (viz. hopelessness). Drawing upon emotion research the aims of the current experiment were three-fold: (i) to expand the literature on the state-trait dimension of perfectionism; (ii) to investigate the role of mood and perfectionism in the production of specific autobiographical memories (on the basis that over-general memory recall is associated with impaired problem-solving strategies and increased hopelessness); and (iii) to assess the role of perfectionism in mood recovery and coping strategies.

Method: A total of 60 participants completed self-report measures of depression, hopelessness, suicidality, stress, general health, optimism, perfectionism, mood, and perceived ability to regulate negative mood. Three days later participants were assigned to either a positive, negative, or neutral mood induction. This procedure was followed by an autobiographical memory test and a further self-report battery of questionnaires.

Results: The results show that the effect of socially prescribed perfectionism on memory recall is complicated by the current mood state. Furthermore it was found that low perceived ability to regulate mood when combined with high levels of social perfectionism, resulted in slower recall of positive memories and faster recall of negative memories. Psychological distress was found to be associated with emotion-oriented coping, negative mood regulation expectancies, slow recall of negative autobiographical memories, and high levels of social perfectionism.

Conclusions: Overall, the findings provide support for the role of individual differences factors in coping self-regulation and hopelessness. Implications for suicide research and prevention are discussed.

Contribution to a conference on advancing psychology

J. RAVEN.

It is now almost a century since Spearman observed that 'every normal man, woman and child is a genius at something; the problem is to identify at what' and went on to observe that, precisely because the so-called educational system arranged pupils in terms of hierarchies of ability to reproduce low-level knowledge instead of 'drawing out' the idiosyncratic talents of the all it did not merit its name.

If one attempts to ask why psychologists failed to rise to this rallying cry, one discovers that endless attempts have indeed been made to reform both assessment and education but have been deliberately destroyed by centralised government and World Trade Organisation-inspired action.

So it seems that, not only does society somehow need a single, unarguable, and entirely fraudulent criterion of merit on the basis of which to allocate position and status (and thereby compel people to participate in the unethical activities of which modern society is so largely composed), there are some powerful people around who are committed to enacting society's 'needs'.

But note something even more interesting from a psychological point of view. What we are saying is the people's behaviour is not mainly determined by their thoughts and attitudes but by forces which act upon them from outside.

Before Newton, if things moved or changed direction it was because they were possessed of 'animal spirits'. After Newton it was mainly because they were acted upon by a network of invisible forces which could nevertheless be mapped, measured and harnessed. To advance psychology, then, we need to radically change our psychometric models and the way we think about the determination of human behaviour. But any attempt on the part of individuals to bring about this change will be over-ridden by the kinds of social forces already mentioned. It requires concerted collective action of an unprecedented kind carried through our professional organisations. We need to be prepared to be held accountable, not for having taken courses deemed to have contributed to our continuing professional development, but for what we have done to contribute to the continuing development of psychology.

Students' perception and use of feedback in essay writing

P. RIDEOUT, University of Glasgow & P. SUTHERLAND, University of Stirling.

A number of studies in higher education have looked at the strategies and skills of students as they tackle course work, and have identified a range of variables contributing to the acquisition of learning. One of the key variables has been that of metacognition, an aspect of which is that students are able to reflect on their own learning strategies and make sensible adjustments, if necessary. A central means by which they be assisted in this is the feedback given by their tutors, particularly on assignments that they have completed. The written essay remains a common feature of many HE courses and was used as the basis of this study. The investigation was conducted in two HE institutions in Scotland and concentrated upon principally upon undergraduate courses. Analysis will be based on results from over 350 questionnaires, issued to students at various stages of courses, supplemented by a 10 per cent sample of individual interviews that followed up issues prominent in the questionnaires. The paper will present results addressing the questions below and consider implications for effective comment and reflection arising from the student perspective.

● What models can help us conceptualise the cyclical nature of course feedback and intention?
● To what extent do students take account of the feedback given to them and adjust their strategies in planning future essays?
● Are there differences between the more successful students and those who just get by in their reaction to feedback?
● What particular types of feedback do they find most helpful, and what is viewed in a negative light?
● Are the results consistent with relevant metacognitive and motivational theories?

The quality of life of head-injured persons and their closest relatives one year after injury: An evaluation of a new QoL outcome measure for the head-injured population

A. ROACH, North Glasgow NHS Trust.

Objectives: The aims of this study were two-fold; first to qualitatively investigate the psycho-social aspects of quality of life (QoL) of head-injured persons and their closest relatives, one-year post-injury; secondly, to evaluate the content and structure of the QOLIBRI (Quality of Life after Brain Injury) questionnaire, a new QoL outcome measure designed specifically for the head-injured population.

Design: In light of research into the QoL of people with head-injuries, the QOLIBRI questionnaire is being developed. Current research evidence also suggests that the QoL of family members is affected by the consequences of head-injury.

Methods: Using a qualitative research method, semi-structured interviews were conducted with four head-injured persons and four closest relatives. The QOLIBRI questionnaire's content and structure were then compared and contrasted with the results of the qualitative accounts of the head-injured person.

Results: The interviews were analysed using thematic analysis. The major themes were: important aspects of QoL were affected post injury, particularly the family's well-being and the employment status of the injured; post-morbid changes in the injured person were common, especially deficits in their cognitive functioning and heightened emotional reaction; a family's experience of living with the changes was related to current satisfaction with their relationship and the presence of pre-morbid issues; uncertainty about the future impinged on their psycho-social well-being; and limited follow-up information and support impinges on their QoL.

Conclusions: Important conclusions regarding the assessment of a head-injured person's QoL and also their family member's QoL, post injury.

An easy to administer intervention that can support cognitive development in individuals with special educational needs

L. SHARP, Napier University & A. McGEE, Glasgow Caledonian University.

The study investigated the effects of an intervention to support learning in children with physical and cognitive difficulties. The participants consisted of four groups; 10 children with autism, 12 children with motor disorders arising form cerebral palsy, 12 children with general learning difficulties and 12 children without disability attending nursery education. Half of the participants took part in the intervention and the other half received no intervention. Repeated measures were used to monitor the dependent variable, which was performance measured using Leiter-R growth scores (Roid & Miller, 1995; 1997). The Leiter-R was administered prior to, and on completion of, the intervention period.

A series of cognitive tasks were taught during the 15-week intervention period and progress was monitored using the approximate natural developmental sequence of the tasks. Each child was monitored using the approximate natural developmental sequence of the tasks. Each child was seen on a weekly basis for 12 minutes and a ratio of two children to one adult was used during sessions. Intervention sessions provided a setting where the child was working at a level deemed appropriate through previous success at completion of tasks.

The full IQ growth scores significantly improved following the intervention in the autism, cerebral palsy and nursery groups. None of the one-intervention groups demonstrated any significant improvements, nor did the general learning difficulties group who participated in the intervention. The intervention can be an effective learning approach and short productive sessions with a high staff to child ratio working at the exact level of the child's ability can result in developmental improvements.

Scottish Branch Undergraduate Student Conference

Scottish Branch Undergraduate Student Conference, University of Strathclyde, 17 March 2004.

The following abstract was accidentally omitted from the August 2004 issue of *Proceedings*.

The effect of disguise on the accuracy of facial identification

C. LUCAS, Glasgow Caledonian University.

Objectives: The main aim of this study was to explore the effect of disguise on the accuracy of facial identification in live or video line-ups. The question being addressed is: should the suspect be presented undisguised among normal foils or should he be presented in disguise among similarly disguised foils.

Design: The study employed a 2 x 2 between subjects design, target (disguise Vs undisguised) and line-up (disguise Vs undisguised).

Method: Baseline performance was established in Experiment 1, which utilised a simple 10 AFC matching task. The task was to match the target face with one of 10 faces in the line-up. In Experiment 2, the target face was shown for 20 seconds and then removed, with the line-up being presented sequentially.

Results: Preliminary results indicate that performance is near ceiling in the undisguised/ undisguised condition. Performance was also good in the disguise/disguise condition but much poorer in both undisguised/disguised and disguised/ undisguised conditions. Performance overall was better in Experiment 1 as compared to Experiment 2.

Conclusions: Results suggest that presenting a disguised suspect in a line-up of similarly disguised foils may result in a greater number of correct identifications.

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Division of Forensic Psychology Annual Conference

INDIVIDUAL PAPERS

Mental health and treatment implications for young offenders

L. ANDERSON, P. VOSTANIS & N. SPENCER.

It has been well documented that young offenders have a high prevalence of mental health problems. However, it has been reported that detection and appropriate intervention is often poor. Youth Offending Teams have been set up to address the complex and largely unmet needs of young offenders. However, one major difficulty facing professionals is to engage the young people in assessment and treatment. For this reason it is important to be aware of their perceptions and understanding of their health needs. In a study interviewing 50 young offenders in contact with two representative Youth Offending Teams, the young people self-indicated high levels of possible mental health problems which are likely to be a criminogenic factor in their offending behaviour, although their perception of the term mental illness was highly stigmatised. The findings are discussed in relation to treatment implications and service provisions.

Applying forensic psychology in different settings: Early interventions for young and very young sexual abusers

Z. ASHMORE.

The development of innovative, co-ordinated services for children and young people who sexually abuse in Peterborough, is described and the application of forensic psychology in this setting. It is a preventative, partnership response from youth offending services, health, social services, education, and the police. The assessment and early intervention panel collates information and concerns about young abusers from various sources, identifies the possible risks to others and ensures that, where appropriate, young abusers have access to the necessary interventions to reduce the risk of further abuse. The initiative, begun two years ago, is outlined and the approach is appraised. The role of the forensic psychologist, through the panel and in assessing and delivering services, is illustrated. Constraints in working with younger children are outlined. The types of interventions which have been effective is explored, with reference to models of effective practice. Future planned developments are summarised.

Forensic psychology for children and adolescents in the community: How can we most effectively apply our skills and knowledge?

Z. ASHMORE.

The development of a forensic psychology service from the Child and Adolescent Health Service to work with the Youth Offending Service (YOS) in Peterborough is outlined with reference to an evidence-based practice approach and the advantages inherent in this model of service delivery. The role requires applying forensic psychology to assessment and interventions with children and adolescents who offend, training and supporting staff and conducting research. However, the real challenge is to apply the vast knowledge about offending behaviour to the benefit of those who are not yet known to the YOS. This is illustrated with a range of examples such as using targeting techniques to ensure those most at risk are engaging with appropriate services, tackling early signs of difficulties such as youngsters who repeatedly run away and providing specialist expertise for children and adolescents who sexually abuse others.

Parenting attitudes, behaviours and abilities: The role of criminality and the differences between parents who abuse and parents who neglect

K. BAILEY & T. BASRA.

Objective: This research aims to ascertain the role of criminality in parenting attitudes, behaviours and abilities for parents who are involved in childcare proceedings due to issues concerning child abuse and/or neglect. It also attempts to distinguish the differences between parents who abuse and those who neglect, in terms of demographic and psychometric factors.
Method: Data is collated from the files of 100 parents who have undergone psychological assessment during childcare proceedings, regarding their personal history, psychometric testing and type of child abuse perpetrated.
Results: Analysis shows that parents with criminal convictions are more likely to directly abuse or neglect their child(ren) than parents without criminal convictions; those without convictions are more likely to fail to protect their child(ren) from abusive others. Non-criminal parents have poorer coping strategies and intellectual functioning. Parents who neglected their child(ren) scored higher on the Schizoid, Anti-Social and Drug-Dependent personality scales of the MCMI-III compared to abusing parents. However, parents who abuse their child(ren) scored higher on the Life Stress scale of the Parenting Stress Index compared to parents who neglect their child(ren). There were no differences in demographic factors between the two groups.
Conclusions: Parents involved in childcare proceedings have different treatment needs in order to make them safer parents due to their different personalities, coping styles, criminality and abuse type.

Managing anger and conflict workshop: A three-year pilot project reviewed

R. BECKETT & P.J. GRIFFITHS.

This paper presents the emerging findings of a three-year pilot study that utilised the Managing Anger and Conflict Module, from Living Skills II; a published treatment resource. Pre- and post-analysis of a six x four-hour community-based group-treatment programme, for angry men and women referred to a Forensic Psychology Services, is discussed. A comprehensive battery of psychometrics, that measures mental health, personality and anger, provides interesting demographic and statistical information. The results profile individuals, who drop out, prior to, and during treatment; as well as those, who successfully complete all components. The implications and interagency protocol, regarding initial assessment, selection and suitability for the community treatment of angry individuals, is put forward.

The prevalence of early maladaptive schemas in a personality disordered forensic population and the use of schema case formulation

K. BECKLEY.

Schema Focused Therapy is an integration of cognitive, behavioural, experiential and interpersonal techniques, which goes beyond the short-term approach of cognitive therapy (Young, 1990). An important aspect of Young's work is the development of questionnaires, which measure early maladaptive schemas, their origins and the processes by which they are maintained, avoided and compensated for. Firstly, the prevalence of schemas and schema processes in a personality disordered, high secure population will be considered. Secondly, schema case formulations will be presented to demonstrate how the theory can be used to understand personality disorder and offending behaviour. Finally, techniques used in schema therapy to elicit change will be discussed.

Programmes for the management of mental health problems

A. BENN & L. ANDERSON.

This paper describes four initiatives developed for patients in the Mental Health Directorate: Mental Health Awareness; Hearing Voices: Coping Skills; and Self-Esteem. These service developments include both psycho-educational and skill training elements to help patients manage their mental health problems. An outline of the stress-vulnerability models central to these programmes is provided. A summary of the evidence base for such work, and a brief outline of the content of the programme is given. Key outcomes are highlighted and illustrated with case samples and data. Limitations in the current outcome measures are discussed together with suggestions for improvement. The need for additional clinical programmes is also described. Finally, the same interventions are required for patients unable to access groups and the development of materials and training to guide staff is discussed.

National Probation Service provision for mentally disordered offenders

L. BLAKEBOROUGH.

This presentation describes a research study, which assessed the provision for mentally disordered offenders supervised by the National Probation Service (NPS). A questionnaire-based survey was constructed around four main themes: the definition and identification of mentally disordered offenders; their supervision; staffing and management arrangements; and the level of interagency working. This was distributed to all 42 probation areas across England and Wales in 2002. The analysis provides evidence on the level of appropriate recording and monitoring systems, variations in interagency working, and highlights a number of issues faced by probation staff working with mentally disordered offenders. This study will inform the National Probation Services' (NPS) strategy for mentally disordered offenders' which is currently being drafted. The recommendations from the report and areas for further work will be discussed in light of the planned strategy.

Towards a data-informed resettlement strategy – planning offender services based on data

C. BOND.

Resettlement of offenders is increasingly high on the agenda for forensic services and with the publication of the Carter Report more emphasis than ever is placed upon delivering the right services for offenders before, during and after imprisonment. Little information has been available to service providers and this project has aimed to explore possible uses of information available from the Prison Service IIS database. Examples include using the geographical location of north west prisoners, to inform local resettlement initiatives such as developing a resettlement wing at a category C male prison, specifically for prisoners from a single county. The data are also being used to guide local research initiatives such as the development of a service for personality-disordered offenders following release from prison. This paper will identify current uses of the data and highlight future developments including links to OASys data and the production of management information reports.

Patterns of post-treatment clinically significant change in the psychological characteristics of male domestic violence offenders

E. BOWEN & E. GILCHRIST.

The issue of change is central to the rehabilitation of domestic violence offenders. Within clinical psychological research the concept of clinically significant change has gained popularity but has not been widely integrated into evaluations of offender rehabilitation programmes. The present paper presents results obtained from an evaluation of the Domestic Violence Perpetrator Programme

offered to court mandated male domestic violence offenders by West Midlands Probation Area. A post-treatment sample of 52 male domestic violence offenders is categorised according to their clinically significant change achievement on several measures. The psychological constructs measured include pro-offending attitudes, anger, locus of control, and self-reported physical and psychological abuse. Across measures, only 50 per cent of offenders achieve statistically reliable change. The patterns of clinically significant change differ according to the measure used. The results indicate that the clinically significant change paradigm may be a useful tool to delineate the impact of programme content on hypothesised treatment targets.

Engaging the unengagable: Delivery of a treatment programme for mentally disordered violent offenders in a high security hospital
L. BRAHAM & D. JONES.

Research indicates the need for a high intensity multi-modal treatment package reflecting a cognitive behavioural and psychological basis for treating high-risk populations/complex cases. Delivered over a year, the Violent Offender Treatment Programme is designed to utilise a variety of strategies focussing on criminogenic factors associated with violent offending. The programme combines both group skills training as well as individual work to assist mentally disordered offenders attend to and/or modify their antisocial and violent behaviours. An important aspect, therefore, of this treatment is the mentoring role as well as reinforcement on the wards to encourage skills generalisation and assimilation of learning. The programme is based on contemporary evidence-based treatment approaches within the psychological field, focussing on criminogenic factors associated with violent offending. Initial phases centre on insight development and motivation, emphasising personalised patterns of violence, whilst subsequent modules focus on intra and interpersonal skills as well as reframing thinking patterns and attitudes supportive of violence. To increase responsivity, participants are provided with a workbook containing programme materials highlighting personalised violent offending profiles. Assessment measures were employed pre- and post-group. We have recently completed a pilot study and preliminary results suggest many treatment gains in relation to reduced institutional violence, increased engagement, high levels of attendance, increased pro-social behaviours and changes in attitudes towards offending.

How to let go and see the future: Applying schema work in a forensic setting
L. BRAHAM & N. HOPKINS.

Early experience structures the view of an individual's life and may develop into maladaptive schemas which play out in adulthood. Such schemas, when triggered, can have an enormous social consequence. In the psychiatric offending population that we are reporting on, these catastrophes have materialised and have significance for assessment of risk. Schema-focused work can offer ways for individuals to understand their world, behaviours and the meaning and purpose of their being in a high security hospital. We chose group work as the vehicle of change to explore and develop insight into these areas and elicit self-motivating statements. The objective of the group was to prepare participants for the journey ahead (both within the hospital and future placements). In this presentation we aim to reflect and share our experiences of developing and facilitating this unique work within this population. Independent evaluation took place prior to, during and post-group. Facilitators also carried out process and content measures throughout, paying special attention to he stages of change. Although the group focused on schemas, it was apparent that common modes became visible, most notably the detached protector and angry/rejected child. Future work may want to attend more specifically to these modal aspects. Although the group material was accessible to patients and staff alike, there were pitfalls and successes along the way which we

would like to share. These include understanding schema concepts; support for nursing staff; group processes; self-monitoring and diary-keeping; applying theory to practice; working in the here and now resistance.

Motivating the unmotivated: The Forward Motion Motivational Group (FMMG).
L. BRAHAM & G. FOOTE.

The FMMG is a manualised programme designed to tackle needs of those on admission wards of a secure psychiatric hospital. It enables patients to gain some understanding about a variety of mental health and offence related issues and offer them a space to explore/think about them in relation to themselves and their own experiences. The aims of the programme include provision of a positive non-threatening experience of working in groups, developing an open channel of communication, helping identify personal targets for treatment and to help participants identify a rationale for engaging self-change. The programme also provides staff with some experience of each patient, their difficulties, motivation and capacity to function within a group. In terms of pathways of care, it is the first point in the pathway, paving the way for future work and development. A number of theoretical models have been utilised to provide important perspectives on factors promoting behaviour change including social learning theory, motivational interviewing and the transtheoretical model. These models, along with the use of specific psychological techniques provide the underpinnings for the group. The programme is delivered on the admission wards by trained members of psychology and nursing disciplines, consisting of 14 two-hour sessions covering eight topics, with clear pre- and post-assessment. The group is in the process of being delivered for the fifth time. Feedback, both anecdotally and from formal assessment had been positive. Staff and patients alike have offered useful feedback and frequently highlighted the utility of the programme in their experience.

Inducing attitude changes in rape myth acceptance: Affective or cognitive disposition of the person and message type
M. BUTLER & R. GINER-SOROLLA.

The present study investigated the extent of attitude change following a rape myth acceptance intervention using the Heuristic Systematic Model of persuasion and individual differences in the need for affect and need for cognition. One hundred participants read an interview about the effects of date rape and completed a thought-listing technique, need for affect questionnaire, need for cognition questionnaire, rape myth acceptance questionnaire and manipulation checks. The hypothesis examined the predictors of attitude change in response to the intervention whilst also examining the persuasive impact of discrete emotions and the affective or cognitive disposition of the person. Results provide support for the persuasive impact of discrete emotions and partial support for Giner-Sorolla's (1999) deliberate affect. Implications and possibilities for future research are discussed.

Mating effort strongly predicts self-reported delinquency in a normal adolescent sample
K. CHARLES & V. EGAN.

Mating effort is defined using the r/K trade-off with parental effort, such that persons at the r-end of the continuum seek to produce many offspring without great investment in their welfare, whereas the K-end of the continuum involves the production of fewer offspring and greater nurturing. A priority to gain and guard short-term mates potentially provides an evolutionary basis to offending. The Mating Effort Scale (MES) was administered to 564 (M:F 308:256; mean age 14.1 years (s.d. 0.92)) adolescents in mainstream education. Delinquency was measured using Moffitt's Self-Report Early Delinquency instrument (SRED). Results indicate mating effort is correlated with antisocial delinquent behaviour at r=0.5 (p<0.001), and is significantly correlated to a lesser

extent with other factors of delinquency. These results suggest high mating effort in both sexes is strongly related to delinquency in a normal population confirming the putative use of concepts from evolutionary psychology to understand forensic issues.

What does forensic psychology add to the world of adolescent mental health?
L. COATES.

This paper provides insight into a new service developed jointly between Essex Youth Offending Service and Forensic Mental Health Services. It looks at the relevance of applying a Forensic Psychological approach to the understanding and management of adolescent offenders presenting with emotional and behavioural difficulties, including the development of personality disorders. Uptake and impact of service is discussed along with results from a mental health audit that highlights the importance of a revised focus in managing adolescent offenders. Aspects of service delivery are considered and recommendations suggested as to how the service could be evaluated and expanded.

Developing perceptions of the police: A study of children's discriminatory abilities.
C. COOKE.

What do children see when they see 'the police'? An apparently obvious question produces some intriguing findings when researched systematically across the age range five to 16 years. An earlier study of Australian children (Durkin & Jeffery, 2000), demonstrated the particular salience of the police uniform in framing children's understanding and relationship to power, authority and police roles. This study of 213 English children analyses the findings from these children's own drawings of police officers, and from the results of a task designed to explore children's ability to discriminate between uniformed police and other uniformed agencies. The findings throw some doubt on the expectation that police officers are easily identified in their multiplicity of uniforms and specialist operational attire, and it is questioned whether young children have more than a rudimentary understanding of the significance of police uniforms in contemporary Britain. Implications for child safety are also discussed.

Efficacy of the reasoning and rehabilitation programme with high secure patients with personality disorder: A pilot study
P. COOMBES.

The need to establish the efficiency of specific interventions with specific populations is a growing priority for mental health professionals. Previous studies have indicated that many offenders evidence deficits in cognitive skills that are essential for pro-social adjustment and that training in these areas is essential aspect of the treatment of offenders. In this study the adaptations made to the Reasoning and Rehabilitation Programme to meet the needs of personality disordered offenders in a high secure setting is outlined as well as preliminary outcome data based on pre and post psychometric tests, behavioural measures of change, and background information collected from patients case notes.

Adaptations and realities of community meetings in a high secure male environment.
R. COOPER.

This project reports on the process of importing community meetings into forensic Personality Disorder wards. The aims and delivery of community meetings within the directorate, including relevance to a male personality disorder population and the directorate's treatment pathway are described. Adaptations to traditional community meetings are commented on, along with the experiences of facilitating community meetings. Hopes and fears and benefits and difficulties encountered are highlighted and training initiatives are reported on. Initial results

from a staff survey of their understanding and experiences of community meetings are presented.

Evaluating the predictive accuracy of sex offender risk assessment measures on UK samples: A cross-validation of the Risk Matrix 2000 Scales.

L. CRAIG, A. BEECH & K. BROWNE.

The predictive accuracy of the newly-developed Risk Matrix 2000 Sexual/Violence (RMS, RMV) were cross validated and compared with four risk scales (RRASOR, SACJ – Min, SVR – 20 and Static – 99) in a sample of sexual (n=85), violent (n=46), and general (n=22) offenders. The sexual offence reconviction rate for the sex offender group was 18 per cent at 10 years follow-up, compared with two per cent for the violent offenders. Survival analyses revealed the violent offenders were reconvicted at twice the rate of any other group. Reconviction data were analysed using the area under the curve (AUC) of the Receiver Operating Characteristic (ROC). The RMV significantly predicted violent recidivism in the sex and combined sex/ violent offender groups. Although the RMS obtained marginal accuracy in predicting sexual reconviction, none of the scales significantly predicted sexual reconviction. An item analysis revealed four factors not included in the risk scales significantly correlated with sexual and violent reconviction. Combining these factors with Static – 99, RMV and RMS increased the accuracy in predicting sexual reconviction.

What is sexual grooming?

S. CRAVEN & S. BROWN.

A new offence of sexual grooming has been introduced as part of the Sexual Offences Act 2003 (Home Office, 2003), which is due to be implemented in May 2004. The current aim is to review the literature on the sexual grooming phenomenon, and plot the development and acceptance of this term. Evidently, this literature is sparse. Early theoretical consideration neglected this concept and later introduced the term as if it were common terminology. Subsequently, sexual grooming has not been well defined, which has bred confusion particularly in the public domain. Empirical work is in even shorter supply. The existing studies by Jon Conte and colleagues (1989; 1991) require replication. Potential implications for the implementation of future legislation are considered. Theoretical and empirical research proposals are discussed.

Practical applications of an anger management programme in a forensic mental health setting

L. CUNNINGHAM & N. HILTON.

Kemple View is a secure psychiatric service for 64 patients with personality disorder and enduring mental health problems. An anger management programme was developed and piloted at Kemple View in 2001 (Hilton & Frankel, 2003). From the pilot run, a number of important clinical issues relating to the implementation of the anger management programme were raised. In response to these issues the anger management group underwent a number of positive revisions. Different therapeutic approaches have been applied in developing the revised programme, including motivational interviewing, CBT and relapse prevention. This paper outlines the reason for the adaptations made and the relevance of this to applying anger management programmes in a forensic, psychiatric population. In addition, the positive qualitative and quantitative results of the second run of the programme are discussed.

Attributions of child sexual abuse: Roles of victim and perpetrator gender, and victim age

M. DAVIES & P. ROGERS.

There is a wealth of experimental research regarding adult victims of sexual assault, but relatively few studies have investigated factors that influence attributions towards child sexual abuse (CSA) victims. This paper discusses the findings of two studies that investigated attributions towards CSA victims. In both studies respondents read hypothetical scenarios of a CSA case and then completed a series of questions about the case. Victim and perpetrator gender, victim age, and victim-perpetrator relationship were varied between subjects. Results showed overall that male victims who were portrayed as almost adult (aged 15 years), when assaulted by a female were more negatively evaluated than other victims. This paper also intends to outline a future project concerning attributions towards perpetrators who groom children on Internet chat rooms and the victims of such abuse. These findings are discussed in relation to the recent changes in law regarding CSA.

Predicting risky behaviour in a student population

S. DAYNES, J. DAVIES & J. TALCOTT.

Assessing and attempting to predict risk behaviours is a common task for forensic and clinical psychologists, which has led to the development of a range of tools based on static and/or dynamic variables. This paper outlines the findings of a study in which undergraduate students completed measures of risky behaviour (Risk Involvement and Perception Scale), sensation seeking (Sensation Seeking Scale: Form V) and personality (Eysenck Personality Questionnaire). The results test a number of hypotheses about risk taking and it's associations with personality, how risk is viewed, sensation seeking and personal characteristics (e.g. gender), in order to propose a possible model for understanding and predicting likely risk taking behaviour. Finally, it is argued that this research forms the foundation for future research into models for conceptualising risk taking behaviour.

Monitoring risk of violence in the community: The COMET Project

M. DERNEVIK, M. GRANN & K. STURISDDON.

Recent years have seen a growing interest in the assessment of risk of violence in mentally disordered offenders. Most of these assessments are directed at predicting the risk of violence in the community, once the offender leaves the institution. There are, however, few studies that direct the attention to the monitoring and management of risk of violence after discharge. The COMET project in Sweden is a prospective attempt to compile a database on Contextual factors with Mediate Violence Risk in the Community in mentally disordered offenders after discharge or on conditional release. The data are based on an instrument for Structured Risk Management (SORM). The presentation will focus on the methodological aspects of community risk management and preliminary data from 200 mentally disordered offenders in the community will be presented.

Developing a reliable observation measure of patient behaviour in a forensic setting

S. DRAYCOTT,.

In forensic inpatient environments, there is a need for a method of reliably tracking patient behaviour over time to objectively estimate engagement, risk and day-to-day progress. There is a lack of measures which track changes in these areas over short time-scales. We are developing a staff observation measure to fit this niche. A large sample of behaviour to observe was derived from the literature. These were then recorded in a small forensic inpatient sample twice per day for one month. From this was derived a small number of behaviours which could be reliably recorded in the context of a busy ward. Using statistical techniques such as chain-P factor analysis, behavioural observations which covaried over time were used to form scales which were maximally sensitive to change. This process has led to two scales, measuring 'Antisocial' behaviour (resistance, aggression, manipulation, etc.) and 'Prosocial' behaviour (assertiveness, calmness, positive interpretations of others, etc.

An Interacting Cognitive Subsystems (ICS) approach to personality disorder

S. DUFF & P. KINDERMAN.

The paper presents a brief overview of the current state of Personality Disorder (PD) theories, suggesting that they are more descriptive than explanatory. Using this as a springboard, Barnard's Interactive Cognitive Subsystems is presented as a useful integrative framework which can provide novel explanations of the development and maintenance of PD, along with why PD is hard to treat. The implications of the model, including differences between it and Beck's cognitive theory, are then explored and a proposed study described which should allow us to test this approach.

Victimisation of individuals with mental health problems

K. EDWARDS.

This paper examines victimisation experienced by individuals with mental health problems living in the community. Forty participants with mental health problems and 80 students completed a self-report questionnaire on experiences of victimisation in the previous 12 months and attitudes towards the police. The mental health sample reported higher victimisation rates than the student sample. Women in the mental health sample reported the highest victimisation rates overall. The mental health sample expressed attitudes towards the police which were more negative. No differences were found between the types of victimisation experienced by the two samples. No differences were found in reporting of victimisation to the police between the two samples. The possible implications and limiting factors of the study are discussed.

Predicting drop-out from a residential programme for adolescent sexual abusers, using pre-treatment variables and implications for readivism

R. EDWARDS, T. BEECH, D. BISHOPP, M. ERIKSON, C. FRIENDSHIP & L. CHARLESWORTH.

The study addresses the prediction that drop-out from a UK specialised residential treatment programme for adolescent sexual abusers can be determined from pre-treatment variables. Participants were 49 adolescents aged 12 to 16 years, who had sexually abused children, peers/adults, or both. Of the variables examined, 25 showed a significant association with treatment dropout. A scale consisting of 20 items was developed that would predict treatment drop-out. As a measure it showed internal consistency (alpha=0.84) and predictive validity. Treatment dropout was linked to a greater risk of recidivism: offences of a general; violent and combined violent or sexual nature. Missing data confounded the overall sample size, therefore, a brief checklist of factors associated with drop-out was produced as a guide for treatment managers and clinicians.

Motivational programmes for dangerous sex offenders

C. FARR, S. DRAYCOTT & J. PICKETT.

Although a great deal of time and attention has been paid to the development of cognitive-behavioural treatment programmes for sex offenders, the greatest obstacle lies in their readiness to change. We present two cognitive–motivational programmes designed to assess and maximise patients' motivation to change. *Considering Change* aims to highlight discrepancies between patients' offending behaviour and their life goals and self-image. Patients develop a decisional balance highlighting their perceived costs and benefits of engaging in therapy. *My Life: Now and in the Future* focuses on helping patients gain a perspective of the future and to develop and maintain personal goals for the short, medium and long term. This involves considering how they would like their lives to develop, setting realistic goals and developing action plans to achieve these.
The theory and content of these programmes will be presented, together with an initial evaluation based on a sample of 10 patients.

The implementation of the pilot Violence Reduction Programme (VRP) into a Close Supervision Centre (CSC)

J. FIELDEN, S. SELVEY & S. WHEELER.

A function of the Close Supervision Centres is to accommodate the most seriously disruptive

prisoners from mainstream dispersal and training prisons. Their overarching aim is to assess, manage and, wherever feasible, reduce the risk of future violent behaviour thereby enabling the prisoner to return to main prison locations equipped with alternative approaches and thus facilitating successful re-integration. The Violence Reduction Programme (VRP) is 'A treatment programme for high need prisoners with a high risk of institutional and future violence' (Wong & Gordon, 2000). To be selected prisoners must have exhibited at least two violent acts, defined as 'any act against a person(s) which results or would likely result in significant physical or psychological harm'. The programme objective is to decrease the frequency and intensity of aggressive behaviours in those with entrenched patterns of violence. The pilot is currently in the planning stages and is scheduled for implementation in summer/autumn 2004.

The challenges of developing and piloting an anger management group for women in high secure care
C. GERIGHTY-GULLY.

This presentation describes the process of the development of an anger management programme designed specifically for women being held in high security. It will explore some of the issues surrounding gender specificity highlighted in the current literature and the difficulties encountered due to the limited amount of research in this area. Following this there is a description of some of the experiences and challenges encountered within the pilot group. This includes an outline of the alterations required to make the programme more effective and accessible to this specific population, with a strong emphasis on adaptations for women with borderline/learning difficulties. Some anecdotal evidence is presented in support of the efficacy of the programme and future improvements and developments will be discussed.

Exploring self-reported motivation for firesetting amongst mentally disordered offenders within a special hospital sample
S. GLADDEN, F. CLARK & M. WILSON.

Research investigating the motivations of individuals whom engage in firesetting behaviours is limited for a number of reasons. Previous research has sought to identify typologies, along with developing an understanding of firesetting within a functional-analytic framework. This research examines firesetting within such a framework and explores self-reported emotions and intentions (and subsequent perceived gains) before and after firesetting, from information obtained through clinical interviews. Few studies have investigated female firesetters alone, or explored comparisons with male firesetters. This study compares 19 female and 20 male firesetters from a Special Hospital sample (some of which have a conviction for arson) and demonstrates some reported gender differences in motivations and subsequent perceived gains of firesetting. Patterns of firesetting over 'time' (a variable period assessed by three firesetting incidents) are also explored. Such findings may be clinically useful for clinicians working with such a population as there are limited studies investigating and identifying appropriate treatment interventions.

Exploring violence from the perspective of the perpetrator: An interpersonal communication?
E. GLORNEY, K. FRITZON & E. LYONS.

This paper reports preliminary results from work in progress across a series of studies with mentally disordered and violent offenders (in a Special Hospital and the Prison Service), aiming to: (1) qualitatively explore the construct of violent behaviour from the perspective of the perpetrator, as well as its specific function as a method of interpersonal communication; and (2) explore the relationship between characteristic interpersonal style and violent behaviour within the context of an interpersonal theoretical framework. The two qualitative studies incorporate 60 semi-structured interviews. IPA revealed that the constructions of violence across offenders and non-offenders differ qualitatively and that the threshold at which

behaviour is classified as violent appears to be higher among the violent offenders. Four-hundred participants completed a battery of questionnaires designed to explore the relationship between interpersonal style and violent behaviour. Multivariate analyses are used to explore the correspondence between interpersonal style and violent behaviour.

Categorising rapists' utterances
T. GRANT & J. WOODHAMS.

Whilst rape victim statements frequently refer to dialog between offender and victim, the language offenders use in the course of their offence is an under-researched aspect of offence behaviour. Holstrum and Burgess provided descriptions and some categorisation of rapists' talk, since then only Dale, Davies and Wei attempt to provide a systematic typology of rapists' utterances. Application of this typology demonstrated both strengths and weaknesses and led to the development of the current system. This draws more directly on speech act theory to categorise utterances as directives, constatives, commissives, expressives and interrogatives and makes use of subscales to further differentiate utterances. High reliability is reported for both systems, the new system however categorises a greater proportion of utterances in the statements. Current applications include examining differences between statements which are maintained as true from those which are withdrawn as false and examining behavioural consistency for the purpose of case linkage.

Confessions and denials and the relationship with personality
G. GUDJONSSON, J. SIGURDSSON, O. BRAGASON, E. EINARSSON & E. VALDIMARSDOTTIR.

The main aim of the two studies discussed is to examine the reasons and personality factors associated with confessions and denials. The participants are 1080 students in further education and 666 University students in Iceland. One-quarter (25 per cent) of the participants stated that they had in the past been interrogated by the police in relation to a suspected offence, of whom 59 per cent of the college students and 54 per cent of the University students claimed to have confessed to the police. A small minority of those interrogated in each group (one per cent) claimed to have made false confessions to the police, whereas much larger number claimed to have made false confessions to teachers or parents. False confessions and false denials were significantly associated with antisocial personality traits and the extent of self-reported offending, with EPQ Psychoticism being the single best predictor. Those participants who made true confessions and true denials were most normal in their personality.

The use of motivational interviewing with a mentally disordered population: Enhancing client motivation to change offending behaviour
D. HARTSHORN & J. DUCKWORTH.

There is a substantial literature that focuses upon the perceived lack of motivation to change problematic behaviour. This study aimed to employ the Transtheoretical Model and Motivational Interviewing techniques in a group setting to help engage and motivate patients to make or recognise the changes necessary in order to address their offending behaviour. It was hypothesised that the use of Motivational Interviewing would enable patients to move in a positive direction on the stages of change model. In addition it aimed to encourage the treatment group to positively increase their readiness to change their offending behaviour. Using self-report measures, the stage of change and readiness to change their behaviour was explored in a male psychiatric population all of whom were detained under the Mental Health Act (1983) under Sections 3, 37 and 37/41. The study demonstrated that a significant positive difference was found in the treatment group and their readiness to change their offending behaviour.

Introduction of a forensic psychology service into a medium secure learning disability and specialist residential service
P. HENDERSON & F. McMILLAN SHIELDS.

This paper outlines some of the practical issues and steps taken in introducing key forensic psychological services into a medium secure learning disability and specialist residential service. The introduction of robust and appropriate risk assessment and management measures, offending behaviour treatment programmes and consistent behavioural management strategies for working with learning disabled offenders have been prioritised. We discuss the urgent need to educate and inform all grades and disciplines of staff colleagues as to the role of forensic psychologists as a necessary precursor to the implementation of the service and share our experiences of moving from a prison to a health service setting.

A developmental approach to understanding the early onset of sexual offending and severe personality disorder
N. HICKEY & E. VIZARD.

'Offending behaviour' and personality disorders do not suddenly appear at age 18 years. Developmental pathways exist for both, however, relatively little empirical work has been undertaken on the developmental risk factors for sexual offending and their relationship to early onset personality disorder. The current adult DSPD programme indicates the importance of understanding 'where' behaviour and personality disorder comes from to develop successful interventions. The current study utilises a developmental file-review, comprehensive psychiatric clinical assessments, as well as assessments of 'psychopathy' (PCL:YV) with a sample of over 300 young people referred to YAP. The presentation outlines preliminary findings from the above study. These include descriptive data of the sexually abusive and aggressive behaviours perpetrated by this high-risk cohort. The developmental risk factors associated with this juvenile sexually abusive behaviour will also be presented, together with their relationship to psychiatric diagnoses and assessments of psychopathy.

Fixing to kill
J.E. HODGE & G. THOMAS.

Violent offenders who misuse substances are recidivistic in nature. Yet forensic services rarely formally address substance misuse, and substance misuse services almost never address violence. There is some evidence that substance misuse intervention can reduce levels of violence in violent offenders. However, the relationship between violence and substance misuse in this population is complex, involving interactions between trauma history, current substance misuse and re-traumatisation. This leads to both a self-perpetuating cycle of substance misuse and violence, and to particular challenges in treatment.

Training multi-disciplinary teams to work with personality disordered offenders: Effects on staff's skills and attitudes
T. HOGUE, R. BLACKER & C. WOOD.

Training and development is central to the effective and efficient working of any staff group. As part of the service developments within the Peaks unit at Rampton Hospital, a six-week long induction was provided to all staff joining the service. This training programme was designed to equip the staff with the necessary knowledge and skill base for working with individuals deemed to meet the criteria of dangerous and severe personality disorder. The members of staff were each asked to complete a series of questionnaires both pre- and post-training, designed to assess their attitude and skills towards working with personality disordered individuals. This paper outlines the results of these measures and comments upon the impact of training on the inductee's attitudes towards personality disordered

individuals and the staff's perception of their skills for working with this patient group. The implication of these findings for future induction training is discussed.

Multi-disciplinary team work in a high security women's hospital
J. HORN.

This paper describes and analyses the work of a multi-disciplinary patient care team in a women's high security hospital. I look at issues of power, responsibility and risk in relation to professionals within the team. I make sense of the difficulties such teams often face by considering what happens when team members relate well to each other, respect each others views and put the well being of our clients first. My experience of Ashworth Hospital has suggested ways of working that could help patients and professionals alike to use the resources we have more efficiently. I suggest practical methods and strategies for working together that reduce stress, promote staff and patient well being, and foster true teamwork. This model is based on psychological problem solving approaches, informed by person centred counselling theory. By respecting and accepting contradictory views, we can begin to build creative teams that include the client.

Nature and extent of bullying among mentally ill patients detained in a high secure hospital: Exploring staff and patient perceptions
J. IRELAND & J. ROWLEY.

The present study, funded by an NHS Forensic Mental Health Research Grant, explores the perceptions and experiences of the nature, extent and causes of bullying among mentally ill patients. The study has a subsidiary aim of exploring perceptions between staff and patients. Forty-four patients (30 men and 14 women) and 60 staff (30 from the Mental Health Service and 30 from the Women's Service) engaged in a semi-structured interview. A number of abusive behaviours were reported. These included direct aggressive behaviours (e.g. theft-related, physical and verbal) and indirect aggressive behaviours (e.g. excluding and gossiping). Differences between patients and staff were found regarding the types of behaviours considered to constitute bullying and the 'types' of patients most likely to be perceived as potential victims. The results are discussed in relation to the role of environmental characteristics in explaining the bullying that takes place in secure settings, with some suggestions made for management.

The applicability of personality disorder and risk assessment measures in a sample of learning disability offenders: Theoretical implications and empirical findings
S. JOHNSON, W. LINDSAY, J. TAYLOR, T. HOGUE, P. MOONEY, L. STEPTOE, A. SMITH & G. O'BRIEN.

Little empirical evidence exists to support the use of many psychometric instruments, risk assessments and personality disorder diagnoses within the Learning Disability (LD) population, despite thorough research in other client groups. It is a particular problem in forensic settings, in which such measures are used routinely to assess the risk, presentation and clinical change, of offenders.
The study collected forensic and psychiatric background information on a cohort of 180 LD offenders across four levels of security (high, medium, low and community). Comparisons are drawn across security level in terms of such normative information, risk of violent and sexual recidivism, presence of personality disorder and interpersonal functioning. The concept of Dangerous and Severe Personality Disorder was also considered in relation to this vulnerable group of patients. Methodology and important findings are discussed in relation to the impact on clinical practice and management of the LD offender.

Interpersonal and affective contributions to the development of offending behaviour
L. JONES.

Developing individual case formulations of offending processes requires an understanding of the range of factors potentially contributing to offence pathways and a range of individual difference variables. This paper will explore interpersonal and affective processes contributing to the development of offending behaviour. Differences between positive and negative affective processes in the development of offending behaviour will be examined. Links between affective 'style', interpersonal 'style', personality and offending will be highlighted. Implications for formulation, intervention and assessment of 'personality disordered' offenders will be identified.

An exploration of partners' accounts of male perpetrated domestic violence
R. JORDAN.

Male and female partners' accounts were compared and it was found that there are certain significant differences between the way in which male and female clients attribute causes for the male perpetrated domestic violence in their relationships. The males interviewed tend to attribute global and stable causes for their violence to their partners. Moreover, the discursive analysis illustrates the various ways the men's accounts are constructed and functionally orientated to enable the downgrading of the violence, as well as minimising the effects such violence has on their partners. It was also found that males tend to construct their partners as jointly responsible for the violence that they have perpetrated. It is argued that such patterns of accounting increase the likelihood of an interlocutor perceiving both parties as blameworthy.

Women in high security – an overview
D. KELLAND.

By 2005 Rampton Hospital will be the sole provider of high secure psychiatric care for women, in England and Wales. Psychological interventions are being developed to address the needs of this diverse and unique patient group, with particular emphasis on reducing the level of risk, which has necessitated the use of high security.
As a precursor to the flowing three papers, which address the development of specific psychological interventions for women in high secure care, this presentation provides an overview of the needs of the women who are detained at Rampton Hospital and describes the risk-reduction model which underpins the development of gender-sensitive interventions.

Severe Inter-Sibling Violence (SISV): An exploratory investigation
R. KHAN & D. COOKE.

Severe Inter-Sibling Violence (SISV) remains a largely unexplored area of family violence. This doctoral investigation utilised a study-specific SISV interview schedule to measure the influence of 45 hypothesised risk factors, formulated through a comprehensive literature review, on 111 young offenders who had been detained or dealt with by the Scottish criminal justice or welfare systems. The Buss and Perry Aggression Questionnaire and Levenson's Self-Report Psychopathy Scale were also employed. Multivariate data analysis provided 13 significant SISV predictor variables, from six multiple regression models. Exploratory factor analysis of the SISV items revealed a significant two-factor model, namely, SISV with weapon use (Factor 1), and SISV without weapon use (Factor 2). Confirmatory factor analysis supported the observed factor structures. Further multivariate analysis revealed nine significant predictor variables for Factor 1, and 13 variables for Factor 2. Possible implications for a valid SISV risk assessment guide, include settings and applications will be discussed.

Treatment pathways: Not too much; not too little and in the right order!
I. KRUPPA.

This paper will describe the Treatment Pathways Project being developed in the Mental Health

Service at Rampton Hospital and will serve as an introduction to subsequent papers in this symposium, which describe specific treatment programmes developed to address both mental health issues and offending behaviour. The Treatment Pathways Project is designed to ensure that patients progress logically from general, motivational and introductory work to the more intensive, specific intervention programmes, culminating in the development of individualised relapse prevention plans targeting both offending behaviour and mental health issues. In order to achieve this, a 'treatment pathway' for each patient will be developed, which identifies unmet need, treatment priorities and a logical sequence for the delivery of therapeutic programmes. The treatment pathway will form the basis for establishing a schedule of treatments to be delivered within agreed time scales and will eliminate the need for waiting lists.

Anger management in the Scottish Prison Service: An evaluation of the current intervention programme, recent research and implications for programme development
J. LAW & J. MacGREGOR.

The Scottish Prison Service Anger Management intervention programme was developed in 1997 and is based on cognitive and behavioural principles. A recent evaluation of behaviour change in a cohort of offenders who completed the intervention programme between 1997 and 2002 is presented in this paper. Statistically significant changes were found in those offenders who completed the programme. Significant reductions were noted in self-report measures of physiological symptoms as well as in the experience and expression of anger. Proxy measures, including Governor's reports and Security Category (supervision level), also demonstrated significant positive behaviour change. The results of this evaluation are considered in conjunction with a review of recently published research in the field. These findings and the implications for future programme development, including selection and evaluation procedures, are also discussed.

The presentation of personality disorder in offenders with learning disability
W. LINDSAY, J. TAYLOR, T. HOGUE, S. JOHNSON, P. MOONEY, L. STEPTOE, A. SMITH & G. O'BRIEN.

There is increasing interest regarding the reliability of DSM IV Personality Disorder (PD) measurement for people with learning Disability (LD). Measurement difficulties are apparent particularly with reference to the differentiation of PD variables from deficits due to learning disability, in particular lack of empathy, remorse, close friends and conformity to social rules. To investigate reliability of PD (DSM IV) measurement within a sample of 180 offenders with LD, four different measures were used. File rating, Clinician, Observer and interview (named nurse). Diagnosis was allocated from consensus of all ratings. Correlations of ratings, researcher (File), Clinician, Named Nurse and interview were carried out. Findings suggest the most reliable rating attained for this client group is achieved through full background information within a multidisciplinary perspective. Results will be discussed in terms of the utility and reliability of DSM IV PD measurement for people with intellectual disabilities with reference to risk of recidivism within this population.

The adaptation of DBT skills training for women in high secure care
G. LOW.

Rampton Hospital Women's Directorate has been delivering DBT Skills Training programmes since 1996 when it was first piloted (Low, Jones, Duggan, Power & MacLeod, 2000). DBT was developed for women who met criteria for Borderline Personality Disorder in a community setting in North America. As experience has developed in delivering DBT skills within increasing levels of security, modifications have been necessary to allow the programme to continue. A number of referrals to the programme have been for women who have limited cognitive abilities or who are classified under the Mental

Health Act (1983) classification of Mental Impairment, and in order to include them in the programme it has been necessary to revise some of the materials. This paper describes the various modifications that have been made in each of the 4 modules of the skills – Mindfulness, Emotion Regulation, Interpersonal Effectiveness, and Distress Tolerance (Linehan, 1993)

Assessing the reliability of confession evidence: The development of a Compliance Interview Schedule
G. MACPHERSON.

'Compliance' is a particularly relevant concern within an interrogative situation. Self-report scales exist to measure compliant behaviour, however, there are no valid clinical construct rating scales to assess for compliance. Clinicians working in forensic settings cannot assume honest responding on self-report measures. The Compliance Interview Scale (CIS) was developed to meet the practical considerations of clinicians evaluating for the effects of compliance during a police interview or interrogative encounter where suggestions are made that an accused person has provided a false, self-incriminating account under duress. The measure was designed as an interviewer-rated behavioural schedule for the assessment of compliance. The central concept was to construct a scale to reliability assess compliant behaviour that did not rely on self-report or was so transparent that it may negate any findings. Key variables and factors were identified from the literature for their relationship to compliance and preliminary findings are discussed.

The effects of childhood abuse and their relationship to serious psychopathology and other disorders
L. MAXWELL & C. PROCTER.

The term 'abuse' describes a range of behaviours including neglect, physical aggression, sexual exploitation and emotional mistreatment. This ambiguous definition means that estimates of child abuse range considerably. Effects on the victim may be greatest when the abuse is sustained, it involves penetration and force, the abuser is a close relative and the family is unsupportive. Studies focusing on non-sexual child abuse have indicated that victims tend to perform lower on intelligence tests, have low empathic concern, cognitive deficits, increased depression, and have difficulty in peer and family interactions. These effects vary considerably according to the type and severity of maltreatment and the age at which the abuse occurred. Abused children are consistently found to be aggressive with their peers, however, just 30 per cent of victims go on to abuse. The initial and long-term effects along with the serious psychopathology experienced by some victims will be discussed.

Inter-rater reliability of the Risk Matrix 2000 (Violence Scale) within a Scottish prisoner population
D. MILLAR.

The RM2000 is an actuarial screening tool used to identify individuals who are at a high risk of reoffending in a sexual and/or violent manner. This paper reports on the results of a study investigating inter-rater reliability of the RM2000 (Violence Scale) between officers and psychologists and between psychologists using a Scottish prisoner population. Six prisons were used in the study involving data from 68 prisoners. Results show that although reliability was high, there was less agreement on the items of age and violent appearances. As the RM2000 is scored and used by prison officers, whilst supported by psychologists, implications for staff training and support are discussed. The part the RM2000 plays in the Sentence Management system, (which is a process developed by SPS psychologists to assess all prisoners serving over four years in custody) is outlined and future research projects regarding this discussed.

Can knowledge of panic attack help to explain some domestic violence offending?
I. MITCHELL & E. GILCHRIST.

This paper combines material from domestic violence, animal aggression and neuro-psychology research to explore the utility of using knowledge of systems underpinning affective defence responses to explain some domestic violence offending. The basic hypothesis is that some incidents of domestic violence can be understood in terms of a panic/anger attack that is directed against the spouse.

The hypothesis is based on: (i) models of the neural substrates underlying defensive aggression, which show, marked anatomical/physiological overlap with those implicated in panic attack; (ii) clinical reports of panic attack-like symptoms experienced by perpetrators during DV assaults; and (iii) experimental evidence (George *et al.*, 2000) which demonstrates that standard physiological challenges can elicit panic attacks in DV offenders. Panic attack represents inappropriate activation of these physiological/behavioural responses, presumably due to inappropriate control from the amygdala and/or prefrontal cortex. Panic attacks could be potentially suppressed by increasing the capacity of the orbito-frontal cortex to, inhibit directly or indirectly, the mid-brain affective defence mechanisms. However, learnt associations between stimuli and panic responses are notoriously difficult to extinguish and panic responses typically show sensitisation overtime. The same may be true of the behaviour DV offenders.

The assessment of male juvenile offenders psychological needs
R. MONAGHAN.

The paper outlines the application of the Emotional Behaviour Scale, the Beck Hopelessness Scale and the Custodial Adjustment Questionnaire to the screening of male juvenile offenders within the initial stages of incarceration. Although the Prison Service asserts that all juvenile offenders should be formally assessed when they first arrive at an establishment, little guidance is provided as to appropriate methods. The current assessment tools were given to 150 male juvenile offenders within the initial stages of incarceration. The paper will outline the use of these scales in the induction of male juvenile offender and their relationship to behaviour displayed within the first month of incarceration. The results are discussed in terms of adjustment to custody and offending behaviour.

Psychopathy and interpersonal functioning in learning disabled offenders across four levels of security
P. MOONEY, L. STEPTOE, C. MORRISSEY, T. HOGUE, W. LINDSAY & J. TAYLOR.

There is little research examining the presentation of psychopathy in offenders with learning disabilities (LD), and less concerning its relationship with interpersonal functioning. Prior non-LD research suggested the importance of the Interpersonal Circumplex in our further understanding of psychopathic personality, with psychopathy being representational of the interpersonal axis of warmth-hostility. Such a relationship presents implications for the referral of patients for psychopathy assessments and also for treatment planning. This paper examines the relationship between interpersonal functioning and psychopathy in a cohort of 180 LD offenders across four levels of security (high, medium, low and community). The application of the Psychopathy Checklist – Revised (PCL-R) is discussed in relation to intellectual disability, and the importance of the Interpersonal Circumplex (as measured by the Interpersonal Adjectives Scale) is argued in terms of it's implications for the clinical assessment of psychopathy.

A bi-cultural approach to assessment and treatment: Integrating Western psychology with cultural responsivity principles
E. MULLAN.

Cultural needs of non-Western offenders are often overlooked when implementing current Western psychological interventions. This may prevent offenders from different cultural backgrounds from taking advantage of programmes and individual treatment. Assessment of cultural needs and the use of culturally safe treatment may increase access to treatment by non-Western offenders. In New Zealand, Psychological Services is at the forefront of developing assessment tools and treatment options that are culturally appropriate and culturally safe. This paper examines two initiatives; the Criminogenic Needs Inventory, which incorporates Maori-related cultural needs assessment and Te Piriti bi-cultural treatment unit for men who sexually offend against children. Both initiatives will be discussed in terms of their structure, application and for Te Piriti recent outcome data. Culturally appropriate assessment and treatment should not be seen as an add-on to Western programmes. This paper will demonstrate how culturally appropriate methods and Western psychological principles can be successfully integrated.

Psychopathy, responsivity and reconviction after residence in a prison therapeutic community
M. NEWTON, J. SHINE, J. HOBSON & R. SHUKER.

The suitability of therapeutic community treatment for psychopaths remains a contentious issue. This study follows up a sample of prisoners admitted to Grendon prison in 1995, when the Hare Psychopathy Checklist Revised was administered. The current sample consists of 57 men from the original cohort who have been at risk for at least four years. Responsivity factors include length of stay and planned/unplanned termination of treatment, and behaviour during therapy. Actuarial risk was assessed using the Offender General Reconviction Scale. Results show that total Psychopathy score is significantly related to both general and violent reconviction. The relationship with Factor 2 is strong but there is no significant relationship with Factor 1. Factors associated with responsivity and predictors of reconviction are explored in relation to psychopathy. The predictive value of individual PCLR items is examined.

The prevalence and characteristics of sadism in an Irish student population
A. O'MEARA, J. DAVIES & Y. BARNES-HOLMES.

Within the literature associated with murder and sexual offending, sadistic attitudes, fantasies and behaviours are frequently alluded to. In a study by Davies (2001), sadistic fantasies were reported by a large number of those referred to a high secure personality disorder service. Despite this 'prevalence' there are problems in defining, assessing and intervening with sadistic presentations. This paper outlines the prevalence of sadistic attitudes and behaviour amongst a student population in Ireland, comparing this to similar data from a UK sample. Further, this paper explores some of the possible developmental and personality features associated with endorsement of sadistic items. This paper provides suggestions for the development of a framework within which sadism can be understood, and to provide the foundation for future research into the development, maintenance and function of sadistic attitudes and behaviour.

The effects of normative influence on rape-myth acceptance and rape proclivity
A. PINA & G. TENDAYI VIKI.

The aim of this study is to assess possible predictors of rape proclivity. More specifically, the relationship between in-group identification, as described by Self-catergorisation theory, rape-myth acceptance and rape proclivity is investigated. A between-subjects design is used. All 90 participants involved in this study are British male students of the University of Kent. Participants completed one of three questionnaires that featured three sub-sections: (1) feedback from an in-group (British university students); (2) feedback from an out-group (Greek university students); or (3) no feedback (control group). The results are in support of the hypotheses that the participants who

received the feedback (intervention information) will score lower in rape-myth acceptance and rape prolivity measurements. The results do not support the hypotheses that participants that received the feedback from their in-group would score lower on rape-myth acceptance and rape proclivity than the participants who received feedback from their out-group. The theoretical and practical implications of the findings are discussed.

The impact of pro-social modelling training on prison staff
D. POWER.

The aim of this study is to evaluate the impact of pro-social modelling training on the attitudes and behaviour of prison staff. The extent to which prison staff feel they incorporate pro-social modelling principals into their working practices was also explored. It was hypothesised that, after receiving training, staff's responses to a follow-up questionnaire would indicate significantly more pro-social attitudes and behaviour than their responses to an initial questionnaire completed before receiving training. Staff responses after training reveal an increased awareness of the way in which relationships, communication and job satisfaction impact upon and are connected to one another. In particular, significant differences were found in the level of job satisfaction reported by staff after they received training. The findings imply the need for further research to assess the impact of pro-social modelling training on prison staff on a larger scale and using methods of evaluation which are more sensitive.

The development of a vocationally-based cognitive skills programme for young offenders
E. PREECE & J. McLELLAN.

A cognitive skills programme is currently being developed that aims to equip young offenders with thinking skills to enhance their employability. It is being developed as part of a European Social Funded project 'IMPACT' (Innovation Means Prisons and Communities Together), a regional multi-agency research project that aims to trial innovative methods of working with offenders to ensure progress towards sustainable employment. The cognitive skills programme differs from existing interventions by it's inclusion of work-based examples in order to generalise learning and skill acquisition to employment. The plethora of research demonstrating a link between the presence of cognitive deficits and an offenders ability to function pro-socially together with the expanding knowledge base about employability skills, suggest the need for work focused cognitive skills. The presentation outlines the rationale for the intervention and describes its progress and development to date.

Officer attitudes towards self-harm: The influence of prisoner behavioural characteristics and officer gender
K. QUINN & J. IRELAND.

One-hundred-and-sixty-two officers (100 men and 62 women) completed two attitudinal measures: one assessing general attitudes towards prisoners and one, designed for the purpose of the current study, assessing attitudes towards prisoners who self-harm (APSH: Attitudes towards Prisoners who Self-Harm). In addition, participants were asked to rate their perceptions of two prisoners depicted in vignettes. The vignettes depicted identical types of self-harm but varied the behavioural characteristics of the prisoners involved, with one depicted as 'well-behaved' and the other as 'disruptive'. The APSH demonstrated good internal reliability and comprised of four components: endorsement of harsh treatment for self-harmers; understanding self-harm; endorsement of negative 'myths' and relating self-harm to suicide. Women are more likely then men to report positive attitudes towards self-harm and in particular were less likely then men to endorse negative myths regarding self-harm. The prisoner depicted as 'disruptive' invoked increased negative attitudes in comparison to the 'well-behaved' prisoner. The study concludes by discussing the application of the findings to practice.

Challenges of setting up a democratic therapeutic community within a secure setting
N. SARGANT & K. PINDER.

As the prison population rises the Prison Service continues to identify alternative intervention methods to address offending behaviour and reduce reconviction rates. Consequently the drive to incorporate new, effective approaches into the regimes increases. In recent years the Prison Service has seen an increase in the desire to introduce therapeutic communities into prison regimes. HMP Blundeston and HMP Winchester (West Hill) are examples of prisons that have introduced a democratic Therapeutic Community into the prison regime within the last 18 months. The presentation illustrates the process through which each of the establishments has gone, highlighting the different approaches. The key conceptual and practical challenges faced by each of the establishments when introducing and developing a democratic therapeutic community within a secure setting is discussed, and the key milestones that have been reached are identified. Finally suggestions for improving how this process could be managed in the future are be made.

Do psychological test scores changes predict risk of offending?
R. SHUKER & M. NEWTON.

Self-report questionnaires are sometimes used to measure the effects of interventions on dynamic risk factors, with the implicit assumption that changes in scores reflect changes in risk of offending. This study attempts to find empirical evidence to support that assumption, from a sample of 83 prisoners discharged from Grendon Prison therapeutic communities in 1996 and followed up for four years after release from prison. Initial scores on the Psychoticism scale of the Eysenck Personality Questionnaire and the Extrapunitive Hostility scale of the Foulds and Caine Hostility and Direction of Hostility Questionnaire are known to be related to reconviction, and significant reductions in scores after treatment have already been shown. It was hypothesised that men who showed reduction in scores would be reconvicted less, and that discharge scores would be better than initial scores as predictors of reconviction. Neither hypothesis is supported by the data and implications for risk assessments are discussed.

Designing and implementing a substance misuse programme for women in high secure care
T. SWAFFER, G. THOMAS & V. MULTRA.

When forensic and mental health services attempt to address the issues associated with substance abuse, women are often subjected to participating in programmes, which have been designed to meet the needs of men, with little attention being paid to the specific needs of women. When attempting to participate in programmes which have not been designed with gender specific needs being taken into account, women are often perceived to have 'failed' in treatment, creating a belief that women are harder to treat, less motivated and more deviant than men. A programme developed specifically for women substance misusers has been designed and piloted at Rampton Hospital. The content of the programme and clinical feedback relating to its delivery is shared in this presentation.

Risk assessment for offenders with learning disability
J. TAYLOR, W. LINDSAY, T. HOGUE, S. JOHNSON, P. MOONEY, L. STEPTOE, A. SMITH & G. O'BRIEN.

There is a dearth of research concerning the validation of existing risk assessments for use with offenders with learning Disability (LD). This study discusses the outcomes of actuarial and dynamic risk assessments for a cohort of 180 offenders with LD across four levels of security (high, medium, low and community). Such instruments (including the HCR-20; Static-99; Risk Matrix 2000; and VRAG), measuring the risk of violent and sexual recidivism, have already been widely accepted in other

mentally disordered populations (e.g. personality disordered and mentally ill client groups). The validity of these instruments are examined in relation to the LD population, and problems with application are discussed. An argument is made for the adoption of more structured clinical judgments (SCJ) which combine both the actuarial and dynamic assessment methods, and the importance of multi-disciplinary team work. An introduction to this method of working will be outlined and implications discussed.

High risk inferences in the assessment of high risk: Some concerns in the clinical use of the PCL-R
B. THOMAS-PETER & J. JONES.

The PCL-R has been heralded as the 'unparalleled' (Salekin, Rogers & Sewell, 1996) risk assessment tool when assessing risk of violent and non-violent recidivism. Within the UK the PCL-R stands to become an industry standard assessment in the psychological evaluation of individuals thought to have a dangerous and severe personality disorder. However, the current knowledge base about the PCL-R is unsatisfactory and a number of issues need to be addressed before clinicians can be confident in the use of this measure. This paper highlights these issues from the perspective of the practising clinician. Questions are raised about the theoretical, methodological and treatment implications in the use of the PCL-R. Future research needs are established in this context of caution over the use of the measure in routine clinical and academic assessment.

Assessing risk in violent juveniles
Z. WALKINGTON, S. THOMAS & C. O'KEEFFE.

The SAVRY (Structured Assessment of Violence Risk in Youth) is a risk tool designed to assess the risk of violence in violent juvenile offender populations. The tool has a strong focus on dynamic factors in risk assessment and also on protective factors which may reduce the likelihood of violent outcomes. The instrument has been used in the USA and in Holland and this project is the first to look at the predictive validity of the SAVRY in the UK. The study is a test of the predictive validity of SAVRY in predicting both judicial and vocational outcomes for offenders. One-hundred young violent offenders (aged 16, 17 or 18) are being assessed upon release from institutions across the north west using the SAVRY tool. Following release judicial and vocational outcomes will be recorded monthly for a period of six months. The outcomes will be recorded by the employer or school of the offender as well as by self report from the offender. It is hoped that the SAVRY will predict violent outcomes in juveniles.

Jobs lies and videotape: A study of the ability of police officers and recruitment consultants to detect deception in others
Z. WALKINGTON & J. BLACKWELL-YOUNG.

This study compared the performance of police officers with recruitment consultants in their ability to detect deception. The main hypothesis was that recruitment consultants would perform better on lie detection tasks as they have access to more outcome feedback in their jobs. The study used a comparative between participants design with two groups, one drawn from the police force (n=31), one from the recruitment industry (n=20). Data was gathered using a questionnaire regarding participants age, gender, and experience at interviewing. Both groups were shown video clips of eight individuals being interrogated about the theft of £10. In some cases they were lying and in some they were telling the truth. After each clip participants were asked whether the clip was truthful or not, how confident they were, and how they made this decision. It was found that recruitment consultants were not more effective in detecting deception. Police officers were significantly better at detecting liars than the recruitment consultants (p=0.007). It is probable that recruitment consultants do not use the outcome feedback they have available, and, therefore, are not better lie detectors.

A pilot treatment programme for sexual offenders with personality disorders

P. WILLMOT.

This paper will describe a pilot version of the Prison Service Sex Offender Treatment programme which has been adapted to meet the responsivity issues associated with personality disordered patients in a high security hospital setting, as described by Jones (2003). Preliminary outcome measures will be presented and lessons learnt from the pilot will be discussed.

A comparison of developmental and behavioural factors between sexual homicide offenders, sex offenders who do not kill and controls

C. WILSON, L. ALYS, J. CLARKE & P. TOMAIN.

This study compares the developmental and behavioural factors of sexual homicide offenders with sex offenders who do not kill and controls. Participants completed a Developmental History and Adulthood Behaviours questionnaire. Twenty male incarcerated sexual homicide offenders were compared with 20 male sex offenders in the control group reported more factors associated with the ego triad and antisocial behaviour in childhood and adolescence than the sex offenders but otherwise the groups did not differ. Prediction models of the developmental and behavioural factors in sexual homicide offenders and controls are compared. The theoretical implications of the findings are discussed.

Factors affecting the severity of sexual assaults committed by juveniles against strangers

J. WOODHAMS, R. GILLETT & T. GRANT.

Juveniles who sexually assault strangers have been identified as a population at high risk of recidivism, however, little is known about the nature of their offending. A sample of 495 victim allegations of stranger sexual assault are analysed to identify factors that characterise the more severe assaults as measured by victim penetration and the use of physical violence and weapons. Victim characteristics are related to the severity of the assault with young females and older males being particularly at risk. Previous research has also indicated the presence of co-offenders as a factor related to serious sexual assault. The relationship between victim penetration and the use of physical violence is investigated further demonstrating a three-way interaction between physical violence, penetration and number of suspects. The practical implications of these findings for crime prevention and the theoretical implications with regard to the purpose of violence in sexual assaults are discussed.

Addressing criminogenic needs of personality disordered prisoners within a therapeutic community treatment modality

I. WOOTTON & V. TUNBRIDGE.

Therapeutic communities provide a multi-modal therapeutic approach to the treatment of personality disorder which integrate a range of different treatment paradigms. Behavioural, social learning, cognitive, and analytic models are integrated within a treatment milieu, which allows criminogenic needs of offenders to be identified and explored in the context of the personality disturbance. The issue of the relationship between personality disorder and offence specific risk factors is discussed. The paper presents case vignettes to illustrate the model of offence paralleling behaviour and provides an overview of key research findings in this area. It is concluded that therapeutic communities provide a potent environment within which to address both personality disorder and the risk factors of relevance to offending behaviour.

POSTER PRESENTATIONS

Mental health and treatment implications for young offenders

L. ANDERSON, P. VOSANIS & N. SPENCER.

Applying forensic psychology in different settings: Early interventions for young and very young sexual abusers

Z. ASHMORE.

Towards a data-informed resettlement strategy – planning offender services based on data

C. BOND.

Patterns of post-treatment clinically significant change in the psychological characteristics of male domestic violence offenders

E. BOWEN & E. GILCHRIST.

Developing perceptions of the police: A study of children's discriminatory abilities

C. COOKE.

Predicting risky behaviour in a student population

S. DAYNES, J. DAVIES & J. TALCOTT.

Developing a reliable observation measure of patient behaviour in a forensic setting

S. DRAYCOTT.

Victimisation of individuals with mental health problems

K. EDWARDS.

Introduction of a forensic psychology service into a medium secure learning disability and specialist residential services

P. HENDERSON & F. McMILLAN SHIELDS.

An exploration of partner's accounts of male perpetrated domestic violence

R. JORDAN.

Assessing the reliability of confession evidence: The development of a Compliance Interview Schedule

G. MacPHERSON.

Psychopathy and interpersonal functioning in learning disabled offenders across four levels of security

P. MOONEY, L. STEPTOE, C. MORRISSEY, T. HOGUE, W. LINDSAY & J. TAYLOR.

The impact of pro-social modelling training on prison staff

D. POWER.

Jobs, lies and videotape: A study of the ability of police officers and recruitment consultants to detect deception in others

Z. WALKINGTON & J. BLACKWELL-YOUNG.

A comparison of developmental and behavioural factors between sexual homicide offenders, sex offenders who do not kill and controls

C. WILSON, L. ALYS, J. CLARKE & P. TOMAIN.

Welsh Branch 34th Annual Student Conference

INDIVIDUAL PAPERS

The effect of attention to music on driver performance in risk-taking and hazard perception

G. BRYARS, University of Wales Institute, Cardiff.

Previous research (e.g. Horswill & McKenna, 1999) has suggested that dual-tasking affects hazard perception and theoretically risk-taking behaviour. Music is a major part of the environment within a car. The aim of this study is to investigate the affects which attention to music has, on risk-taking and hazard perception. The study also aims to investigate whether a drivers experience impacts on driving performance. Video simulation techniques were employed to test 48 participants of varying driving experience. The experimenter hopes to find an effect of attending to music for both experienced and novice drivers.

Gender and condom use

M. CANNON, University of Wales Institute, Cardiff.

Previous studies have investigated different aspects of health behaviour between men and women (Verbrugge, 1985; Connquist *et al.*, 1992). The aim of this study was to investigate if gender rather than sex, influences attitudes towards condom use. An attitude scale, demographic questionnaire and the BEM sex role inventory were used.
A convenience sample of 65 female undergraduates participated in this study. Data for the whole group showed no significant difference between gender groups and attitude towards condom use, chi-square (3)=5.07 p>0.05. However there was a significant difference when only sexually active participants' were analysed, chi-square (3)=8.22 p<0.05. Mann-Whitney post hoc analysis revealed that masculine gendered women hold significantly more positive attitudes to condom use.

Measuring student motivation: An investigation of motivation in psychology undergraduates

D. CROOK, University of Wales Institute, Cardiff.

The concept of motivation has been acknowledged as being implicit within learning and academia as a consequence of considerable research, predominantly focused on school children. The present study focuses on university undergraduates and some of the many factors that may influence their motivation including age, gender, year of study and career aspirations. An opportunity sample of 101 subjects participated in the study by completing the analytical survey methods of questionnaire and attitude scale, devised to measure academic motivation. Results are expected to reveal differences in academic motivation between males and females, mature and non-mature undergraduates, year one and year three undergraduates and those with career aspirations and those who have none. The direction of results is yet to be established.

Attitudes towards aggression between contact, non-contact and non-sport groups

S. CROSBY, University of Wales Institute, Cardiff.

Aggression is becoming increasingly widespread within sport and a danger exists that it may continue outside the sporting arena.
A questionnaire was distributed to 99 males and females aged 11 to 14 years who were divided into contact, non-contact and non-sports groups. The study found that participants of contact sport were significantly more accepting of aggression. This was followed by the non-sports group and the non-contact group. There was little difference between groups for acceptance of aggression in a non-sporting environment. A gender comparison showed males were more likely to tolerate aggression than females in a sports environment but females were more accepting of aggression in a non-sports situation.

Gender differences and weapon focus effects in eyewitness testimony

M. DAVIES, University of Wales Institute, Cardiff.

William Stern (1901) pioneered work on eyewitness testimony. Stern concluded from his research that recall memories are generally inaccurate. Gender differences and a gender bias are reported to occur in eyewitness testimony but these findings are generally inconsistent. Another aspect of eyewitness testimony is weapon focus which examines how a weapon increases arousal so much so that memory becomes less accurate.
This study involves looking at the aforementioned aspects of eyewitness testimony by asking respondents to view video stimuli of different assaults and then answer some short, clip-specific questions to assess accuracy of recall.
Results: The time delay administered between viewing the stimuli and responding to the clip-specific questions had no significant effect on the level of accurate recall; $F_{(2,46)}=1.171$; $p>0.05$. There was no significant main effect of recall between the genders: $F_{(1,46)}=0.005$; $p>0.05$. There was a significant, negative correlation between arousal levels and the clip involving a male against male attack: $r=-0.279$; $n=51$; $p<0.05$.

Interactive reading at home and in school: Does it affect children's vocabulary and comprehension skills?

A. EDWARDS, University of Wales Institute, Cardiff.

Dialogic reading is a higher-level interactive style of adult-child reading where children are encouraged to consider the book beyond the text (Whitehurst *et al.*, 1994). Wasik and Bond (2001) examined the effects of dialogic book reading on the language skills of at-risk pre-school children. They discovered that children in dialogic reading groups had broader vocabularies. This study aimed to investigate if dialogic reading at home and in school improves British 11-year-old's vocabulary and comprehension. A questionnaire determined reading habits at home and in school and the revised British Picture Vocabulary Scale II (1995) (PVS) measured comprehension vocabulary.
A Dialogic reading activity was used to see if a set of target words could be learned in a single reading session. A two-way unrelated ANOVA found no significant interaction between dialogic reading at home or in school and PVS scores, $F_{(1,43)}=0.004$; $p>0.05$. Further investigation found no interactions between Socio Economic Status and PVS Scores, $F_{(2,40)}=0.433$; $p>0.05$ and no significant gender differences in PVS scores, $t=-0.735$ (41); $p>0.05$. However, an independent samples T test revealed that those children in the intervention group learned more target words than those in the control group, $t=17.727$ (41); $p<0.01$. The results, therefore, suggest dialogic reading can be effective at increasing children's comprehension vocabulary skills.

The perceived effects of smoking cessation on weight gain

C. HAMER, University of Wales Institute, Cardiff.

It was suggested that one of the influential reasons for the continuation of smoking is the possibility of weight gain follow cessation. (Williamson *et al.*, 1991). Crisp *et al.*'s (1999) contradictory findings demonstrated that weight gain was not the main reason for smoking. The aim of the study was to investigate whether smoking cessation was related to weight gain. A convenience sample of 60 participants were approached and asked to take part in a study regarding smoking habits. The participants completed a self-administered questionnaire devised by the researcher. As the data is nominal a Pearson's statistical will be conducted to discover whether individuals fail to give up smoking due to fear of weight gain.

Body image and gender: Males and females accounts of stereotypes

R. JAMES, University of Wales Institute, Cardiff.

Body image and gender stereotypes may be related as the thin ideal, female body is associated with typical feminine traits such as weakness and passivity, whereas the muscular, ideal male body is associated with typical masculine characteristics (Winkler & Cole, 1994 cited in Spitzer *et al.*, 1999). The current study used a semi-structured interview to examine participant's ideas of men and women's body image and to explore how these perceptions of body image relate to gender stereotypes.
A convenience sample was used consisting of two male and two female participants, who were chosen due to their age and awareness of the topics. A thematic analysis was used to identify the master themes from the interviews.

The role of shyness in phonological processing: Reading, writing and recognising graphemes

T. JOB, University of Wales Institute, Cardiff.

Children with phonological problems tend to be shy (Cook, Urwins & Kelly, 1989). It is unclear whether 'shyness affects vocal and verbal productions but not the written measures of linguistic ability' (Broberg, Wessel, Lamb & Hwang, 1997, p.68). Crozier and Hostettler (2003) found that shy pupils score lower on written measures of linguistic ability. The present study is a partial replication of Dodd and Carr (2003); Crozier and Hostettler (2003). The aim was to investigate whether shy pupils differed to their peers in their reading, writing and letter recognition. A sample of 50 children were asked to reproduce, recall and recognise two sets of 16 letters (Dodd & Carr, 2003). Results are discussed in terms of shyness in the classroom.

Increasing differentiation between digits: Does this aid implicit learning?

K. LIVESEY, University of Wales Institute, Cardiff.

Background: McGeorge and Burton (1990) used invariant digit learning to assess implicit learning and found that participants regularly selected strings containing the invariant digit, but appeared unable to describe the underlying rule. Helman and Berry (2003) concluded by calling for research exploring the knowledge held by learners such as sensitivity to explicit/implicit information in the learning task.
Aim: Does making each digit more distinctive from its neighbour, thus adding further categorical verbal labels to each digit (Roberson & Davidoff, 2000), elicit higher levels of learning of the invariant digit?
Method: Partial replication of the McGeorge and Burton (1990) invariant digit learning task using numbers and stars at three levels of distinctiveness.
Results: Results appear to be in keeping with the direction of the hypothesis.

The effects of different cognitive strategies on work output and perceived exertion during sub-maximal exercise

H. McWILLIAM, University of Wales Institute, Cardiff.

Pennebaker and Lightner (1980) found that by using dissociative strategies whilst exercising helped decrease perceptions of fatigue and increase performance. However other studies have found greater gains with the associative condition (Scott *et al.*, 1999). This study's aim was to investigate the effects of associative and dissociative strategies on exercise performance. Twelve under-graduate students completed a 20-minute sub-maximal exercise on a cycle ergometer. The associative condition required participants to read out their

heart rate. The dissociative condition required participants to listen to music. Data was analysed using a MANOVA, analysis revealed a significant effect of exercise strategy for both dependent variables (Distance/RPE) $F_{(2,33)}=2.496$, $p<0.5$. It can be concluded that music did enhance participant's performance and lower their rates of perceived exertion.

Morbidity: The influence of within-sex gender differences, seriousness of illness and subjectivity

S. MOORE, University of Wales Institute, Cardiff.

DOH Statistics (2004) show that females report more illnesses yet anomalies exist such as male excess in reporting common cold symptoms (Macintyre, 1993). Research uses the terms 'sex' and 'gender' interchangeably, thus it is unclear how either influence morbidity. Measurement of morbidity behaviour has methodological problems as there is no gold-standard measurement for symptom perceptions (Macintyre et al., 1999). A survey with a between subjects factorial design was undertaken to examine how willingness to report physical symptoms (WTR) is affected by within-sex gender differences, seriousness-of-illness and subjectivity (the difference between gender-role preferences and gender-role attitudes). A significant main effect of seriousness-of-illness was found ($F_{(1,84)}=94.16$, $p<0.001$). Findings suggest that WTR is influenced by seriousness-of-illness but not by within-sex gender differences or subjectivity.

Effects of rap music on mood and aggression levels: Lyrics or music?

S. MURUGESAN, Swansea University.

The study aimed to determine whether lyrics or music influenced mood levels. Participants rated their mood before and after listening to rap and foreign music. Stress, happiness and relaxation levels were affected by exposure to rap and foreign music. Magnitude of mood change was larger for the rap music condition. Changes in calmness and anxiety were confined to rap music condition. Another aim was to determine whether lyrics influenced aggression levels more than exposure to music. Stroop interference was greatest for the aggressive word list and rap music combination, suggesting that lyrics influenced aggression levels more than music. Preference of rap music was dependent on irritability and perceived cause of criminal behaviour. It was suggested that a link between actual violent behaviour and rap music must be found.

Gender differences in attitudes towards rape

M. PUGH, University of Wales Institute, Cardiff.

Szymanski, Devlin, Chrisler and Vyse (1994) revealed that men hold significantly stronger beliefs in rape myths than women and acquaintance rapes were perceived as being less severe and less criminal than cases of stranger rape. The present study was designed to further investigate the relationship between gender roles and attitudes towards rape. Participants were presented with a Bem Sex Role Inventory (Bem, 1974) and two copies of the Attitudes Towards Rapes Scale (Ward, 1988), with either a stranger or an acquaintance rape scenario. The expected results will be that males or those classified as masculine according to the BSRI (Bem, 1974) will hold more pro-rape attitudes than females or those classified as feminine. Also that participants will believe that acquaintance rape is less severe than stranger rape.

Psychological aspects of diabetes and injecting

S. RYAN, University of Wales Institute, Cardiff.

People with diabetes are one of the few patient groups that self administer medication on a daily basis by injecting. Little research has been published into the effect, that injecting has on patients, as a separate issue from the effect of the medication. For people with diabetes whose medical condition requires self-injection, there may be psychological barriers to this method of drug administration and it may impact upon the efficacy of their treatment or their perception of themselves.
Method: 10 people with Type I diabetes took part in semi-structured interviews investigating their attitudes towards injecting and the psychological aspects of having diabetes. The interview transcripts were analysed using IPA.
Results: Themes were derived and the general consensus was a feeling of social exclusion, with perceptions that the public holds a hostile view towards the injecting process this was identified as one of the most important areas in the lives of people with diabetes.

Study and test modality effects on false memory for word lists

K. THOLE, University of Wales Institute, Cardiff.

Using the Deese-Roediger-McDermott list-learning paradigm, Maylor and Mo (1999) found that when presentation and test modalities match (e.g. visual presentation-visual test) then false recognition could be reduced. Israel et al. (1998) found that when presentation modalities were combined, false recognition increased. However, in general, research examining the effect of modality on false memory is inconclusive.

Aim: To investigate the effect that varying presentation (auditory, visual and auditory-visual) and test (auditory or visual) modality will have on false recall and recognition.
Method: A 3 (presentation) x 2 (recall) x 2 (recognition) mixed experimental design was used in this study. The dependent variable is the proportion of critical lures (see Roediger & McDermott, 1995) recalled, or recognised.
Results: At present, presentation modality has been found to significantly affect false recall ($p<0.01$). Further analysis is underway.

Investigating representations of men and women: A double standard in magazine advertising

A. WILSON, University of Wales Institute, Cardiff.

The double standard is a term that is commonly applied to differences in permitted sexual behaviour of men and women. However, research has revealed that there are also differences between the sexes in other areas of social psychology. In advertising, women are depicted less favourably than men (Courtney & Whipple, 1984), usually in subservient representations, such as the housewife or sex object (Goffman, 1976). Using magazine advertisements, this investigation aims to explore the nature of these differences to see if there is a double standard in their account. A series of semi-structured interviews were conducted and analysed using a thematic analysis to pick out any salient ideas.

Facilitators and barriers affecting motivation to adhere to a fitness training programme between elite and club hockey players

N. WOOD, University of Wales Institute, Cardiff.

Palmer (2000) in a study of elite netball players found that the revised Theory of Planned Behaviour proved to be a better predictor of training adherence than either the Social Cognitive Theory or the original Theory of Planned Behaviour. However the majority of adherence research in sport has focused on exercise behaviour in college students or patients undergoing treatment (Chubb, 1990). Only limited research has focused on elite performers (Palmer et al., 1999). The aim of the study is to investigate differences in facilitators and barriers affecting motivation to adherence to their fitness training programmes between elite and non-elite hockey players. The research was conducted by employing a qualitative research design in form of a semi-structured interview lasting approximately 30 minutes. The study hopes to find that elite hockey players experience different facilitators and barriers to fitness training than non elite hockey players.

History and Philosophy of Psychology Section
18th Annual Conference

INVITED SPEAKER

Concepts of 'identity' from the standpoint of Cuban psychology
C. DE LA TORRE MOLINA, University of Havana.

When we talk about individual or collective identities we refer to process that allows us to think that a subject (individual or collective) in a certain moment and context has the awareness of being, him/herself. This notion is supported by first, an historical and cultural approach to human psychology, and secondly by my empirical experience with the study of the Cuban and other collective identities. The self-consciousness that is central to this account is manifested or expressed (with more or less elaboration) in our capacity to feel different from others, to identify with certain categories, to feel that we belong – or are part – of certain groups, and to develop reflexivity, i.e. to elaborate and narrate a sense of one's own continuity through the transformations and changes during our lives.

SYMPOSIUM

The limits of social constructionism
Convener: T. DICKINS, University of East London.

Preamble: Over recent years there has been a growing movement within the social science branch of the behavioural sciences that has attracted the term 'Social Constructionism'. This movement does not represent a precise position but rather a number of related views about:
(a) those things that humans construct as a result of group processes; and (b) how far we can extend the notion of the socially constructed in terms of reflecting on our theories of human nature. The former interest can range from uncontroversial discussion of cultural artefacts and cultural transmission to highly controversial discussion about the central role of language in the construction of our experience. It is at this extreme point that much debate has been had about how certain we ought to be about ontological claims within the behavioural sciences, given that language could possibly enable us to socially construct natural kinds that are not veridical. Indeed, it is often argued that language acts as a barrier to accessing knowledge about the real extended world because of its entirely social (and hence political) nature. In short, language is used by people with vested interests.
It is clear that some forms of Social Constructionism are at odds with traditional methods and assumptions within the behavioural sciences. It would seem that the extreme ontological disputes that Social Constructionism has engendered are in danger of splitting the behavioural science community and establishing two separate disciplines, each founded on different metaphysical principles – one upon the principles of materialism and the other on the principles of radical uncertainty. It is the contention of this proposed symposium that such a split would be unfortunate. There are indeed interesting things to be said about the socially constructed, but equally there are interesting things to be said about the nature of the humans that do the social constructing.
Aim: In this meeting we aim to discuss the limits of the Social Constructionism position with a mind to retaining serious consideration of both (a) and (b) above, but without adopting the principles of radical uncertainty that we believe can lead only to extreme relativism. To this end we have a collection of papers from a number of different perspectives including theoretical sociology, evolutionary psychology, cognitive science and social

psychology. This diversity serves to highlight both the importance of social processes for the behavioural sciences, and an interest in the nature of social construction. Nonetheless, these papers also seek to demonstrate that as behavioural scientists we can stand back from these phenomena and thereby ground our subsequent explanations. However, each paper has different views on how, precisely to ground explanations.

The constructive role of theoretical aporia
J. CRUICKSHANK, University of Birmingham.
My paper deals with one aspect of the debate between realists and social constructionists, namely the debate about the role of theory. Shotter praises Bhaskar for taking a social constructionist approach to the issue of agency, but criticises him for taking a modernist approach to theory. Shotter's point is that Bhaskar is correct to stress the active constructive role that agents play in constituting the social realm, but he rejects the attempt to develop a grand theory that formally defines and depicts some essential properties of social interaction. Shotter regards the latter as a monologue which precludes debate by using professionalised discourse to make a formal and definitive claim about reality. In contrast to this, Shotter develops an approach, influenced by Wittgenstein, which he refers to as dialogic and which is opposed to (formal) theory. His approach is dialogic because being constructionist, it embraces contingency, and the need for an on-going dialogue to foster human understanding and well-being.
The problem with Shotter's argument is that it is beguiled by the rhetoric of Bhaskar's claim to have a unified theory and that the case is more complex, as Bhaskar's work on ontology contains a number of tensions. The most notable tension is between the argument for concept derivation and the argument about ontology being used to instruct the sciences. In the former case theory is developed dialogically, as concepts are derived via internal critique of different perspectives, which implies a commitment to continuous dialogical development. In the latter case, a theory of being is used to define science, which places science on a metaphysical foundation, and which monologically proscribes alternative theories.
Taking the former seriously means rejecting the critical realist project of putting science on a metaphysical foundation, and rejecting Shotter's approach for essentialising theory and for developing an alternative that is too subjectivistic and individualistic. Rather than regard theory as essentialist and monological, I argue that the aporia that exist in theories can be used constructively, by furnishing the materials for a continuing dialogue, on such topics as the nature of the self and society.

Social constructionism, information theory and the new naturalism
T. DICKINS, University of East London.
Social constructionism is a broad position that emphasises the importance of human social processes in psychology. These processes are generally associated with language and the ability to construct stories that conform to the emergent rules of 'language games'. This view allows one to espouse a variety of critical postures with regard to realist commitments within the social and behavioural sciences, ranging from outright relativism (language constructs all of our concepts) to a more moderate respect for the 'barrier' that linguistic descriptions can place between us and reality. This paper first outlines some possible social constructionist viewpoints and then goes on to show how each of them conforms to the basic principles of information theory. After establishing this relation the paper then argues that this leads to a deal of commonality between social constructionist positions and the baseline aims of cognitive science. Finally, the paper argues that if information theory is held in common this both

suggests future research collaborations and helps to 'mop up' some of the arguments surrounding realist commitments. One possible way to do this is to take seriously the new naturalism which seeks to understand how evolutionary processes equipped our minds with both innate content and content-producing processes.

Mutualism and the paradoxes of realism
A. STILL & J. GOOD, University of Durham.
We begin by outlining a theory of mutualism based on the work of James Gibson with a view to developing a different perspective on the polarity between realism and social constructionism. A mutualist ontology of immediate experience starts from persistence and change (and presence and absence) rather than from subjective and objective, or sensation and perception, which characterise cognitivism. This gives rise to an incommensurability, since what persists and what changes is necessarily relative to the organism, including the socially moulded human organism. This is because it is the organism that actively picks up the information that specifies persistence and change in the world, and at the same time and with the same information, persistence and change in the organism. Since the activities of information pick up are in part socially conditioned, and the information is not (except in limiting cases) independent of the way it is picked up, the polarity cannot get off the ground. The nearest we get to it is in the nesting of invariants, so that lower order invariants may change even when the higher order invariants of which they form part persist. Only if we equate 'more persistent' with 'more real' could the polarity (with all its paradoxes) arise. We develop these views by drawing on the work of John Dewey and more recent philosophers such as Hilary Putnam, Joseph Rouse, Ian Hacking and John Haugeland who have recognised the significance of his views for a mutualist account of the world.

Rom Harré and realism
N. WETHERICK, Edinburgh.
Rom Harré was born in New Zealand in 1927 and holds (or has held) academic posts at Oxford and in several American Universities. His productivity has been immense. Before 1970 he had an established reputation in the philosophy of science and books by him on that subject still appear regularly. In about 1970 he turned his attention to psychology – first to psychology in general and later to social psychology in particular. He was an early advocate of discursive psychology but has, more recently, subscribed to the view that there are two ontological positions 'that do not mesh', corresponding to two imperfectly knowable entities, one material and one conversational. The latter is of course the province of the discursive psychologist; some of them deny the importance of even the existence of the former. Harré's underlying theme has always been 'realism' – the view that the material world to which our senses appear to give access does really exist, and matters. This view is inescapable for the psychologist interested in evolution who has to consider how, in such a world, organisms could have evolved capable of understanding it. The material world clearly existed before the world of conversation and it is not clear that the latter could have acquired prescriptive rights to determine what there is. An attempt will be made to account for the popularity of the discursive position.

WORKSHOP

Conceptual and historical issues in the new BPS undergraduate syllabus: Content and resources
Convenor: S. LOVIE, University of Liverpool.
From 2004/2005 onward, the British Psychological Society will include the teaching of Conceptual and

Historical Issues in Psychology (CHIP) amongst the core topics for the accreditation of all UG degrees. In anticipation of this significant and highly welcome move, the HPP Section will hold a workshop on CHIP at its 2004 Annual Conference in York. The aims of the workshop are: (1) to start from a detailed critique of the BPS's outline syllabus for CHIP in order to compile a list of topics for a module (or module equivalent) on CHIP for a typical degree course; (2) to suggest how CHIP might be taught at, say, Level 2 as a mandatory module; and (3) to explore what practical help the Section can offer over content, teaching and scholarship in CHIP.
Participants: P. BANISTER, A. COLLINS, J. GOOD, S. LOVIE, G. RICHARDS, E. VALENTINE.

INDIVIDUAL PAPERS

Waveney Bushell: A Black pioneering educational psychologist

O. AIYEGBAYO, Liverpool Hope University.

This paper examines the life and work of an obscure and under appreciated educational psychologist. Waveney Bushell was arguably the first Black educational psychologist in the UK. This paper chronicles her struggles and accomplishments in the context of the history of educational psychology in Britain. It describes her route into the field from teaching, her battles against the wrongful placing of West Indian pupils into ESN schools and her criticisms of intelligence testing. It also discusses her collaboration with fellow Caribbean intellectuals such as Bernard Coard in defending the rights of West Indian children during the civil rights era of the 60s and 70s. Waveney Bushell dedicated 22 years of service to the School Psychological Services in Croydon during a time of great political and social upheaval. She was able to make a difference in the lives of countless Black children.

Explanation and understanding in the science of personality

T. BUTT, University of Huddersfield.

The science of personality has mainly focused on the causal explanation of behaviour, trying to identify variables in either the person or the situation that interact to cause a particular line of behaviour. And increasingly, there has been a search for reductionist explanation based in brain science. In this presentation, I argue that in their search for immediate causes, most personality theories adopt either an implicit Cartesian dualism, or a problematic and over-simplified identity between mind and brain. Beginning with Ryle's (1949) arguments against a 'ghost in the machine', I will make the case that neither position can result in an understanding of people. Drawing on both pragmatism and existential phenomenology, I will then consider the possibilities of a science of personality that makes sense of human action in terms of a combination of individuals' reasons and the social context in which their action is embedded.

Thinking about Chuang Tzu and Spinoza

P. CHEUNG & M. CHEUNG CHUNG, University of Plymouth.

The aim of this paper is to contrast the philosophical thoughts of Spinoza (1632–1677 A.D) and Chuang Tzu (369–286 B.C.) with a focus on the notions of determinism and freedom. After a brief description of the biographies of both philosophers, we wish to show that despite the apparent differences in their styles and philosophical frameworks (e.g. Chuang Tzu came from the holistic tradition whereas Spinoza from the analytic and individualistic tradition), the methods they advocate for 'salvation' are actually quite similar. Both philosophers adhere to the notion of liberty of spontaneity which is the liberty to act in accordance with our wills, and for Spinoza this can be achieved by the intellectual love of God, whereas for Chuang Tzu this can be attained through the 'fasting of the heart'. Our paper will examine how these two apparently different systems of thinking are promoting the same way of living through their understanding of nature and how humans relate to nature.

A project unfulfilled: The 'inter-psychologie' of Gabriel Tarde (1843–1904) and Alfred Binet (1857–1911)

D. FABER, University of Liverpool.

In this paper I explore firstly some of the aspects, professional and otherwise, in which Binet and Tarde differed. However, shortly before the death of Tarde the two men planned to collaborate on a project of 'inter-psychologie'. One of Tarde's works in particular allows us to speculate on a common topic, namely, the forces that contribute to the creation of social groups, or society itself. Tarde set out a theoretical case in *Les Lois de l'Imitation* (1890). I argue that some of Binet's experimental work and testing revealed his inherent social psychology. In this case it is possible that Tarde would have I provided a theoretical framework and also hypotheses; for his part, Binet could have extended and modified his work on 'Suggestibilite' The outcome of such a work on , 'Moral Influence' might have diverted some attention from the black picture painted by LeBon in his *Psychologie des Foules* (1895). It would be more difficult to suggest a counter-factual account of the standing of the careers of Binet and Tarde and their contribution to French social psychology at the beginning of the 20th century.

Philosophy in the lived world: Merleau-Ponty and social anxiety

G. FRY, University of Huddersfield.

Hoeller (1993) claims that the philosophy of Merleau-Ponty is 'ripe for integration' in contemporary psychology. One of the most significant aspects with regard to orthodox psychological assumptions is Merleau-Ponty's critique of objective thought. Elements of a phenomenon do not interact in external relationships; rather they combine to form structures whose components are co-dependent, indivisible from the whole. One experience that has attracted a good deal of empirical enquiry is social anxiety. There is much of value in the psychological literature, particularly in cognitive behavioural models. Nevertheless, it is argued that from a Merleau-Pontyan perspective, abstracting this experience from its lived context leads to a rather mechanical account: people are regarded as sites of 'mindless' variables. By returning social anxiety to the lived world (Merleau-Ponty, 1962) it is possible to make new sense of these insights, to develop a richer, more human model.

The Committee of Professional Psychologists and Grace Rawlings: Paradigms, professionalism, and rhetoric

J. HALL, Oxford Brookes University.

This paper explores the history of the first years of the first professional structure within the British Psychological Society. This covers the period from the establishment in 1943 of the Committee of Professional Psychologists (Mental Health), originally including only psychologists working with children, up to the issuing of the first Whitley circular for psychologists in 1952. The paper includes material from the original CPP minute books in the BPS archive and other BPS sources, oral accounts and unpublished sources. It attempts to untangle three separate strands; the conceptual paradigms underlying the emerging different approaches to clinical psychology, the leading role of Grace Rawlings in the professionalisation of psychology, and their relationship to the unrepresentative rhetoric of Hans Eysenck.

Chair's address:
On the necessity of experience: Some reflections on psychology, aesthetics and everyday life

J. GOOD, Dept. of Psychology, University of Durham.

In this talk I reflect on some of the implications for an understanding of the role of the notion of experience in the discipline of psychology of two marginal approaches in contemporary psychology: the ecological psychology of James Gibson and William Stephenson's 'science of subjectivity' –

Q-methodology. I hope to show that both of these approaches offer the possibility of a reinstatement of experience to a central place in the discipline, a reinstatement that in its turn might help foster a renewed interest in questions about aesthetics and everyday life.

Re-appropriating suspicion in humanistic and existential-phenomenological psychotherapies

D. LANGDRIDGE, University of Huddersfield.

Humanistic and existential-phenomenological psychotherapies have grown up in opposition to psychoanalytic psychotherapy. One consequence of this opposition is that these therapies have sought to distance themselves from the hermeneutic of suspicion (Ricoeur, 1970) that grounds psychoanalytic theory and practice. They have instead concentrated on a hermeneutic of empathy (Ricoeur, 1970), which prioritises the expressed experience of clients. This shift in focus has provided a valuable corrective to the worst excesses of the deterministic hermeneutic of suspicion, which subjugates the client's agency to that of the analyst, found in psychoanalytic theory and practice. However, I argue that, because of the desire to maintain this distance from psychoanalytic theory and practice, humanistic and existential-phenomenological psychotherapies have ignored the positive potential of a hermeneutic of suspicion to counter the power of discourses which limit available subject positions. In this paper I explore this issue drawing on Ricoeur's (1981) work on the hermeneutic arc with the twin focus on empathy and suspicion in understanding. I argue that this theoretical perspective, when augmented by recent deconstructive critiques from feminism and queer theory, provides a way forward for humanistic and existential-phenomenological theory and practice which recognises the need for both empathy and suspicion without imposing deterministic frameworks of meaning on the client.

M.R. James and the psychology of terror

S. LOVIE, University of Liverpool.

Although Montague Rhodes James (1862–1936) would have wanted to be remembered primarily for his antiquarian scholarship, the only substantial work of his which remains in print are the ghost stories. These were frequently tried out at Christmas in front of an audience of dons and students, first at King's College Cambridge and then at Eton, before seeing the light of day in various literary journals. There are a little over 30 of these stories extant, with the collected edition dating from 1931. Although their subject matter and settings are now historical, the stories are still able to evoke horror and disgust in a modern audience, as may be witnessed by the invariable success of their many film and television versions, of which Jonathan Miller's retelling of *Oh, Whistle, and I'll Come to You, my Lad* of 1967 is perhaps the best example. My aim in this paper is to explore the means, both psychological and social, whereby James induced terror in his protagonists, and in his listeners, readers and viewers.

Psychological expertise and the consumer: An historical comparison

P. LUNT, University College, London.

In this paper two case studies of the application of psychology in consumer affairs will be compared: the early work on the psychology of advertising by Walter Dill Scott (1902) and the work of members of the Tavistock Institute of Human Relations (as examined by Miller & Rose, 1997). A variety of continuities and discontinuities are evident in these two case studies raising a variety of questions about the relation between pure and applied psychological research, the claims of psychological expertise, the potential social uses of that expertise and the knowledge claims of applied psychology. On a more social theoretical level the challenge of the governmentality account of psychological expertise as generating norms of conduct and technologies of the self are examined in the light of these comparisons and an alternative account, which gives some status to the content of psychological theory, is considered.

A platonic solution for moral philosophy

R. NOBLE, Bolton Institute.

This paper introduces and elucidates transcendental concepts. Alistair MacIntyre attempted to refute emotivist moral philosophy by reconstituting an Aristotelian account of the virtues. This paper adopts a more Platonic alternative. Psychological study of religion has been limited. Major issues remain speculative, like the 'projective hypothesis' or continue investigation of narrow empirical issues like intrinsic religious belief v extrinsic religiosity. It is argued that transcendental concepts such as 'God, Soul and Eternity' give meaning to moral life in the way that 'Infinity', also transcendental, gives meaning to aspects of mathematics. The establishment of such concepts is a distributed social process, their use more individual and justificatory. There are various implications concerning inter-religion, understanding and the concept of tradition.

The strange marginalisation of James Martineau (1805–1900) in late Victorian British psychology

G. RICHARDS, Staffordshire University.

The work of the eminent Unitarian theologian and philosopher James Martineau is profoundly 'Psychological' in orientation, he accepted evolutionary theory – offering a hypothesis regarding the evolutionary origins of human nature which was quite sophisticated by contemporary standards and invoked no mysterious qualitative leaps or gaps, and was instrumental in bringing T.H. Huxley into the Metaphysical Society. His religious position was extremely liberal and in some respects anticipated that of William James. Among his close associates was W.B. Carpenter, author of *Principles of Mental Physiology* (1874), one of the key texts in the founding years of British psychology. He was also an excellent literary stylist and prolific author. Even so, he was effectively cold-shouldered from involvement in the founding of Mind and rarely figures in accounts of Victorian British psychological thought. This paper will:
(a) make out the case for Martineau's merits as a proto-psychologist; and (b) offer an explanation for the reasons behind his marginalisation and an interpretation of the historical significance of this for our understanding of psychology's founding phase in Britain. Some observations on differences between the British and US situations will be incorporated in this.

War-like states and the psychology of peace

M. ROISER, Thames Valley University.

The tendency of governments to wage war has given psychologists work in areas including psychometrics, ergonomics and mental health. Large samples were available, subjects could not decline and ethical constraints were rarely applied. In later years social scientists began to challenge the assumption that men were intrinsically violent. They asked whether such individuals were the product of upbringing and situation. Others asked how mutual understanding might reduce violence between individuals and nations. A new sub-discipline of peace studies and conflict resolution, drawing from several social sciences, emerged. Institutes and journals were founded. In the APA a Peace Psychology Division was formed. This paper traces the history of these endeavours during the last half-century and assess their influence.

Sites, organisations and minds

T. SCHATZKI, University of Kentucky.

The talk describes a new approach to the nature of sociality and considers its implications for both the character of organisations and the roles mental conditions play in constituting social phenomena. The talk begins by restating the familiar master social ontological either-or of individualism vs. societism before describing a new form of societism – site ontology – that has arisen in recent decades. It then outlines a particular account of that type, according to which social life inherently transpires as part of nexuses of human practices and material arrangements. Various implications of this account for the character of organisations are presented. The concluding section describes the complex psychological structure that organisations possess on this account.

Bully, sardines and orange crystals

D. STEVENS, Thames Valley University.

Major Kenneth David Hopkins, as prisoner of war (POW) kept diaries of his fellow officer-prisoners' dreams between 1940, when he was captured, and 1942, when the volumes ceased due to his death in internment, 16th September 1942. The notebooks returned to his widow, who in turn passed them to Professor C.W. Valentine, and then through a number of hands into the London archive of the British Psychological Society, where I have been granted access to them and the permission of the BPS to transcribe edit and analyse them for publication.
Major Hopkins lists 'TINS IN STORE (411 mess GB) Feb. 3rd, 1 Bully, 1 sardines, 1 Orange crystals. This paper will analyse, with examples, dreams of food and eating, will introduce and critically review the standard content coding system for dreams, following principles set out by Hall and Van de Castle (1966) and modified by Dumhoff (1996), and suggests further analyses of 'agonic or hedonic' dreams from an archetypal and bimodal perspective, and the use of Personal Construct Theory (Kelly, 1955).

British psychologists and the miners' strike

A. ROSE, University of Westminster.

Key social, political and economic events have always acted as a stimulus for psychological research, both through the focus of psychologists themselves, and of the main research funding bodies. For example, the 'troubles' in Northern Ireland have clearly directed the focus of the researchers' eyes.
With the advent of the 20th anniversary of the beginning of the Miners' Strike (1984/1985) in March 2004, this paper makes a reflection upon how the work of British psychologists tends to respond to key social and political events.
Search for studies that directly examined the impact of the strike, would suggest there was very little research concern. This paper uses this response as a case study with which to explore the interest and perceived responsibilities of psychologists in the UK, to comment on and respond to the broader social and political context.

Organic Solvent Syndrome: Not here please, we're British!

A. SPURGEON, University of Birmingham.

During the early 1970s, occupational health researchers in Scandinavia claimed to have identified a new occupational disease, 'organic solvent syndrome'. This disorder, which was said to result from regular, low-level exposure to industrial solvents, depended entirely on the use of psychological tests for its assessment and diagnosis. Its identification spawned a large programme of psychological research and the emergence of a new discipline: Neuro-behavioural toxicology. Both were embraced enthusiastically throughout most of Western Europe and the US and the methodology has since been applied more widely to investigate a range of putative occupational and environmental hazards. In the UK, however, the subject has been virtually ignored and organic solvent syndrome is regarded as probably a fictitious disease. This paper will employ a social historical approach to explore the interplay of sociological, economic and professional factors which appears to have shaped the fate of both the disease and its diagnostic methodology in Britain, and to explain why this differed so markedly from the situation pertaining elsewhere in the world.

Hesychastic psychology as an early form of psychotherapy

P. ZIOLO, University of Liverpool.

The growth, evolution and ultimate collapse of the major empires of antiquity (the Hellenistic Empire, the Chinese Han I and Han II Empires, The Sassanid Empire of the Middle East and the First and Second Gupta Empires of India) took place during what S.N. Eisenstadt has called the 'Axial Age'. By the conclusion of this epoch, major institutions had been created in each of the major cultural areas of the Eurasian Ecumene that enabled the successor (or 'affiliated') cultures to achieve lasting stability. These institutions all shared characteristics that encourage us to define them as 'monastic'. What features of what Norman Davies has mistakenly called 'a long-extinct and deeply reticent world' enabled these institutions to survive for so long? The answer lies in the process of monastic formation, which embodies techniques of what I call 'hesychastic psychology' – an early form of psychoanalytic therapy that facilitated self-transformation within a carefully controlled social environment. This discussion, drawing on primary and secondary sources from both East and West (many of which are explicitly psychological in orientation), will distil the main features of the hesychastic path, translating them into contemporary psychoanalytic language and comparing them with experiences undergone during prolonged analysis or therapy in the contemporary world.

The 2004 Annual Conference

The following abstract was accidentally omitted from the August 2004 issue of *Proceedings*.

Positive coping and stress-related psychological growth following lower limb amputation

K. OAKSFORD, University Hospital of Wales, Cardiff, N. FRUDE, Whitchurch Hospital, Cardiff & R. CUDDIHY, Castel Hospital, Guernsey.

Objectives: Research examining how individuals cope with lower limb amputation is lacking. However, in keeping with the positive psychology movement, recent years have seen researchers exploring positive aspects of the amputation experience, such as psychological growth and positive coping. The aim of this research was to investigate how such processes help people psychologically adjust to a lower limb amputation.
Design: In this study, little was known about the phenomena in question, and thus a qualitative methodology was chosen. This was consistent with prominent authors in the area who have stressed the need for a qualitative approach to gain insight into the amputation experience by allowing individuals to speak freely about their coping efforts.
Methods: Individuals who had experienced a lower limb amputation were invited to participate via the local Artificial Limb and Appliance Centre. Of those who responded, 12 amputees were interviewed for approximately two hours, and the data analysed using grounded theory.
Analysis: Coping efforts were categorised as psychological escape, support-seeking, humour, cognitive appraisal, and practical coping. Almost all of the amputees also reported positive aspects of their experience, and had positively reframed their amputation, and/or felt psychologically strengthened as a consequence. A theoretical model of positive coping following lower limb amputation was generated from the data.
Conclusions: These findings provide health professionals with a greater insight into how coping helps individuals minimise the adverse effects of having a lower limb amputation, and importantly, highlights how positive coping and stress-related growth promotes psychological well-being.

Psychobiology Section Annual Conference

INDIVIDUAL PAPERS

Effects of ethanol on awareness of errors and judgements of performance

K. ACONS, L.S. CHAN, G. DRUMMOND & B. TIPLADY, University of Edinburgh.

Background: Ethanol impairs performance in a characteristic way, by increasing error rates with relatively little change in speed. A dynamic model suggests that feedback from errors is monitored, and leads to continuous adjustment of the balance between speed and accuracy. Ethanol might impair this feedback, causing faster, more error-prone performance than other impairing drugs. We assessed this possibility in a comparison with promethazine, a sedating antihistamine, and placebo.
Methods: Seven female and four male volunteers aged 18 to 24 years of age received placebo, ethanol, promethazine 20mg and promethazine 30 mg on separate days. We assessed error processing using a computerised four choice reaction test (FCRT) in which volunteers verbalised to indicate errors. A microphone monitored these reported errors, which were compared to actual errors recorded by the computer. We followed blood alcohol concentration (BAC) over the three-hour period with a breathalyser.
Results: Maximum BAC occurred at 30 minutes (mean 77.1mg/100ml, S.D. 21.7). Ethanol greatly increased the number of FCRT errors (Placebo: 1.8; Ethanol 5.2; $p<0.001$ - ANOVA followed by t-test). The proportion of errors that were detected was slightly, but not significantly reduced by ethanol. Ethanol impaired performance in most other tests employed. Promethazine had little effect except on sedation.
Conclusions: Ethanol had a small and statistically insignificant effect on error detection. Volunteers clearly knew that they were making many more errors with ethanol, which we confirmed by a post-test rating of performance. The distinctive pattern of ethanol impairment cannot be attributed to impaired awareness of errors during a task.

Viewing facial expressions of emotions reveals increased autonomic arousal for those associated with action readiness

C. ALFORD, C. ANSLOW & P.F. HEARD, University of the West of England.

Background: Historical theories of emotions have considered the relative importance of physiological arousal in the experience of emotion, with later theories suggesting that action readiness or action tendency Are important. This study investigated the effects of viewing facial expressions of emotion on both the subjective experience and physiological response of the viewers.
Methods: Participants (n=20; 19–23 years, 14 female, six male) were connected to a Biopac® student lab. MP30 recording physiological arousal based on Galvanic Skin Response (GSR) – frequency and area (amplitude and duration of response), heart rate, breathing rate and depth. They then viewed 35 pictures comprising five neutral faces and five of each of the six basic emotions using Ekman and Friesen's pictures of facial affect (happy, sad, disgust, fear, anger, surpise). The pictures were selected from those recorded as having 100 per cent correct judgement in their studies and checked in a pilot study. They were presented using SuperLab Pro® with the initial seven representing a practise set and the remaining four of each emotion and neutral faces comprising two of men and two of women in a new random order for each participant. Each face was viewed for five seconds, followed by a five-second gap before completing a subjective VAS scale from one to 10 rating each viewed expression from very unemotional to very emotional.
Results: Analysis of variance and post hoc comparisons revealed a consistent pattern of response. In contrast to the neutral faces, viewing the six emotional expressions significantly increased VAS subjective ratings of emotional intensity, although fear, anger and surprise produced the largest increases, which contrasted significantly with happy, sad and disgust. This general pattern was repeated for GSR (frequency and area), with fear again producing the largest responses, though significant increases in heart rate were more similar across these three emotions. Changes in breathing rate and depth failed to achieve significance but consistent trends of increased breathing rate but reduced depth were seen for these three emotions in comparison to the others.
Conclusions: These significant findings support evolutionary theories of emotions as signalling possible behavioural response and intention. Of Ekman and Friesen's six basic emotions investigated, those which signalled a possible need for action by the viewer, i.e. when viewing expressions of fear, anger and surprise, produced significantly and categorically bigger responses, with fear producing the largest response for both subjective experience and GSR measures reflecting autonomic arousal. These results support the Darwinian view that both expression and interpretation of key basic emotions will confer survival advantage.

Effects of ethanol on sensitivity to future consequence of action and on response suppression

C. BARTON, A. DUDMAN, G. DRUMMOND, B. TIPLADY & P. WRIGHT, University of Edinburgh.

Background: Acute ethanol consumption has effects that resemble frontal lesions in some respects, for example executive dysfunction and disinhibition. We have examined the effects of ethanol on two tasks that assess distinct aspects of frontal lobe/executive function, the Bechara Gambling Task (BGT), which assesses sensitivity to future consequences of actions, and the Hayling Task (HT) which measures response initiation and suppression.
Methods: We randomised 30 female and 27 male volunteers aged 18 to 25 years to receive a single dose of ethanol or placebo. BGT and HT were assessed starting at 45 minutes post-dose. A battery of other tests of attention, psychomotor function and mood was carried out starting at 30, 75 and 105 minutes post-dose. Blood alcohol concentrations (BAC) were measured using a breathalyser.
Results: BAC was greatest at 30 minutes (mean 77.1mg/100ml, S.D. 24.0). We found the expected performance impairments – the number of correct substitutions in the Digit-Symbol task at 30 minutes was 72.6 for placebo and 60.8 for ethanol (Wilcoxon z=3.55, $p<0.001$). We did not find differences in performance on the BGT. The HT showed a trend for slowing in the response suppression part of the task (Placebo 17.0s; Ethanol 29.1s; Wilcoxon z=1.57. p=0.116).
Conclusions: In this unpaired study we were unable to show that acute ethanol consumption impairs the ability to judge future consequences of actions. Ethanol may impair the process of response suppression. Further work could usefully address the issue of response suppression in a within-subjects design.

The effect of valerian on sleepiness in introverts and extraverts: A pupillographic study

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Background: Extracts of Valeriana officinalis L. (Valerian) may have sedative-hypnotic effects and have traditionally been used in herbal preparations to promote sleep. Results from research studies have been mixed with little effect being observed on the sleep of healthy individuals. However few studies have employed objective measures of sleepiness in non-clinical populations. Increased sleepiness may indicate sedative-hypnotic effects in the absence of clinical disorder. Furthermore, personality differences in susceptibility to valerian have not been explored. The present study uses

infrared pupillography to objectively assess valerian effects on sleepiness in healthy participants. In line with Eysenck's arousal theory it is postulated that extraverts will show more susceptibility to any sedative-hypnotic effect of valerian than introverts.

Methods: Participants (n=20) attended three sessions on consecutive weeks, at which they received placebo, or 600mg or 1200mg of standardised valerian extract, in a single blind, counterbalanced design. At each session pupillary unrest was recorded before and after participants received placebo or valerian. At the final session participants also completed Eysenck's Personality Inventory (EPI).

Results: Participants were sub-divided into introvert and extravert groups by a median split on EPI scores. Effects of valerian were assessed using pre-post treatment differences in the Pupillary Unrest Index (PUI). The extravert group showed increased PUI difference, indicating increased sleepiness, at 1200mg of valerian. At 600mg valerian there was a non-significant trend in the same direction. For the introvert group neither valerian dose differed from placebo.

Conclusions: At relatively high acute doses Valerian increases sleepiness in healthy individuals. Personality differences were apparent with the more extravert participants showing more susceptibility to the sedative-hypnotic effect of Valerian, presumably due to a lower level of endogenously generated arousal. Infrared pupillography offers a useful non-invasive measure of such sedative-hypnotic effects.

Salivary volume and S-IgA responses to a brief sympathetically arousing stimulus – gender matters

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Background: Level of secretory immunoglobulin A (S-IgA) measured in saliva is a commonly used index of immune system functioning in PNI research. In a large community based study S-IgA levels have been shown to be negatively associated with: age, smoking, socio-economic status and gender (lower in females) Evans *et al.*, 2000. Dynamic changes in S-IgA levels have also been observed in response to acute psychological manipulations.

Methods: In this study we have investigated salivary volume (passive two-minute timed collection) and secretion of S-IgA in 96 drug-free participants 15 minutes before and during a brief startling auditory and visual stimulus (which lasted for one minute – saliva collection was begun at the initiation of the stimulus); electrodermal activity (EDA) was recorded concurrently. Self-rated measures of stress were also abtained.

Results: Salivary production was reduced by the stimulus (F=102.09; df=1,93; p<0.0001) and there was a significant interaction with gender such that male participants showed a greater fall in saliva volume in response to the stimulus (F=9.98; df=1,94; p<0.002). All participants showed a decline in S-IgA secretion during the stimulus compared to baseline 15 earlier (F=26.05; df=1,91; p<0.0001). In addition there was a highly significant main effect of gender such that females had lower levels of S-IgA throughout the experiment (F=7.81; df=1,93; p<0.006). As expected there was a highly significant increase in skin conductance in response to the stimulus (n=90 as smokers were excluded from this analysis) (F=48.86; df=1,77; p<0.0001) but unlike for the salivary measures there was no interaction with gender. In addition there ware no relationships between change in skin conductance and change in salivary variables.

Conclusions: Short-term increases in S-IgA have frequently been reported in relation to acute stress challenges. The fall in S-IgA secretion rate in the present experimental paradigm, which involves sympathetic activation (as evidenced by concurrent EDA data) challenges the role of the sympathetic nervous system in mediating such short-term responses. The reported gender differences are consistent with Evans *et al.*, 2000.

When the measurement of stress becomes the stressor

D.K. DEADY, R.E. CARROLL, University of Stirling, E.A. AL-DUJAILI & M. SHARP, University of Edinburgh.

Background: This study investigated the previous finding that post learning stress enhances memory of emotionally arousing material. A slide presentation depicting a car accident and surgery in a hospital was used as the emotionally arousing stimulus. Cold Pressor Stress (CPS) was used to induce physiological stress. CPS involves immersing one hand in ice-cold water (0–3°C) for no longer than three minutes, and induces a robust stress hormone response, including an increase in salivary cortisol level. This study predicted that post learning stress would enhance memory for emotional material.

Methods: Participants (N=51) viewed an emotionally arousing slide presentation. CPS stress (or control procedure) was administered immediately following presentation. Thirty minutes following presentation a recognition memory test was administered on the slide presentation. Saliva was sampled before slide presentation (baseline), and both immediately, and 25 minutes, following CPS; to detect increase in salivary cortisol level. Heart rate was recorded throughout slide presentation and CPS. Memory scores for the slide presentation were divided into three separate phases: (1) an initial neutral phase; (2) the central emotionally arousing phase; and (3) the final post arousal phase.

Results: Post-learning stress was found not to have an enhancing effect on memory for emotional material.

Conclusions: The stated prediction was not supported. However, during first and second saliva sampling, heart rate increased to a level similar to that induced by CPS stress. The process of saliva sampling may have inadvertently induced stress in participants, thus masking the effect of CPS stress on memory performance.

The role of the vagal nerve in tumour-to-brain communication and in tumour progression: A Hypothesis

Y. GIDRON & H. PERRY, University of Southampton.

The brain 'learns' about peripheral infection and inflammation via certain known routes (regions lacking the BBB, prostaglandin diffusion and the vagus nerve). However, it is unknown how the brain 'learns' about a peripheral tumour, and whether this 'learning' can modulate tumour progression. Based on the following corroborative evidence, we propose that the vagal nerve may participate in this learning.

First, the vagus transmits to the brain information about peripheral cytokines. Though not specific to tumours, pro-inflammatory cytokines such as IL-1 play key roles in tumour progression (e.g. angiogenesis, metastasis). Activation of ascending pathways (vagus-brain-stem-HPA-axis) and descending vagal pathways (cholinergic activity affecting tissue macrophages) can suppress tumour-derived cytokines (TDC). Follow-up studies demonstrate that vagotomized (ulcer) patients died more frequently than non-vagotomized patients, particularly from cancer, suggesting a modulatory role of the vagus in cancer.

Finally, surgical and chemical vagotomy attenuates tumour-induced anorexia, and led to enhanced tumour progression. Based on this previous converging evidence, we propose that the vagus may transmit to the brain information about TDC, and that activation of the vagus may slow down tumour progression by suppressing TDC. Caveats to the model and clinical implications will be provided.

The acute behavioural effects of Guarana

C.F. HASKELL, D.O. KENNEDY, Northumbria University, K. WESNES, Northumbria University & CDR Ltd. & A. SCHOLEY, Northumbria University.

Background: Extracts from the plant Guarana (Paullinia cupana) consumed for their putative stimulant properties have been largely ignored in the literature and no study to date has

systematically assessed their effects in humans. The extracts' stimulant properties are often attributed to caffeine content, although extracts also contain potentially psychoactive levels of tannins and saponins. Extracts of Panax ginseng also contain high levels of saponins, and have previously been shown to modulate cognitive performance.

Methods: This double-blind, counterbalanced, placebo-controlled study assessed the effects of single doses of Guarana (75mg Pharmaton extract), Panax ginseng (200mg G115), and their combination in 28 healthy young (18 to 24) participants. On each day of the study (separated by a seven-day wash-out) cognitive performance and mood were assessed pre-dose and at 1, 2.5, 4 and 6 hours post-dose using the Cognitive Drug Research computerised assessment battery, serial subtraction tasks, a sentence verification task and Bond-Lader mood scales.

Results: In comparison to placebo, all three treatments resulted in improved task performance throughout the day. The effects of Guarana were apparent up to six hours post-treatment and were more pronounced on 'attention' tasks. Ginseng effects were more pronounced on 'memory' tasks and the combination evinced a pattern of effects with elements of both components.

Conclusions: These results provide the first demonstration in humans of potential psychoactive effects following the ingestion of Guarana. Given the low caffeine content (9mg) of the extract, and time course of effects, the effects are unlikely to be attributable to caffeine content.

Neuroendocrine – immune interactions

F. HUCKLEBRIDGE, University of Westminster.

Bi-directional communication exists between the brain and the immune system. Efferent pathways include the sympathetic nervous system (SNS) and the hypothalamic – pituitary – adrenal (HPA) axis. Immune cells differentially express functional receptors for the secretory products of these channels of communication. Afferent pathways also involve humoral and neuronal signalling. One manifestation of this signalling between the brain and the immune system is the immune system's responsiveness to psychological stress.

In relation to acute stress challenges, such as the Trier Social Stress Test (TSST), the immune system responds in much the same way as it responds to an acute infection. Innate or natural immune defences are mobilised, including recirculation of immune cells to the periphery, synthesis and release of pro-inflammatory cytokines, activation of the complement enzyme cascade, activation of NK cell cytotoxicity and induction of sickness behaviour. These responses are initiated by adrenergic activity. This pattern of response can be considered adaptive since during fight/flight an organism is more likely exposed to infection. Indeed in the rat it has been demonstrated that tail-shock stress increases resistance to bacterial infection.

By contrast chronic lifestyle stressors such as bereavement, marital discord, a period of important academic exams or caring for a spouse with dementia, are associated with down regulation of some aspects of adaptive immunity. More precisely what is seen is a skew in the balance of immune system activity in favour of type 2 (humoral immunity, but at the expense of type 1 (cellular immunity). Individuals tend to show exaggerated antibody mediated responses including allergy, but are more susceptible to delayed wound healing, viral infection and cancer progression. The HPA axis hormone cortisol has been implicated in many of these shifts in immune system activity. Evolutionary considerations and implications for health will be discussed.

Psychosocial variables and health in an opportunistic sample of visitors to the Science Museum in London

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Background: We were invited to participate in the Live Science programme at the Science Museum in

London. This programme offers scientists the opportunity to interact with the museum visitors and collect data relevant to their areas of interest. Live Science is happy to discuss ideas with potential participants. For further information, please contact Sabiha Foster at sabiha.foster@nmsi.ac.uk.

Methods: Following informed consent, participants were asked to provide their demographic details and complete several measures: self-report ratings of general life stress and health over the last three months, the Stress Arousal Checklist: SACL (situational stress and arousal) and the Rosenberg self-esteem scale. The participants went on to participate in a reactivity study the results of which are reported elsewhere.

Results: Over a period of eight afternoons in May 2003 286 people volunteered to take part. The age of the participants ranged from 12 to 71 years, of these 53 per cent were males and 46 per cent were females. High self-report stress over the last three months was closely associated with the current stress score derived the SACL and both of these stress measures were associated with lower self-esteem, and lower arousal scores (derived from SACL). There were strong relationships between stress, health, arousal and self-esteem. Notably individuals who reported a high amount of stress in their life also reported having poorer health, lower self-esteem and were less aroused. Smokers (16 per cent of the sample) were less aroused and rated their health as worse than non-smokers. On average males showed higher levels of self-esteem. In this sample there was a negative correlation between increasing age and stress and a positive correlation between increasing age and arousal.

Conclusions: Live science provided a wonderful opportunity to sample a population of males and females from across a broad age span. We found that higher levels of self-report stress are inversely related to arousal, self-esteem and good health.

Delay discounting of a monetary reward and a charity donation in problem drinkers, ex-problem drinkers and controls

E. LEAVY, J. RODGERS, University of Newcastle & P. ROYCROFT, South Tyneside District Hospital.

Background: Research indicates that individuals with addictive difficulties exhibit more impulsivity than controls. Impulsivity has been measured in this population through the use of self-report questionnaires and a behavioural task: the delayed discounting task. Recently researchers have queried whether higher rates of discounting in this population are a consequence of or a risk factor for substance dependence.

Methods: 20 problem drinkers, 20 matched controls and 10 ex-problem drinkers and their matched controls were administered the Eysenck Impulsivity Scale, the Zimbardo Time Perception Inventory and the delay discounting task. Two rewards were used in the delay discounting task; a monetary reward and a charity donation chosen to remove the possibility that responding was due to psychological or physical dependence.

Results: There were no significant differences between problem drinkers and controls for either reward but ex-drinkers had a more rapid delayed discounting pattern than controls for the monetary rewards. Ex-drinkers were also more impulsive than controls.

Conclusion: The balance of evidence suggests that delay discounting is a consequence rather than a risk factor of dependence which has implications for use as an assessment or intervention tool with this clinical group.

The effects of caffeine on direct and indirect attitude change: Evidence for caffeine enhancing the systematic processing of a persuasive communication

P.Y. MARTIN & R. MARTIN, University of Queensland.

Background: Caffeine (1,3,7 – trimethylxanthine), a constituent of coffee, tea, cola and energy drinks, is the most popularly consumed psychoactive substance in the world. Previous research suggests that the high prevalence of caffeine consumption is mainly attributed to it's ability to enhance mood, alertness, attention and information processing – all factors implicated in facilitating persuasion. In every day life, people are constantly exposed to attempts to change their attitudes, and given the social norms of linking the consumption of caffeine-containing products with situations involving the processing of persuasive information, it is surprising that little research has considered the link between diet and social influence processes. Using the Elaboration Likelihood Model (Petty & Cacioppo, 1986) as a framework, this research explores caffeine's effects on the processing of a persuasive message.

Methods: In a standard attitude change paradigm, participants (n=72) in a double-blind procedure were administered an orange-juice drink that either contained caffeine (3.5mg/kg body weight) or did not (placebo) prior to reading a counter-attitudinal communication (anti-voluntary euthanasia). Participants then completed a thought-listing task and a number of attitude scales. In a second study (n=80), the quality of the arguments in the message (strong vs. weak) was also manipulated to determine if participants had engaged in systematic processing of the message, and both self-reported and physiological arousal were monitored throughout.

Results: The first study revealed that those who consumed caffeine showed greater agreement with the communication (direct attitude: voluntary euthanasia) and on an issue related to, but not contained, in the communication (indirect attitude: abortion). In the second study, the argument quality effect was apparent (attitude change was greater for the strong than the weak message), indicating systematic processing of the message had occurred in both drink conditions, although it was greater for those who had consumed caffeine. In addition, caffeine was found to increase self-reported arousal and blood pressure, but had no effect on pulse and self-reported stress. In both experiments message-congruent thoughts mediated attitude change.

Conclusions: The findings of these two studies provide evidence that a moderate dose of caffeine can increase the extent to which people will systematically process, and be influenced by, a persuasive communication.

The effects of written emotional disclosure and alexithymia on heart rate and blood pressure in response to psychological stress

D.B. O'CONNOR, L. ASHLEY & B. BELLERBY, University of Leeds.

Objectives: Writing about stressful or traumatic events has been found to have beneficial effects on health and psychological well-being (c.f. Pennebaker, 1988, 1997). Recent evidence has suggested written emotional disclosure may influence immune function indices, although less work has investigated its impact on cardiovascular parameters (e.g. heart rate and blood pressure).

Methods: 56 healthy men and women were randomised into either a written emotional expression group or a control group. The emotional expression group was instructed to write about the most stressful or upsetting experience of their life, for 15 minutes over three consecutive days. The control group wrote about non-emotional, non-stressful experiences over the same period. Two weeks later, heart rate and blood pressure measures were taken in response to laboratory-based psychological stressors (e.g. delivering a presentation). Positive and negative mood and psychological distress levels were measured at baseline and two weeks later. Cynical hostility and trait alexithymia were assessed at baseline.

Results: Preliminary analyses revealed that participants in the written emotional expression group had significantly lower absolute heart rate levels in response to laboratory-based psychological stressors, compared to the control group. The effects of alexithymia on cardiovascular and psychological measures will also be presented.

Conclusions: These preliminary results indicate that written emotional expression interventions may have short-term salutary effects on heart rate levels in response to laboratory stressors. Moreover, the longer-term effects of emotional writing interventions on cardiovascular health require further investigation. The implications of these findings will be integrated into the wider stress and coping literature.

Determining the psychometric properties of the Hospital Anxiety and Depression Scale in a myocardial infarction population

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Background: The Hospital Anxiety and Depression Scale (HADS) has been recommended as a screening instrument for psychological distress in the UK's National Service Framework for Coronary Heart Disease. However recent research suggests the HADS comprises a three rather than two-factor structure (anxiety and depression) amongst myocardial infarction (MI) patients. This has significant implications for the HADS' clinical utility. The current research is a replication of two studies finding a three-factor structure underlying the HADS in a MI population.

Methods: Exploratory and confirmatory factor analyses were conducted on pooled cross-sectional archival HADS data from two groups of MI patients (n=191). Six models were tested to determine model fit to the data.

Results: Exploratory factor analysis produced a two-factor solution which was a poor fit to the data. This solution did not match the original HADS structure. Three-factor models provided a better fit to the data than one or two-factor models including the original HADS model. A three-factor correlated model representing depression, psychic anxiety and psychomotor agitation provided the best fit.

Conclusions: In line with previous research the underlying factor structure of the HADS in MI patients comprises three distinct but correlated factors. HADS scoring criteria may need to be modified based on this three-factor model in order to enhance the measure's clinical utility as a screening instrument for anxiety and depression amongst MI patients.

Single doses of panax ginseng (G115) reduce blood glucose levels and improve cognitive performance during sustained mental activity

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Background: Panax ginseng improves cognitive performance in healthy young volunteers. However, little is known about the underlying biological mechanisms. One reported physiological consequence of the ingestion of several members of the Panax genus is reduced blood glucose. Changes in blood glucose are known to modulate behaviour including the performance of 'mentally demanding' tasks. The current study therefore examined the effects of ginseng on blood glucose levels and cognitive performance during sustained mental activity.

Methods: Using a double-blind, placebo-controlled, balanced, crossover design, 30 healthy young adults completed a 10-minute test battery. This comprised of a Serial Threes Subtraction task (two minutews); a Serial Sevens task (two minutes); a Rapid Visual Information Processing Task (five minutes); and a 'mental fatigue' visual analogue scale. The battery was completed at baseline, and then six times in succession commencing 60 minutes after the day's treatment (placebo, 200mg G115 or 400mg G115). Blood glucose was measured prior to the day's treatment, and before, during and after the battery.

Results: Planned comparisons showed that, compared with placebo, both active treatments led to reduced blood glucose levels at all post-dose time points. The most notable cognitive effects were increased subtractions on the most demanding Serial Sevens task following 200mg, and reduced subjective ratings of mental fatigue following both doses of ginseng.

Conclusions: Overall these data suggest that ginseng can improve performance and subjective feelings of mental fatigue during sustained mental activity. The results also demonstrate that ginseng can lower fasting blood glucose levels in healthy young volunteers.

Exposure to an acute stressor leads to changes in immune and cognitive performance in healthy male volunteers

S.J. ROBINSON, J. LEACH, S. SÜNRAM-LEA & P.J. OWEN-LYNCH, Lancaster University.

Background: Two studies were carried out to explore cognitive and immune function in individuals undergoing exposure to an acute stressor, Helicopter Underwater Evacuation Training (HUET).
Methods: Study 1: 10 healthy male participants were assessed for cortisol, S-IgA and working memory performance immediately prior to HUET training. Participants completed baseline S-IgA, cortisol and cognitive assessment two days prior and two days post-training. On training day, participants provided a saliva sample and undertook the operation word span task 20 minutes prior to training. A second saliva sample was provided 25 minutes post training.
Study 2: 10 healthy male participants completing HUET training were assessed for cortisol and S-IgA two hours prior to exposure. Cortisol, S-IgA, declarative, procedural and working memory were assessed immediately post HUET training.
Results: Study 1: Cortisol was significantly elevated 25 minutes post HUET. S-IgA increased, but not significantly. Working memory processing and capacity appeared unaffected on training day, but no improvement on task performance was seen on day three.
Study 2: Both S-IgA and cortisol increased slightly, but not significantly. Procedural memory (p=0.02) and working memory (p=0.01) were significantly different compared to controls. No difference was found in declarative memory performance.
Conclusions: Study 1: Cortisol rose 25 minutes post stressor. No significant rise in S-IgA was observed. Working memory was stable during anticipation, but lack of improvement on day three suggests task learning was impaired.
Study 2: Cortisol and S-IgA levels shown no significant difference when compared to controls. Working and procedural memory shown significant impairment immediately post-stressor. No differences found in declarative memory. Cortisol levels *per se* may not be a good indicator of cognitive impairment.

Changes in salivary cortisol and cognitive performance in healthy volunteers during exposure to an acute stressor

S.J. ROBINSON, S. SÜNRAM-LEA, J. LEACH & P.J. OWEN-LYNCH, Lancaster University.

Background: Recent evidence suggests exposure to a stressor can lead to marked changes in cortisol and cognitive performance. Two studies investigated the effects of an acute stressor (basic firefighter training) on cognitive performance and cortisol.
Methods: In Study 1, 10 healthy participants (five male and five female) were exposed to a three-day basic fire fighting course. Salivary cortisol and cognitive performance (visual map search, grammatical reasoning and declarative memory) were measured 20 minutes post exposure to the stressor. Measures were taken over the three days with the stressor becoming more intense as the course progressed.
In the second study, 11 healthy participants (five males and six females) were exposed to the same basic fire fighting course. Salivary cortisol levels and cognitive performance were measured immediately post-stressor over the three days.
Results: Study 1: Cortisol, on day three, was significantly higher post-stressor, p=0.04. Cognitive performance, on day three, was significantly different on the visual map search task (p=0.03) and the grammatical reasoning task (p=0.01). No difference was found in declarative memory.
Study 2: Cortisol, on day three, was significantly higher post-stressor, p=0.04. No significant difference was found on the object recall, grammatical reasoning or map seach task on day three.
Conclusions: Cortisol was significantly elevated on day three, post-stressor, in both studies. However, cognitive impairment was only evident in Study 1, when cognitive assessment occurred 20 minutes post-stressor. Cortisol levels *per se* may not be a

good indicator of the amount of cognitive impairment. However, future studies are clearly needed.

Is caffeine a cognitive enhancer?

P.J. ROGERS, University of Bristol.

Background: Caffeine is the most extensively and frequently consumed drug in the world, and exposure is from 'womb to tomb'. Caffeine consumption is widely believed to increase alertness and improve vigilance performance. Many studies, however, have failed to determine the extent to which these outcomes correspond to a net benefit or to reversal of adverse effects of acute (e.g. overnight) caffeine withdrawal. An approach to this problem is to test the responses to caffeine of individuals free of the effects of recent caffeine intake and recent caffeine withdrawal.
Methods: In a series of studies the mood and performance effects of caffeine, given at doses relevant to the consumption of tea and coffee, were measured in individuals with very low dietary intakes (NC) of caffeine and in long-term (three weeks) withdrawn caffeine consumers (LTW).
Results: Results for performance on vigilance and continuous performance tasks in particular supported the withdrawal reversal hypothesis. Although caffeine (versus placebo) improved performance in overnight caffeine withdrawn (ONW) participants, it did not significantly affect performance in NC and LTW participants. Furthermore, ONW participants performed worse than LTW participants at 'baseline' (i.e. before caffeine was administered), and long-term caffeine withdrawal was associated with improved mood generally (reduced levels of 'tension').
Conclusions: When the negative effects of caffeine withdrawal are taken into account, there appears to be little or no immediate benefit gained from caffeine consumption for cognitive performance, and caffeine acutely increases tension and impairs hand steadiness. On the other hand, several epidemiological studies show a positive relationship between caffeine intake and cognitive function, which is stronger in older age. That is, over the longer-term caffeine consumption appears to protect against cognitive decline (and Parkinson's Disease). A plausible mechanism for this benefit involves the enhancement by caffeine and/or caffeine withdrawal of the neuroprotective effects of adenosine (caffeine is an adenosine A1 and A2A receptor antagonist). Specifically, this may involve greater protection during ischaemic events, which are a significant cause of cognitive decline and dementia.

Body dissatisfaction and pursuit of thinness in black South African females: The role of men

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Background: Previous research has shown body dissatisfaction and pursuit of thinness among contemporary black South African females to be related to the female perception that black males now prefer thinner, more Western female body types. The aim of this study was to determine whether or not this was the case.
Design & Methods: 40 black, South African males, [Mean (SD) age, 22.09 (1.78) years] from the University of Zululand in Kwa-Zulu Natal completed assessments designed to elicit the current black, African male ideal for black, African female attractiveness. These data were compared with existing data from 40 black, South African females at the same university.
Results: The male ideal for female body shape and size did not differ significantly from females' perceptions of the male ideal and no significant difference was found to exist between the male ideal and the ideal that females were striving to achieve. Males indicated a strong preference for females to be tall and slim, with a flat stomach, narrow waist and long, slender legs. Long hair was preferred over short hair.
Conclusion: These data contribute further to concerns that black South African females may

constitute a high-risk group for the development of eating disorders. Pursuit of thinness appears to be partly driven by current male preferences for a more Western female body type. Findings are discussed in relation to sociological and evolutionary theories.

Aggression, empathy and male sexual orientation

M.J.T. SERGEANT, Nottingham Trent University, T.E. DICKINS, University of East London, M.N.O. DAVIES & M.D. GRIFFITHS, Nottingham Trent University.

Background: Homosexual males are reported to display significantly lower levels of aggression than heterosexual males. Unfortunately many studies fail to distinguish between distinct forms of aggression (i.e. direct vs. indirect, physical vs. verbal) raising questions over the validity of this finding. The current study assessed how heterosexual and homosexual males compare on a range of seven aggression measures (covering both direct and indirect aggression) and the inter-related characteristic of empathy.
Methods: A total of 91 heterosexual and 91 homosexual males completed an online version of the Direct Aggression Scale (Buss & Perry, 1992), the Indirect Aggression Scale (Forrest *et al.*, 2004) and the Empathising Quotient (Baron-Cohen *et al.*, 2003).
Results: MANOVA analysis revealed a significant difference based on sexual orientation p<0.001. Univariate analysis for each scale revealed homosexual males display significantly lower levels of physical aggression (p<0.01), higher levels of empathy (p<0.01) with no significant differences for other measures of aggression.
Conclusions: Male sexual orientation is associated with significant variation in levels of aggression and empathy. Homosexual males displaying lower levels of physical aggression and higher levels of empathy, differences identical to those observed between heterosexual males and females (Björkqvist, 1994). This finding suggests male homosexuality may be associated with increased pro-social skills and is interpreted in light of recent evolutionary theorising on the maintenance of homosexuality in human populations.

Endocrine response to non-physical competition in human females

M. SHARP & E.A.S. AL-DUJAILI, University of Edinburgh.

Background: In an attempt to elucidate the relationship between testosterone and contested social dominance the interaction between hormones and competition has attracted substantial attention from behavioural endocrinologists. However, despite using both physical and non-physical competitive tasks in a range of settings, the findings are equivocal and the subjects are nearly always male. Only one lab-based study has explored parallel relationships in women. Subsequently, drawing upon our recent work on circadian activity and assay development, this study investigated the responsiveness of the female endocrine system (testosterone and cortisol) to non-physical competition.
Method: 32 healthy female participants vied for the opportunity to win a large cash prize in a five-round knockout competition involving the wood block game 'Jenga'. In order to determine comprehensive baseline data for endocrine parameters, participants collected six salivary samples 48 hours prior to competition. Pre-competition, salivary samples were collected at times corresponding to the baseline schedule. Following competition participants collected an additional four samples; starting at 20 minutes post competition and then every hour for three hours. Anxiety and Mood states were assessed by means of the CSAI-2 and POMS respectively.
Results: Salivary bio-available T and C were analysed using extremely sensitive in-house enzyme-linked immunosorbant assays. Whilst salivary analysis is currently ongoing, early results, using AUC and percent change from mean, suggest females do display an endocrine response to competition, and one differs from a typical stress response.
Conclusion: These early data support the hypothesis that, similar to males, the female endocrine system is responsive to competition

Results are discussed in relation to
limitations in previous research and Mazur's
biosocial theory of status.

Cognitive consequences of 'real-world' hangover

R. STEPHENS, Keele University.

Background: The majority of studies investigating
the cognitive consequences of hangover have been
conducted in the laboratory where associated
behaviours – such as alcohol consumption, sleep
loss, and dehydration – are controlled. However,
this approach may not capture hangover as
experienced, e.g. in the workplace after a night
out, due to the research ethics restriction on
alcohol burden. This study assessed whether
cognitive deficits occur due to 'real-world'
hangover, and whether ingesting a caffeine
lozenge alleviates any such deficits.
Methods: Undergraduates (n=21) were employed in
a mixed 2 x 3 fully related quasi-experimental
design. The within subjects factor was Hangover
(hungover vs. non-hungover). The between subjects
factor was Treatment (no treatment vs. placebo vs.
caffeine). Participants were tested at 10.00 a.m.
following both a night out (hungover), and a night
in (non-hungover). The condition order was
randomised. Treatments were administered 30
minutes prior to testing. Participants were
randomly assigned to treatments. The dependent
variables were scores on four attention tests.
Results: There were main effects of Hangover for
WAIS-R Digit Symbol, Letter Cancellation and
Grammatical Reasoning, but not for Digit Span
Forward, such that hungover performed more
poorly than non-hungover participants. There were
no treatment effects, and no interactions.
Conclusions: 'Real-world' hangover appears to
produce detectable cognitive impairment, although
expectancy effects may have been present. In
future studies of 'real-world' hangover, double
blinding should be employed by not stating the
true aim of the study until debrief. Due to low
power it is not possible to conclude whether
ingesting a caffeine lozenge alleviates cognitive
symptoms of 'real-world' hangover. A larger-sized
sample is required in future studies.

Weak central coherence in autism: Does it cross domains?

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T.D. GRIFFITHS, University of Newcastle.

Background: Autism Spectrum Disorder (ASD), a
biologically based developmental disorder, is
characterised by a distinctive triad of impairments
(Wing & Gould, 1979), namely impairment of
social, communicative, and imaginative activities.
Advances in the understanding of cognitive
abnormalities in ASD have gone ahead of the study
of underlying brain deficits. One cognitive
approach is that individuals with ASD have weak
central coherence (Frith & Happe, 1994) such that
there is a failure to integrate sources of
information into a meaningful whole. This
approach is particularly appealing as it can result in
preserved or enhanced performance. This study
tests WCC in visual and auditory domains.
Methods: 13 students with Autism Spectrum
Disorder and 15 matched control subjects were
recruited. Subjects were tested on three tests
assessing whether perception of the 'local' feature
was susceptible to interference from the 'global
whole'. WCC tests were in both visual and auditory
domains.
Results: Controls but not participants with ASD
were affected by the global structure in both the
auditory and visual domains. However performance
was better on the 'local' task rather than the global
in both groups. This pattern of results was similar
in both domains.
Conclusions: The pattern of the results from this
study may be best explained with the
hierarchisation deficit hypothesis proposed by
Mottron and Belleville, 1993. The abnormal
interactions shown between local and global
processing are present across both domains.
Therefore the next stage will be to discover
whether these abnormalities stem from the same
underlying brain deficits.

Zig-zag tracking: Evaluation of a test of psychomotor speed and accuracy designed for repeated administration

B. TIPLADY, University of Edinburgh.

Background: Tracking performance may be
assessed in a number of ways, including the use of
'maze' tasks where a track is followed with a pen.
A new format for presenting such a task has been
developed which is suitable for use with a digital
pen.
Methods: The zig-zag tracking task (ZZTR) consists
of a regular grey zig-zag track with circular
obstacles on an A4 sheet of paper. The task is to
follow the track with a pen as fast as possible
while avoiding the obstacles. The total time and an
error score based on hitting either obstacles or the
side of the track are recorded. Seven female and
four male volunteers aged 18 to 25 years took part.
Performance on ZZTR and the Gibson Spiral Maze
(GSM) were compared between ethanol and
placebo conditions of a larger study.
Results: Maximum blood alcohol concentrations in
the ethanol condition were: mean 77.1mg/100ml,
S.D. 21.7. The error score for ZZTR was 12.2 on
placebo and 20.1 on ethanol, an increase of 65 per
cent (t=5.25, p<0.0001). For GSM the error score
was 4.7 on placebo and 7.8 on ethanol, an increase
of 66 per cent (t=3.16, p=0.0040). Neither task
showed any marked effect on speed.
Conclusions: These data confirm results from
previous studies showing that ethanol impairs
accuracy but not speed of performance in this type
of task. The ability to generate multiple equivalent
versions may be particularly useful in experimental
situations where a test has to be repeated many
times by an individual volunteer.

The use of a mobile phone to administer a cognitive task

B. TIPLADY, University of Edinburgh.

Background: Portable hand-held devices are
increasingly being used to administer cognitive and
psychomotor tests outside the laboratory, for
example, in a hospital ward, at home, in clubs or
music festivals, or for driver assessment at the
roadside. The use of a mobile phone would increase
portability and also allow tests to be run on a
volunteer's own phone.
Methods: The Arrow Flanker Test was evaluated.
Five symbols appeared on the screen. The central
symbol (target) was a left or right arrow. The other
four (non-targets) were all the same, and could be
congruent (arrows in same directions as the target);
incongruent (opposite direction); neutral (squares);
or nogo (crosses). The task was to press the left or
right button corresponding to the target direction
as quickly as possible unless the non-targets were
crosses, in which case no response should be made.
The Java test program was run on a Nokia 6610 (27
x 27mm screen). The test lasted about three
minutes. Eleven volunteers aged 18 to 24 years
practised the task twice, and then carried out the
test four times.
Results: No volunteer reported difficulty with the
tests. Mean response times were: congruent (easiest
condition) 627ms; neutral 643ms; incongruent
(most difficult condition) 720ms (Page's L test;
p<0.001).
Conclusions: The highly significant increase in
response times with increasing difficulty is in
agreement with previous results and indicates that
the test is functioning as expected. Mobile phones
are a practical platform for performance test
administration.

Can acute stress cause DNA-damage in humans?

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& Y. GIDRON, University of Southampton.

Background: DNA-damage is an important normal
cellular process that, when excessive, may trigger
or affect the prognosis of various chronic diseases
including cancer, heart disease, ulcer and dementia.
Previous studies have shown that psychological
stress in animals induces DNA-damage, and that
psychological factors significantly correlate with
DNA-damage in humans. This study aimed to
examine in humans whether acute psychological
stress can induce DNA-damage, by comparing three
qualitatively different stressors. We aimed to
identify the type of stressor and timing of inducing

peak DNA-damage.
Method: An experimental design was used in
which 32 non-smoking women were randomly
assigned either to a no-stress control, an audio
stress (AS – unpredictable noises), a stroop task (ST
– reflecting an attention challenge) and an anger-
recall task (ANG) previously related to
cardiovascular outcomes. DNA-damage was
measured before, immediately after and 4 hours
after stressors, using saliva samples and an ELISA
kit for detecting 8-hydroxy-2-deoxyguanosine
(8-OH-dG). We also measured perceived-stress,
HR and BP before and after the task.
Results: Using non-parametric statistics we found
that the AS yielded significantly greater 8-OH-dG
levels than controls immediately after the stressor.
No other significant differences emerged, though
the ANG appeared to yield larger 8-OH-dG levels at
four hours post-stress. Interestingly, changes in
perceived stress or in HR and BP did not correlate
with changes in 8-OH-dG.
Conclusion: To the best of our knowledge, this is
the first experimental study in humans
demonstrating that an acute psychological stressor
may induce DNA-damage. Stress-induced DNA-
damage can be induced by unpredictable noises,
and this damage is unrelated to other psycho-
physiological parameters measured in this study.
Given the small sample and multiple tests
conducted, these findings need to be regarded as
preliminary. Nevertheless, they are in line with
experimental studies in animals and extend
previous correlation studies in humans.

Insomnia, hyperarousal and galvanic skin response

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Background: The underlying causes of primary
insomnia are not well understood. However the
'arousal hypothesis of poor sleep' proposes that
insomniacs suffer generally from physiological
hyperarousal. Other researchers blame poor sleep
on cognitive hyperarousal - having an 'overactive
mind'. The aim of this investigation was to test the
arousal hypothesis by use of a physiological
measure of sympathetic activation and validated
questionnaire assessment of both physiological and
cognitive arousal.
Methods: 10 'good sleepers' and 10 'poor sleepers'
were identified by screening 200 volunteers using a
sleep assessment scale devised by the London Sleep
Centre. Following informed consent they were
invited to participate in the investigations.
Participants were invited into the laboratory
between 11.00 am and 2.00 pm where they were
presented with a sudden visual and auditory
stimulus and their galvanic skin response (GSR) was
measured. In addition participants were asked to
complete the Pre-sleep Arousal Scale (PSAS) that
measures symptoms of cognitive and physiological
arousal before sleep onset.
Results: A total of seven good and seven poor
sleepers participated in all aspects of the
investigation. Poor sleepers had a significantly
greater GSR in response to the sudden stimulus
than good sleepers (t=–2.959, df=12, p=0.012).
Poor sleepers reported significantly more arousal on
both the cognitive and physiological scales of the
PSAS (t=–2.662, df=12, p=0.02; t=–2.754, df=12,
p=0.02 respectively). There was a correlation
between GSR scores and cognitive arousal scores
(r=0.56, n=14, p=0.038) but not GSR and
physiological arousal (r=0.23, n=14, p=0.42).
Conclusions: The findings suggest that both
cognitive and physiological hyperarousal are
associated with primary insomnia. There was clear
evidence that sympathetic activation, even during
the day, was exaggerated in the primary
insomniacs. The relationship between the GSR and
cognitive arousal suggests they may be linked. The
less clear association between GSR and
physiological hyperarousal may be attributable to
the reported insensitivity of the tool used to
measure it. Further research is needed to determine
the causal relationship between sleep and arousal.

EEG changes in response to the cold pressor test

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D. SHEFFIELD, Staffordshire University &
M. JONES, Staffordshire University.

Background: The cold pressor test has been used widely in research into the experience of pain, however few studies use a measure of brain activity, particularly in respect to emotional processing of pain.
Methods: 14 (five male, 11 female) healthy individuals participated in the study. Fear of pain, pain catastrophising, anxiety and self efficacy were measured. Participants completed a two-minute cold pressor test. EEG data was collected during the cold pressor test, and for two minutes before and after the test. Ratings for pain intensity and pain unpleasantness were measured at the end of the cold pressor test.
Results: Those who completed the full two-minute test had lower global delta power than non-tolerant individuals, specifically in the post test period. A similar pattern was observed for theta power but this did not achieve statistical significance. In addition, individuals high on fear of pain had higher delta power in the baseline period than those with a low fear of pain score.
Conclusions: The increase in the low frequency delta band is indicative of central processing of motivation and attention associated with a noxious stimulus. Previous research has suggested that this is due to stress and pain activation rather than a general sensory stimulus. The results of this study provide further support for these findings in that higher delta power was found pre-test in those high in fear of pain and post test in those non-tolerant of the test.

Reactivity of the hypothalamic-pituitary-adrenal (HPA) and sympathetic-adrenal-medullary (SAM) axes following inhalation of 35 per cent CO2

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Background: Hypercapnia has anxiogenic effects and is, therefore, an aversive stimulus to healthy individuals. The inhalation of carbon dioxide (CO_2), therefore, provides a good paradigm to test as a possible stressor to cardiovascular, endocrine and psychological reactivity.
Methods: Healthy participants (n=24) inhaled a practice breath of air and then a single vital capacity breath of a mixture of CO_2 (35 per cent) and oxygen (65 per cent). Blood pressure and heart rate were recorded for five minutes before and after the test and blood and saliva samples were taken immediately before and two, 10, 20 and 30 minutes post-inhalation for the measurement of adrenaline, noradrenaline plasma and salivary cortisol respectively. In addition, psychosomatic symptoms were recorded immediately before and after the test.
Results: A single inhalation of CO_2 elicited increases in blood pressure, adrenaline, noradrenaline, cortisol and psychosomatic symptoms, but decreases in heart rate. Sympathetic, parasympathetic and psychosomatic reactivity were stable over a one-month follow-up period, although HPA reactivity was reduced. Subsequent analyses of salivary cortisol data revealed that 70 per cent of the sample could be reliably (i.e. responder status remained consistent across test sessions) classified as either low or high responders. These groups differed in terms of their psychological and endocrine reactivity.
Conclusions: These data indicate that a single inhalation of CO_2 simultaneously stimulates the HPA axis (increases in cortisol), the sympathetic (increases in blood pressure, adrenaline and noradrenaline) and parasympathetic (reduction in heart rate) nervous systems, as well as inducing perceived feeling of stress. The test also elicited stable individual differences in HPA reactivity. The test is safe, easy to administer and can readily be applied to a wide range of populations.

Hive displacement and honey bee dance communication

P. WRIGHT & R. CHAMBERS, University of Edinburgh.

Background: The dance language of honey bees in which both distance and direction of a food source are communicated between foragers is the best example of a true language in the animal kingdom other than that of humans. Indeed there is currently considerable interest in other aspects of honey bee behaviour which are described as 'cognitive'. In a new environment where there is no familiarity with the terrain, it might be expected that dance communication would be particularly important. This would be the case in a swarm of bees setting up a new home remote from the original hive location. This paper describes the effect of translocation between different sites on various parameters of the dance.
Methods: An observation hive was used to compare dances in the home environment and a new environment at a distance of approximately 10 miles from the home site. Dances were compared for a period of two hours across three conditions – the Home location; the Drive and New location; Drive and Old location (the hive was transported by car for the same time as in the New condition, but returned to the Home location).
Results: A number of measures of the dance will be described. Dance duration significantly increased in the new location (from a mean of 88 to 242 seconds, p<.001) as did the closeness with which followers attended the dance, and the variability of the dance angle.
Conclusions: For successful establishment of a new colony following swarming, the colony urgently needs to gather nectar and precise communication of food sources becomes particularly important. The changes in the dance described here, both in terms of the dancer herself and of the follower, are those that might be expected if dancing has greater salience in a novel environment.

Developmental Psychology Section Annual Conference

KEYNOTE SPEAKERS

Executive control in pre-school children

K.A. ESPY, Southern Illinois University.

Despite the central role that executive control plays in a number of psychiatric and neurodevelopmental disorders, there remains continued controversy regarding the nature and development of executive abilities in typically developing children. Results from several studies in young, pre-school children are presented to better understand the early ontogeny of executive control. Results demonstrate that the age-related developmental patterns of task performance differ with respect to specific test demands, and that performance is best described by a unitary latent construct. These findings are consistent with the view that executive control is a domain-general cognitive process, and in children this age, appears to be driven primarily by the demand to inhibit irrelevant information that conflicts or interferes with the current stimulus-response mappings. The development of executive control may represent a progressive scaffolding of inhibitory abilities in light of increasingly complex relations between the stimuli in the child's environment and relevant organism responses.

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Parents of disabled babies: Retrospective accounts and social theories of disability

D. GOODLEY & C. TREGASKIS, University of Sheffield.

This paper draws upon on an Economic and Social Research Council funded project being undertaken in England by researchers at the Universities of Newcastle and Sheffield (www.shef.ac.uk/inclusive-education/disabledbabies/). A key aim of our research is to engage with the retrospective narrative accounts of parents of young disabled children about their experiences of services, professionals and the related interventions during ante and postnatal care. Narrative inquiry is concerned with the storied nature of life. We build upon this narrative tradition, methodologically and analytically, in order to capture the care experiences of parents. In this paper we specifically focus on the ways in which social theories are reflected in and, crucially, informed by the retrospective narrative accounts of parents. Drawing upon a thematic analysis of 10 parental narratives, a number of key debates within disability studies are re/considered including: constructions of impairment; models of disability and diagnosis; professional practice as enabling and disabling. We argue that complex meaning-making by parents and professionals has much to offer wider understandings of the social creation of disablement and impairment.

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Peer collaboration, conceptual growth and developmental theory

C. HOWE, University of Strathclyde.

This presentation will address the proposition that peer collaboration plays a unique role in conceptual development. The emphasis will be upon peer collaboration and conceptual knowledge about the physical world. Research findings obtained by the author and her collaborators show how peer collaboration can support conceptual growth in a manner that differentiates it from other social contexts. Moreover, it can provide support either by facilitating the co-construction by collaborating peers of superior insights, or by priming participants to make productive use of events that are experienced subsequently. Which pathway is followed depends upon the degree of consensus as opposed to conflict during peer collaboration, and when conflict occurs, the extent to which this is resolved on-task as opposed to left

unresolved. The implication is, therefore, that regardless of how progress is triggered, growth depends upon the co-ordination of extended sequences of social interaction. The presentation will use this conclusion to sketch a cognitive-developmental perspective upon peer collaboration, and more generally upon the process of enculturation as a whole.

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Imitation is powerful also for children with autism

J. NADEL, National Centre for Scientific Research, France.

Synchronous imitation generates a unique phenomenon with multiple outcomes: seeing ones' intentions acted through the behaviour of the other. In the past we have shown that synchronic imitation and imitation recognition allow preverbal infants to find common topics based on similar actions, and to take conversational turns by alternating the roles of imitator and model. Therefore, the gap between recognising actions and coding messages with communicative intent is not as enormous as it looks at first glance: We have found that even very low-functioning children with autism mostly produce spontaneous imitations in socially embedded situations. Repeated imitative sessions improve imitation, recognition of being imitated, and non verbal communication. We suggest that the stimulation of imitation can be used as a remediation to enhance autonomous actions. The enhancement of such experiences may be based on new technologies, providing parameterised environments such as robots or virtual experimenters which possibly meet more closely what children with autism can accept as a social environment, gently push toward acceptance of human presence and lead to further social use of imitation.

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Neil O'Connor Award Lecture – Understanding language in context: Weak central coherence or weak verbal ability?

C.F. NORBURY, Oxford University.

The weak central coherence theory of autistic cognition (Frith, 1989) predicts that individuals with autistic spectrum disorder (ASD) will have difficulty integrating information in a verbal context to resolve ambiguous messages. These deficits should co-exist with relative strengths in processing local details. Individuals with specific language impairment (SLI) also experience deficits in understanding language in context, but are not considered to have 'weak central coherence.' This raises the possibility that deficits in processing verbal context in ASD might be related to language skill, rather than implicating a central coherence mechanism. Children with ASD, aged eight to 15, were divided into groups of high and low verbal ability. These groups were compared to groups of children with SLI and typically developing peers on verbal coherence measures. Only children of low verbal ability (both ASD and SLI) were impaired on these measures. Children with ASD of high verbal ability did not differ from typically developing peers. These findings are discussed in relation to the weak central coherence hypothesis and the potential overlap between SLI and ASD.

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Musical biases and learning in infancy

S.E. TREHUB, University of Toronto.

The available evidence indicates that infants are sensitive to features that are present in the music of widely different cultures. Similarities between infants' and adults' processing of music point to perceptual biases or predispositions for several aspects of music. Differences between infants and adults provide insights into music perception skills that depend on culture-specific exposure. In general, experience increases listeners' sensitivity to the structure and nuances of music. At times, however, long-term exposure decreases listeners' sensitivity to aspects of music just as experience

with one's native language interferes with the perception of some foreign-language sounds. This decreased sensitivity leads adults to perform more poorly than infants on some music perception tasks. Although infants' natural musical beginnings are impressive, their early musical learning is also impressive. The nature and timing of such learning raise intriguing questions about music and its functions.

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SYMPOSIA

Symposium 1: The role of children's knowledge about words in the development of spoken and written language

P. BRYANT & F. BIRGISDOTTIR, University of Oxford.

This symposium starts with a distinction between children's knowledge of words (their vocabulary) and their knowledge about words. As children acquire a vocabulary, they learn not just the meaning of words but also about their morphological structure and about the semantic and morphological relations between different words. The presentations in this symposium will be on the importance of this kind of morphological and semantic knowledge about words. The different talks will show that it is possible to measure this knowledge, and particularly children's morphological awareness, separately from their vocabulary. The talks will also demonstrate that there are strong connections between children's knowledge about the structure of words and other aspects of language development. Children's semantic knowledge is closely related to the extent of their vocabulary. As well as this, children's knowledge about morphology and semantic relations is closely connected to their comprehension and production of connected text. The symposium will also deal with the effects of intervention. Increasing children's awareness of morphemes not only makes them more aware of the structure of individual words but also makes it easier for them to learn the meaning of new words. Knowledge about words improves knowledge of words.

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Indirect links between vocabulary and reading comprehension

W. NAGY, Seattle Pacific University.

The effectiveness of vocabulary instruction as a means of increasing reading comprehension depends on the nature of the causal links underlying the correlation between the two. I will review evidence for some of the indirect links between vocabulary and reading comprehension involving metalinguistic awareness and word recognition. In particular, I will present findings from recent studies indicating that vocabulary makes a significant unique contribution to word recognition when phonological, orthographic, and morphological abilities have been controlled for, and that morphological awareness makes a significant unique contribution to reading comprehension when phonological and orthographic ability and vocabulary knowledge has been controlled for. These and similar findings support a model in which metalinguistic awareness and word recognition are involved in indirect links between vocabulary knowledge and reading comprehension, and suggest the need for vocabulary interventions that begin early, are long term, and foster awareness of morphological relatedness among words.

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The influence of vocabulary and reading on the written language skills of children with specific speech and language difficulties

J. DOCKRELL, G. LINDSAY, V. CONNELLY & C. MACKIE, Institute of Education.

The written language skills of a cohort of 69 children at age 10.3 who had been previously identified with specific speech and language difficulties are further explored. Children were initially assessed at age eight on a range of language literacy and cognitive measures and reassessed at age 10 when they also completed a standardised writing measure. Three dimensions underpinned their writing performance: productivity (length of text), content (semantics) and grammatical structure (rules). Vocabulary and reading together accounted for 50 per cent of the variance in the children's written language performance. The implications of vocabulary and reading levels for models of writing and written language intervention are discussed.
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The pseudo-word definition test

F. BIRGISDÓTTIR, T. NUNES & U. PRETZLIK, Oxford Brookes University.

This paper describes a pseudo-word definition test that was developed to measure the extent to which school-aged children use morphological cues in deriving the meaning of unfamiliar words. The test contains invented words made up of familiar stems and affixes. This means that the only way in which children can define each item correctly is to focus on its morphological parts. Data from three different year groups (Years 2, 3 and 5) will be reported, with a special focus on the scoring of the test and on its reliability and validity. The test seems to have a high internal consistency and has a strong relationship with the ability to solve morphological awareness tasks and to spell morphologically complex words and pseudo-words. We conclude, therefore, that the pseudo-word definition test should provide an accurate description of children's ability to use morphological knowledge to induce the meaning of unfamiliar words.
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Morphological awareness and vocabulary: An intervention study

T. NUNES, U. PRETZLIK & D. BURMAN, Oxford Brookes University.

It is widely accepted that implicit knowledge of morphology and grammar underpins vocabulary growth but the evidence so far is restricted to experimental studies of pseudoword learning and correlational studies. We tested the existence of a causal connection between morphological awareness and vocabulary acquisition using an intervention design. Children (n=115; mean age 7.6 years) from four London schools were pre- and post-tested on two measures of vocabulary, one using sentence completion and the other pseudo-word definition. Half of the sample participated in a morphological intervention programme delivered by the teachers in the classroom. The intervention and control groups did not differ significantly at pre-test. Analyses of covariance controlling for pre-test scores and age showed a moderate effect size of the intervention on the sentence completion task and a strong effect on the pseudoword definition task. We conclude that the study supports the hypothesis of a causal connection between morphological awareness and vocabulary acquisition.
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Symposium 2: Low level constraints on writing development: Issues of testing, fluency and disability

V. CONNELLY, Oxford Brookes University.

The ability to communicate through writing is one of the most fundamental skills that schooling provides for children. Yet an inability to produce sustained, accurate and competent writing has been identified as a 'pervasive weakness' in children, a problem 'which should be addressed more urgently.' In contrast to recent developments in reading and numeracy there has been much less empirical research into how to best foster writing expertise.

This symposium aims to draw together some recent research on the development of writing skill. The symposium is broad-based and will present recent writing research at a number of levels, from the study of the mechanics of writing, including handwriting, through to investigations of special populations such as writers with specific speech and language difficulties and dyslexia. Implications for psychological theory and educational practice will be derived from this wide evidence base in order to stimulate and inform future research into children's writing.
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The writing skills of SSLD children compared to age and language age matched controls

S. BUCK, L. SLATOR, S. POULIKAKOS, V. CONNELLY, J. DOCKRELL, G. LINDSAY & C. MACKIE, Oxford Brookes University.

The written language skills of children with specific language difficulties have been little researched. Some recent studies have shown that levels of receptive vocabulary may constrain written language levels in this population. A group of children at age 10 who had been previously identified with specific speech and language difficulties were compared with a chronological age match group and a language age match group (receptive vocabulary) on a test of written composition. It was found that the quality of written composition of the SSLD group was no different to that of the language age match but was well below that of the chronological age match. This pattern was mirrored for text length, spelling errors and the number of nouns and verbs produced. The SSLD children were older than the language age match children and had more experience at writing *per se* and more life experience to draw upon for their compositions. Despite these potential advantages, the quality and length of their written composition was identical to children with the same oral language skills.
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Dyslexic students' concurrent activation of high and low level production processes in written composition

S. CAMPBELL, V. CONNELLY & M. MACLEAN, Oxford Brookes University.

Writing text requires the concurrent activation of higher level skills such as planning, idea generation and reviewing with lower level skills such as spelling and handwriting. Olive and Kellog (2002) showed that adults could concurrently activate both high and low level processes during writing but that children could not. Children were constrained by lowlevel processes depleting available mental resources. There is evidence that dyslexics have problems with low level processes in writing and composition tasks. Their actual handwriting may be slow and spelling poor. This study shows that dyslexics do indeed have problems co-ordinating both high and low level processes concurrently during writing. There was evidence of low level writing processes constraining mental resources available for higher level writing processes. Performance at writing in general was poorer than controls. Implications for models of writing development are discussed as well as the educational implications resulting from the difficulty dyslexics have co-ordinating high and low level processes in writing.
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The development of handwriting and keyboarding speed in primary school and relationships to writing quality

D. GEE, E. WALSH & V. CONNELLY, Oxford Brookes University.

It is well established that fluency in handwriting is a critical factor in the development of writing skill and constrains writing quality by limiting resources for higher order processes such as planning and reviewing. However, the relationship between handwriting fluency and keyboarding fluency is less well established. This study investigated the handwriting fluency and keyboarding fluency of 300 children in primary school. It was found that there was a high correlation between handwriting and keyboarding fluency across all age groups. It was also found that handwriting speed was consistently faster than keyboarding speed across all age groups. The year five and year six children completed a measure of compositional quality, the WOLD analysis, by hand and by keyboard. Results showed that children's compositional quality across all measures was superior in the handwritten scripts as opposed to the keyboarded scripts. This confirms previous research showing that writing by keyboard does not necessarily lead to improvements in script quality compared to handwritten scripts.
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Don't forget the 'hand' in writing – the assessment of handwriting speed in the secondary school

A.L. BARNETT & S.E. HENDERSON, Oxford Brookes University.

Despite the increased use of computers, handwriting remains necessary for the recording of work and demonstration of understanding in secondary school. Legible handwriting generated at adequate speed is required if students are to reach their full educational potential. A test of handwriting speed is needed to identify children with difficulties as they enter secondary school and to quantify performance so that examination concessions may be applied for, where appropriate. There are currently no tests of handwriting speed with adequate U.K. norms. In this paper, we report the results of a pilot study from a project designed to develop a standardised handwriting speed test for children aged 11 to16. In order to select items to include in a final battery, 250 Year 9 students were tested on a series of writing tasks in which the motor and cognitive demands were manipulated. Performance on these tasks and their inter-relationships will be reported.
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The influence of low level skills on writing development: Issues of testing, fluency and disability – Discussion

D. MESSER, London South Bank University.

The discussant will summarise issues arising from the papers in the symposium, relate them to theory and practice and chart the way ahead for further research in this area. The discussion will then be opened out to the floor in order to generate audience participation and allow the audience to engage further with the presenters.
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Symposium 3: Children's prejudice and stereotyping: The role of context

J.M. FERRELL, University of Kent.

Children's attitudes toward different social groups are partly the result of favouritism of the in-group over the relevant out-group. This favouritism will often lead to stereotypes and prejudice toward those groups involved in such judgments. The scope and nature of such attitudes, however, is influenced by the contexts in which these judgments are developed. The present papers included in this symposium share the common theme of describing how different contexts can influence children's social judgments of in-group and out-group members. The first paper, by Ahmavaara and Houston, will discuss the role of culture and identity with same sex parent on gender attitudes. Bennett, Sani and MacPherson will then discuss how stereotypes are influenced by different comparative contexts. Nesdale will present the implications of social acumen on social attitudes, followed by Ferrell, Abrams, Rutland and Cameron, which will present research on the influence of accountability on social judgments. Finally, a paper by Cameron, Rutland and Brown will discuss the effects of specific intervention programs on children's prejudice toward different out-groups. These papers will demonstrate the vital role of context in examining children's social judgments concerning prejudice and stereotypes.
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When I'm an adult ... primary school children's gender stereotypes, gender role expectations, and efficacy beliefs

A. AHMAVAARA & D.M. HOUSTON, University of Kent.

Based on previous psychological theory and research, this cross-cultural study examined children's aspirations, gender stereotypes, and efficacy beliefs in Finland and England. Our results show that children favour their own sex in assigning positive traits and in evaluating scholastic ability, but that they also express gender stereotypical beliefs that cannot be explained by ingroup bias. These stereotypical attitudes are most notable in children's answers to questions about what men and women are like, and what roles and professions are suitable for them. Despite the two countries having very different socio-political environments, Finnish children's attitudes did not reflect the greater liberalism and progressiveness of Finland. Children's identification with the same sex parent was highlighted, as the amount of housework and childcare children reported their same sex parent to perform was the strongest predictor of how much of these children assumed themselves to do in the future.
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Are children's stereotypes contextually variable? A developmental investigation of self-categorisation theory

M. BENNETT, F. SANI & J. MACPHERSON, University of Dundee.

Previous research in developmental psychology has assumed that stereotypes are relatively fixed and cross-situationally stable cognitive structures. Drawing upon self-categorisation theory, we question this characterisation. Studies are reported that examine the extent to which stereotypes vary as a function of context. Our evidence provides some support for self-categorisation theory: children's stereotypicality judgements do appear to vary over contexts, but group variability judgements do not. Implications for conceptualisations of stereotypes are discussed.
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Social acumen and children's ethnic prejudice

D. NESDALE, Griffith University, Australia.

Research indicates that social interaction is meaningful and important to young children, even those as young as five years of age. They seek to be members of groups, they identify with their group and are influenced by the group's norms, they favour the ingroup over outgroups, and they will display out-group prejudice under particular situational conditions. At the same time, children become increasingly knowledgeable about how groups work in a variety of contexts, and how to work with groups, as well as how to get along with other peers and people in their community. In addition, however, it is proposed that children develop an ability, termed social acumen, to put this knowledge to work to their advantage. Social acumen includes one's ability to be strategic in engaging with individuals and groups (i.e. deciding on one's desired goals and the most effective means of achieving them), as well as having the communication skills to put such strategies into place). The present paper briefly outlines some defining characteristics of social acumen, how and upon what basis it emerges in children and, most importantly, the potential implications of social acumen for children's attitudes towards ethnic outgroups. Some preliminary research examining social acumen and children's ethnic prejudice is described.
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The effect of accountability to the peer group on children's judgements of deviant group members

J.M. FERRELL, D. ABRAMS, A. RUTLAND & L. CAMERON, University of Kent.

Children aged between five and 13 years were asked to evaluate their own and another summer school, and to evaluate children from their own school who were 'normative' (only positive about their own school) or 'deviant' (positive about both

schools). Half of the children were informed that their answers would be shown to others in their group, whereas no potential audience was mentioned for the rest. Although children of all ages strongly preferred their own school, older children distinguished more between the normative and deviant individuals, and this attitude increased when they felt accountable to their peers. Older children were more attuned to the social implications of deviant behaviour (its acceptability to the group). Children who had a higher ability to classify physical objects using multiple criteria were more likely to judge normative and deviant group members to be different. Together, the results illustrate how rejection of deviant members in the peer group is affected both by cognitive and social contextual factors.
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Putting theory into practice: Changing children's views of minority groups

L. CAMERON, A. RUTLAND & R. BROWN, University of Kent.

We will present a series of studies that evaluated interventions to reduce children's intergroup bias towards minority groups. The interventions were based on two theories, contact theory (Allport, 1954; Hewstone & Brown, 1986) and social-cognitive theory (Aboud & Amato, 2001; Bigler, 1995) respectively. Using these theories we developed interventions to reduce children's intergroup bias towards two minority groups. Study 1 examined 72 six to nine-year-old children's attitudes towards the disabled. An extended contact intervention (Wright, Aron, McLaughlin-Volpe & Ropp, 1997) was compared with an intervention involving multiple classification skills training (Bigler & Liben, 1992). Results showed that extended contact was the most effective intervention. In Study 2 (n=181) we replicated Study 1 using a larger sample across a wider age range (five to 11 years). Refugees were used as the minority group. The findings of our studies will be discussed in terms of the relative value of extended contact and multiple classification skills training interventions.
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Symposium 4: Extending children's opportunities to learn

K. HALL, Leeds Metropolitan University.

'Raising standards' is a theme that permeates education policy and practice in this country. Teachers and learners are urged constantly to 'do better', to improve their performance year on year, and to provide evidence to various agencies, especially government, of their enhanced 'performativity'. In this symposium we invite participants to consider some aspects of children's learning that, to date, have not been sufficiently recognised in the rush to raise standards in rather narrow curriculum areas. More specifically, we consider some perspectives on key areas of children's learning that merit attention and that have the potential to extend their opportunities to learn. These span the following areas: motivation, critical thinking, the identification of autism in Asian children, rough and tumble play, and art therapy. Much of the research that will be presented in the symposium is based on recently completed or nearly completed doctoral research at Leeds Metropolitan University.
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Reversal theory and children's opportunities to learn

M.G. FORD, Leeds Metropolitan University

In order to offer children greater opportunities to learn, it is essential to consider motivation, since without motivation children will not learn. Unfortunately, much motivational theory has produced little that is readily translatable into classroom practice. This paper examines Apter's Reversal Theory, which has already had wide application in the fields of health, sports and business psychology, and investigates its usefulness in the context of children's learning.
After a consideration of the basic postulates of the theory, the results of some research into Reversal Theory and children's motivational states are presented, which suggest that the theory can

explain many aspects of motivation and learning at school. Then various techniques and strategies are demonstrated which derive from these and other findings, and which can utilise the natural reversing into a sense of flow which can be controlled by teachers. In this way many opportunities for learning can be opened up.
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Supporting children's learning in PE through strategies that promote critical thinking

J. DOHERTY, Leeds Metropolitan University.

This paper begins by proposing that developing children's abilities to think critically is essential to cope with the demands of a rapidly changing world. It discusses the concept of critical thinking and goes on to show its application to Physical Education (PE) by using a model of critical thinking in the psychomotor domain (McBride, 1991). In the second part of the paper, findings from research in Primary and Secondary schools are discussed and a number of instructional strategies used by teachers to support children's critical thinking in PE are presented.
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Equality of opportunity? Discrepancy in the incidence of ASD among different ethnic groups

P. MARCHANT, A. HUSEIN & K. HALL, Leeds Metropolitan University.

This paper explores the incidence of Autistic Spectrum Disorders (ASD) amongst various ethnic groups in a sample of LEAs in England. Using generalised linear modelling it demonstrates that there is a statistically significant difference between the incidence of ASD among white and Asian (Indian subcontinent) groups. The paper offers evidence supporting the view that some children from Asian backgrounds may not have their special needs identified because they are: (a) not being assessed for ASD; or (b) if they are assessed, there is a significant difference between their prevalence rate when compared to white children. Not having one's special needs identified denies one access to additional resources arising from a statement of special educational need. This paper offers possible explanations for this state of affairs and it discusses some policy, practice and research implications.
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The role of rough and tumble play in children's social and gender role development

P. JARVIS, Leeds Metropolitan University.

This presentation focuses upon the developmental role of Rough and Tumble (R&T) play, with particular attention to the narratives that children use to underpin such activities, and to gender differences within these. The underpinning literature covers a range of theoretical fields including bio-evolutionary theories of developmental gender difference and qualitative analyses of children's play narratives.
The empirical research undertaken focussed upon the R&T play of a mixed-gender cohort of children attending a suburban primary school in Northern England. The children's playground based free play was ethnographically observed over a period of 18 months.
The major findings of the investigation were that narratives underpinning R&T play were socially complex and highly gendered, particularly with regard to mixed gender play. Boys appeared to use R&T for friendship construction within single gender groups, while girls appeared to use R&T play principally to draw boys into mixed gender chasing activities.
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The Arts Therapies: A model for understanding change in an educational setting

P. JONES, Leeds Metropolitan University.

Building on an extensive prehistory of connections between the arts and health, the arts therapies have emerged as distinct, coherent disciplines and professions since the 1940s. In a number of

countries art, music, drama and dance movement therapy have become recognised as formal disciplines and professions within existing health, care and educational provision. This paper will focus on the ways in which arts therapy work can complement educational practice with children. It will look at two main areas:

- A model of core processes which forms a way of describing and evaluating efficacy in arts therapies work with children and young people in an educational context;
- An analysis of a developmental model of assessment and evaluation.

These areas will be related to research in the arts therapies as a whole based on work to be published by Routledge, *The Arts Therapies* (Jones, 2004 in press) and will include illustrations from clinical work with individuals in an educational setting for adolescents and young people with autistic spectrum disorders.
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Symposium 5: What makes a good deaf reader?

M. HARRIS & F. KYLE, University of London.
Many children with congenital or early-acquired severe/profound hearing loss encounter great difficulty in learning to read. However, a minority of deaf people are good readers by the time they leave school and the aim of this symposium is to identify factors that are associated with reading success rather than reading failure.
Deborah James focuses on children who use British Sign Language (BSL) as their preferred language. She finds that progress in reading is associated with competence in BSL but that knowledge of spoken English is also an important factor. Not all deaf people use BSL and the second paper, by Carol Johnson, Jane Thomas and Usha Goswami, looks at the reading of deaf children who have received a cochlear implant. As for many hearing children, their reading ability proved to be related to both language and phonological skills. Fiona Kyle and Margaret Harris investigate the reading ability of primary school children being educated in a variety of different settings. They found that successful deaf readers were good at lip reading and had larger vocabularies than poorer readers.
These findings of the three developmental studies are echoed in the data presented by Mairéad MacSweeney, Tara Mohammed, Ruth Campbell and Usha Goswami on deaf adults. These show that, while phonological skills correlate with reading ability, speech reading predicts both reading and phonological awareness.
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Reading in deaf children whose first language is British Sign Language

D. JAMES, H. DUMBRIL & J. BRISTOW, University of Reading.
Studies conducted in the USA suggest that sign language skills are associated with literacy attainment in deaf children, but very little is known about the processes that underpin reading development in deaf children whose first language is a sign language. A study was conducted to investigate the factors that predict reading in a group of deaf children whose first language is British Sign Language (BSL). A set of assessments that measured; cognitive processing, language (signed and spoken), phonological awareness and perceptual abilities was administered to 21 deaf children. Reading was tested approximately five months later. The results from multiple regression analyses suggest that proficiency in BSL is the most powerful predictor of reading. Comparisons between two groups of readers (advanced and beginning readers) suggest that knowledge of the grammar and vocabulary of spoken language, speech reading and rhyme awareness also play a part in the development of reading English.
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Good and poor readers in children with a cochlear implant

C. JOHNSON, T. THOMAS & U. GOSWAMI, University of Cambridge.
This study investigates the reading development, vocabulary development and phonological development of deaf children who have a cochlear implant. Progress was followed over Time 1 and Time 2, 18 months apart. Reading accuracy test results at Time 1 were used to divide the children into two groups, one of good readers whose standard score was over 90 and a group of poor readers whose standard score was below 80. The battery of assessments included tests for reading, language development, listening and speechreading, digit span and phonological awareness.
As hypothesised and reported in prior literature, reading was closely associated with language and phonological skills. Evidence from assessments at different linguistic levels is presented and comparisons will be made between the groups to show the difference in their developmental profiles over time.
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Literacy development in deaf children: Longitudinal predictors

F. KYLE & M. HARRIS, University of London.
Twenty-nine seven- and eight-year-old deaf children participated in a longitudinal study examining patterns of reading and spelling development. The children were given a battery of literacy and cognitive tests including reading, spelling, implicit phonological awareness, alphabetic knowledge, productive vocabulary, lip-reading, and short-term memory. They were seen 12 months later and assessed on the same tests again. There was enormous variability in reading and spelling within the group at both testing times. The results showed that their reading was generally not age appropriate with a mean lag of 13 months at Time 1 and 19 months at Time 2. Different patterns of relationships were exhibited between reading and spelling and the other variables. Productive vocabulary and lip-reading were significantly related to reading at both testing times and they also predicted reading development. This paper will outline the main findings and implications of the longitudinal data.
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The relationship between speechreading, phonological awareness and reading in skilled and less-skilled deaf adult readers

M. MACSWEENEY, T. MOHAMMED, R. CAMPBELL & U. GOSWAMI, University College London.
Exploring reading in a group of deaf adults of variable reading ability should provide further insights into the critical skills that contribute to reading achievement when auditory input is absent from birth. We examined the relationship between phonological awareness, speechreading and reading in a large group of deaf adults (n=44) and their hearing chronological-age matched peers. Deaf participants were better speechreaders than hearing controls, but poorer readers and had poorer phonological awareness skills. More importantly, the pattern of relationship between these factors was different in deaf and hearing groups. Phonological awareness correlated with reading in both groups. However, speechreading correlated with reading and phonological awareness only in the deaf group. It is proposed that speechreading makes a fundamental contribution to the speech-based phonological representations in deaf people. Furthermore, it appears that these representations contribute to, and are likely to be further informed by, reading development.
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Symposium 6: Individual differences in children's mathematical ability

J. HOLMES, University of Durham.
Educators and psychologists have become increasingly interested in children's mathematical development. In particular, there has been an increasing focus on children's mathematical difficulties and the underlying cause/s. This symposium presents a number of papers that attempt to identify and measure possible sources of individual difference in numeracy and mathematical ability. Kimberly Andrews-Espy and Rebecca Bull assess the role of neurocognitive impairment in pre-school children. Both find evidence of a relationship between executive function (including inhibition, set shifting, and working memory) and mathematical abilities. Joni Holmes and John Adams explore the predictive power of working memory measures in predicting mathematical attainment in primary school children, while Richard Cowan *et al.*, investigate the working memory abilities and the number skills of young children with specific language impairment. Both studies report evidence in support of a relationship between working memory performance and mathematical ability. Ann Dowker examines differences and discrepancies in pre-school children's number concepts, considering whether these early differences may predict later mathematical attainment. Finally, Holmes and Adams speculate on the nature of early numerical abilities and their use in the early identification of developmental dyscalculia. Taken together these papers help us to better understand, and reflect on, underlying factors that may explain individual differences in children's mathematical ability.
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Executive control and mathematics competency in young children born pre-term and full-term

K.A. ESPY, Southern Illinois University.
Children born pre-term are at risk for neurocognitive impairments. Although evidence of frank brain damage often is lacking, there are characteristic skill deficit patterns that suggest a common brain basis. Recently, executive control deficits in school-age children born pre-term have been identified, but this issue has not been investigated in pre-schoolers, nor related to outcomes, such as mathematics. Using developmental cognitive neuroscience tasks, executive control was investigated in a sample of 96 pre-school children born pre-term and full-term controls. Children born pre-term scored lower only on tasks that required maintaining information in light of distraction or conflict. Across groups, performance on inhibitory and working memory tasks was related to emergent mathematics proficiency. The contribution of inhibitory control to mathematics differed by group, where no association was noted in young children born pre-term. Pre-term children appear to utilise different cognitive strategies to achieve mathematics competency, perhaps related to subtle neural vulnerabilities of prefrontal structures, even in healthy preterms.
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Beyond basic abilities: Can early executive function skills help identify later mathematical difficulties

R. BULL, University of Aberdeen.
Executive function skills have been found to related to mathematics ability across different levels of primary and secondary schooling. This study examines whether measurement of executive function skills in the pre-school year can uniquely predict later mathematics ability, over and above variance in mathematics ability that can be predicted by basic numerical skills. Preliminary results from this longitudinal study reveal that different aspects of executive ability (shifting, updating, and inhibition) predict unique variance in mathematics ability at the beginning and end of the first year of primary school. This suggests that such skills may be useful in helping to identify those children who later have difficulty learning mathematics.
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Number development compromised by both working memory and linguistic limitations: The case of children with Specific Language Impairment

R. COWAN, University of London, C. DONLAN, E.J. NEWTON & D. LLOYD, University College London.
The number skills and working memory functioning of 55 children between seven and nine years old with diagnoses of specific language impairment (SLI) were compared to those of 57 typically developing children matched on age and nonverbal ability (Age Controls, AC) and 55 younger typically

developing children matched on nonverbal ability and language comprehension skills (Language Controls, LC). The SLI group showed lower levels of functioning than the AC group on every aspect of working memory and lower phonological loop functioning than the LC group. Nonverbal ability and one or more aspects of working memory were related to every number skill. Substantial differences between the SLI and AC groups on many number skills remained after allowing for differences in working memory. The results suggest that number development is impeded in children with SLI by their working memory functioning as well as their linguistic characteristics.
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Individual differences in four-year-olds' mathematical abilities

A. DOWKER, University of Oxford.

The present study investigated individual differences in different aspects of early number concepts in four-year-olds. Forty four-year-old children from Oxford nursery classes took part. They were tested on accuracy of counting sets of objects; the cardinal word principle; the order irrelevance principle; repeated addition and subtraction by one from a set of objects; number conservation; and establishing numerically equivalent sets. Most were reasonably proficient at counting. Seventy-three per cent understood the cardinal word principle, but only 10 per cent passed the number conservation task. As results repeated addition and subtraction by one, the children could be divided into three approximately equal groups: those who were already able to use an internalised counting sequence for the simplest forms of addition and subtraction; those who relied on a repeated 'counting-all' procedure for such tasks; and those who were as yet unable to cope with such tasks.
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Mathematical difficulties and visuo-spatial ability

J. HOLMES, A. ADAMS & D. DUNNING, University of Durham.

In previous work an association was found between children's performance on visuo-spatial working memory measures and their mathematical attainment (Holmes & Adams, 2004; Holmes & Adams, in prep.). This study explored whether individual differences in visuo-spatial working memory could predict mathematical attainment at the initial time of testing and one year later. Preliminary analyses suggest that individual differences in visuo-spatial working memory discriminate children of high and low mathematics ability. We discuss our findings in terms of the importance of visuo-spatial skills in the development of early mathematical abilities and suggest that such measures may be useful for the early identification of children with mathematical difficulties. The spatial representation of number has been posited as the phylogenesis of number sense (Dehaene, 1997), the ability to categorise the world in terms of numerosities. It is proposed that individual differences in children's use of this ability (e.g. estimation, magnitude judgement tasks) may be related to the disorder developmental dyscalculia.
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Symposium 7: Children at risk for developmental problems: Issues in quality of life and socio-emotional adaptation

T. NUNES, Oxford Brookes University.

The study of children at risk for developmental problems needs to go beyond the 'one size fits all' approach used in the past. In this old approach, measures (e.g. intelligence, personality, attachment, self-esteem) developed for healthy children were used with children suffering from chronic, life-threatening illnesses or disabilities, mostly with the aim of showing how their condition affected their development in a negative way. More recently, however, research has focused on the development of specific measures for working with such groups in order to gain insight into their strengths and difficulties, the processes that affect their development and their adaptation to the different

environments they live in. The aim of this symposium is to discuss methods for the development of such specific measures and to analyse how their use with groups of children at risk (children with cancer, asthma, diabetes, and deaf) helps us to understand better the children, the processes that affect their development and adaptation, and the results of different approaches to treatment. The combination of qualitative and quantitative methods in papers to be presented allow for the use of statistical techniques and also for the children's voices to be heard, providing new insights into the dynamics of the development of children at risk.
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Stress and coping of Japanese children with cancer

A. WATANABE, T. NUNES & U. PRETZLIK, Oxford Brookes University.

This study compared stressors and coping of 44 young people aged six to 18 with cancer in Japan with reports by English young people in the same age range obtained by Pretzlik. Japanese young people are treated as inpatients whereas English young people are treated as outpatients. Difference in stressors and coping were hypothesised. The Kidcope Checklist (revised) was used. Participants were asked to describe a stressor experienced in everyday life and in an illness related context. Then they rated the amount of distress they felt, selected the coping strategies they used, and rated their helpfulness. Although differences were found in the stressors reported by the Japanese and English young people, there were similarities in the rank order by frequency of coping strategies and their helpfulness. This study provides useful insights to psychologists and others to help young people's emotional adjustment to the stress of having cancer.
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Exploring how 10 children and their mothers cope and adjust to diabetes

Y. SELJEGARD, K. GOODMAN & U. PRETZLIK, Oxford Brookes University.

The way 10 children with diabetes (IDDM) and their mothers cope and adjust to the illness was assessed. The children reported stressors in two contexts: treatment and eating-habits. Coping strategies and their perceived helpfulness were identified, and a semi-structured interview assessed their knowledge about diabetes. Results show that the children identified stressors related to insulin injections and problems with friends. A strong association was found between coping strategies used in the treatment and eating-contexts. Illness-knowledge was related to age. The mothers' coping and adjustments were explored.
We examined the relationship between their perceptions of how their child's coping and their own coping related, and whether such perceptions influence psychological functioning, and the level of family support received by the mothers in relation to their psychological adjustment.
A semi-structured interview, and two standardised measures were completed. Results show that maternal perception of how their child is coping with having diabetes is influential on their psychological adjustment.
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Assessing socio-emotional adjustment of chronically ill children and their parents

S. ILICAK, S. OLDFIELD, T. NUNES & U. PRETZLIK, Oxford Brookes University.

There is presently a paucity of measures to assess the socio-emotional adjustment of chronically ill children and their parents. We describe the method used in developing measures for children with asthma and diabetes and their parents. Study 1 involved children (seven to 12 years; 15 suffering from diabetes and 15 from asthma), their parents, and paediatric nurses. They were interviewed about the child's symptoms, side effects of medication, routines to cope with the illness, medical procedures and environments, and the impact of these on their personal, family, school and social life. Interviews were tape-recorded; transcripts were coded using descriptive categories to identify

stressors and coping. Results indicate commonalities in stressors across children and differences in adjustment. Study 2, currently in the data collection phase, used the same methodology to identify stressors and copying in the lives of parents of children with diabetes and asthma. The discussion will assess the methodological approach used in both studies.
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Parents' views of children's use of cochlear implants and hearing aids

T. NUNES, U. PRETZLIK & J. OLSSON, Oxford Brookes University.

When deaf children receive a cochlear implant, it is important for them and their parents to understand how their quality of life may be affected. The aim of this study was to develop a measure that allows for collecting information from parents of children who received an implant and from parents whose deaf children have conventional hearing aids. A questionnaire – 'What is my child like?'– was designed, covering five dimensions that may be positively affected by implantation. It was administered to parents of 61 children with implants and of 20 children with hearing aids. The first group also answered a questionnaire to assess parents' views of the outcomes of their child's implant. The corresponding scales in the two questionnaires were significantly correlated. Two of the five scales in the questionnaire 'What is my child like?' (parents' satisfaction with the child's hearing device and child's social relationships) showed that parents of children with implants have significantly more positive views of their child's adaptation. The results provide insight into how different dimensions of the child's quality of life are related and influenced by implantation.
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WORKSHOP

New approaches to developmental psychology practical teaching

J. OATES, Open University.

One of the core tasks of developmental psychology teaching is to deliver relevant practical experience and research skills development to students. Engagement with real children's behaviour, not only to gather data, but also to illustrate and enrich developmental concepts, is a potent form of learning for the subject area.
At the same time, ethical constraints and other concerns quite properly restrict the use that can be made of contacts with schools and other 'sources' of child participants. Effective teaching of large classes is also an increasing problem.
The use of new technologies such as digital video and audio, and data-gathering, observation and analysis software, through CD-rom, network and web delivery systems, offers exciting new possibilities for re-engaging students in direct involvement with the behaviour of real-life participants.
This workshop is a follow-on to the one held prior to the 2003 BPS Developmental Section Conference, at which interest was expressed in sharing ideas and resources. We will introduce and review a number of resources for use in developmental practicals, propose innovative pedagogic structures for practical teaching, such as Problem Based Learning, and encourage discussion of how the practical aspects of developmental psychology teaching can be supported and enhanced.
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INDIVIDUAL PAPERS

Alexithymia and self-harm

S. ABEDIN, A. DELIOT-DELIOT, S. FAKIRI, A. GIACHNI, N. JONES, A. KURIAKOPOLOU, L. MILLS, M. SHARMA & J. HURRY, Institute of Education.

Self-harm in young people (overdose, cutting, etc.) is not uncommon but there is much we don't know about the underlying reasons for this behaviour. This is problematic for two reasons. First, a

significant proportion of these young people have persistent psycho-social problems and secondly, there is little evidence of effective treatment. In this paper, we explore the relationship between alexithymia and self-harm. Alexithymia is a condition where a person cannot describe their feelings. Our hypothesis is that young people who self-harm will tend to score highly on an alexithymia measure. Relatively unaware of their feelings, they may deal with negative emotions by trying to escape, a common reason given for self-harm. The study is being carried out in several sixth forms and FE colleges and we aim to achieve a sample of 800+ completed questionnaires. This data will be compared with a clinical sample of approximately 70 young people.
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Bullying experiences and friendship quality in adolescents with mood disorders

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It has been suggested that adolescents who experience depression and anxiety may have lower quality friendships and more experiences of loneliness. The current study aims to examine the association between friendship quality, bullying experiences and feelings of social dissatisfaction among a clinical sample of 30 adolescents diagnosed with mood disorders according to ICD-10 criteria for anxiety or depression. The directional pathways will also be investigated for whether friendship and bullying problems precede depression and anxiety or vice versa. Adolescents complete a current and retrospective measure of bullying behaviour at school, the social dissatisfaction and loneliness scale, the friendship activities questionnaire and a brief behavioural screening measure of anxiety and depression. The clinical sample will be matched with a control cohort of adolescents whom data have already been collected. Results will be presented comparing the clinical and control sample for bullying experiences, friendship quality and social dissatisfaction. Implications of the results for clinical policy and future practice will be discussed.
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Verbal and visual-spatial working memory in academic progress

T.P. ALLOWAY & S. GATHERCOLE, University of Durham.
We present findings of the links between verbal and visual-spatial working memory and academic progress in four- to 11-year-olds. Until recently, all of the complex processing-plus-storage memory span tasks used to assess central executive capacities that are appropriate for use with children were verbal in nature; examples include listening span, counting span, and reading span. However, analogous non-verbal tasks have now been developed. An example is the spatial span tasks, in which participants have to judge whether each of a series of letters is presented in a normal or mirror-imaged rotation, while remembering their orientation. Using such tasks, Jarvis and Gathercole (2003) found that nonverbal and verbal working memory span tasks independently predicted school achievements at 11 and 14 years of age, and so appear to represent important and distinct cognitive skills to support learning (see Shah & Miyake, 1996, for similar evidence with adults). We explored whether the verbal and visual-spatial complex memory measures are independent throughout the early and middle childhood years, and present findings of specific links between each working memory component and scholastic achievement during this period.
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The recognition of complex mental states from static and dynamic facial expressions

E. BACK, P. MITCHELL & D. ROPAR, University of Nottingham.
Human face perception plays an important role in communication and in our social interactions. Research in this field has focussed on recognising universal basic emotions from facial expressions. Previous research on the recognition of complex

mental states (CMS) has used only static stimuli. Experiment 1 explored whether dynamic or static information facilitated CMS recognition in typically developing children. Findings indicated that only some CMS were recognised more accurately when presented dynamically (don't trust and surprised). In Experiment 2, motion was frozen in certain facial regions (eyes, nose and mouth) whilst the rest of the face moved, with the aim of determining whether movement in a particular facial region facilitated recognition. Results suggested that certain CMS were recognised more accurately when motion information was available from the eyes or the mouth. We are currently investigating CMS recognition in children with autism and Asperger's Syndrome.
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Cognitive and behavioural outcome of prematurely-born children at school age

S. BAYLESS & J. STEVENSON, University of Southampton.
Aim: To investigate the cognitive and behavioural outcome of prematurely-born (PB) children and to identify which neonatal risk factors predict outcome.
Method: 40 PB children (<32 weeks) and 41 term-born controls, (six to 12 years) were assessed on IQ, Executive Function (EF), Attention and Behaviour (parent report questionnaire). Neonatal data was obtained from hospital medical records.
Results: PB children scored significantly lower on IQ, EF and Attention tests, there was no difference for the behavioural measures. Oxygen therapy significantly predicted PB children's scores on EF and Attention, even when other factors were statistically controlled.
Conclusions: PB children show a specific deficit with EF and Attention skills, in the absence of behavioural difficulties. The cognitive outcome of these children is best predicted by the duration of oxygen therapy in the neonatal period. The findings can be helpful in identifying children for educational intervention, and to guide further research on the mechanisms involved in the cognitive impairment.
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The role of involving parents in education of children from infancy to seven years for the forming of abilities to perform and create music

O.M. BAZANOVA, Russian Academy of Medical Sciences.
We aimed to evaluate whether involving parents in music and common education of their children is associated with different level of EEG markers of musical performing abilities and creativity.
Forty-one children were rated of nine kinds of musical abilities including performing technique, empathy, pitch and creativity and their EEG was estimated. The degree of parental involvement in music and common education was estimated by parent's self-reports.
The level of EEG markers of the musical abilities depends on the age of children. Also it was connected by positive correlation to:
● duration of musical experience;
● amount of lullabies;
● parental engaging in music, mathematics, natural and engineering science with the child.
The highest level of EEG-predictors of musical abilities was in children whose parents were the most involved in musical and mathematical education of their children.
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Young children's thinking about future and counterfactual events as possibilities

S.R. BECK, D.J. CARROLL, E.J. ROBINSON & I.A. APPERLY, University of Birmingham.
We describe a new procedure that allows us to make direct comparisons between types of thinking about possibility, specifically: entertaining counterfactual thoughts and speculating about the future.
In Experiment 1 three- to four-year-olds' performance (n=69) was significantly better when they identified a single possibility in the future,

rather than acknowledging multiple possibilities simultaneously (binomial test, n=55, k=1, p<0.001). Similarly in Experiment 2, three- to four-year-olds found it more difficult to acknowledge multiple possibilities simultaneously than to talk about a counterfactual alternative in the past (n=42, k=5, p<0.001). A new counterfactual question which involved thinking about the counterfactual event as an alternative possibility was more difficult than the standard counterfactual (n=31, k=5, p<0.001). We discuss the implications of these findings for our understanding of children's thinking about multiple possibilities, and their performance on future hypothetical and counterfactual reasoning tasks.
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Naming familiar faces in children and adults: Is there a developmental difference?

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Adults find it harder to remember the names of familiar people than other biographical information such as occupation or nationality. One study to date has examined naming in children. Scanlan and Johnston (1997) found that, in contrast to adults, seven, nine and 12-year-olds were faster to verify the name of a famous person than their occupation or nationality. Only at age 15 did children show a temporal disadvantage for names like adults. The current experiments explore person naming in children in more depth to determine whether this is a reliable difference in the way that children and adults represent information about familiar people. The first experiment fails to replicate Scanlan and Johnston's effect and reports that children do take longer to respond to names than other biographical information. Further experiments with highly familiar faces show a temporal advantage for names in both children and adults. These results show that the speed of name retrieval is influenced by familiarity in the same way in both children and adults and indicate that children do not represent knowledge for familiar people differently from adults.
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Non-verbal cognitive development and language impairment

N. BOTTING, University of Manchester.
Specific language impairment (SLI) is currently partly defined by the presence of non-verbal IQ scores in the normal range. However, not only is there a debate concerning where 'normal thresholds' should be, but increasing information about the presence of processing deficits in SLI have lead some researchers to question the use of IQ criteria in clinical diagnosis. Little is known about the longitudinal and developmental patterns of cognitive performance in this population. The IQ measurements of 82 children defined at original participation as having SLI were examined at seven, eight, 11 and 14 years. Analyses revealed a significant fall between seven and 14 years of over 20 IQ points. This fall took place mainly between eight and 11 years but was still continuing between 11 and 14 years. Further investigation revealed different groups of children showing different developmental patterns in IQ, even after controlling for baseline measurement. These groups also showed significantly different language outcomes at 14 years. Findings suggest a dynamic process between language and cognitive development that appear at odds with a model of impairment that involves 'Residual Normality' (Thomas & Karmiloff-Smith, 2002).
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Self esteem and motivation levels in children with learning difficulties: A comparison of educational placement options

S.E. BRECKON & M. FARMER, University of Durham.
Background: Government legislation (DfEE, 1997) outlined requirements for inclusive education of pupils displaying learning difficulties (LD). Previous research identified self-esteem and motivation as affected by inclusion in mainstream, although exact benefits are not clearly documented.

Aims: The research aims to investigate effects of differing inclusion levels on self-esteem and motivation by comparing LD pupils in three placements; full, partial, no inclusion.
Samples: 150 secondary-school pupils educated in a north-east LEA were sampled from five placements, three LD groups across inclusion spectrum and two non-LD groups (mainstream, special education). Groups were balanced for school year second gender.
Method: Self-reports from *Culture Free Self-Esteem Inventory – 2* (Battle, 1992) and *A Scale of Intrinsic Versus Extrinsic Orientation in the Classroom* (Harter, 1980).
Results: Significant differences were noted between all LD placements on 'total' and 'sub-scale' scores. No placement displayed benefits on all sub-scales, however, 'total' measures identified 'partial' inclusion displaying highest and 'full' lowest self-esteem and extrinsic motivation. Numerous significant differences were evident between LD groups and compared to non–LD groups.
Conclusions: Results provide evidence of placement effects for LD pupils, with benefits depending upon degree of inclusion. Comparisons of LD and non-LD pupils lead to discussion of explanations of noted differences, namely social comparison and labelling theory.
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Children's eyewitness testimony: Temporal distinctiveness of misinformation moderates suggestibility

A. BRIGHT-PAUL & C. JARROLD, University of Bristol.

A cross-study analysis investigated whether varying time delays between event, misinformation and test phases in a misinformation paradigm influenced suggestibility and source-monitoring performance in three- to seven-year-olds. Extending the event to misinformation (e-m) and misinformation to test (m-t) interval reduced resistance to suggestion and overall correct source-attributions. However, relative rather than absolute values of delay were better moderators of performance. More specifically, when the 'delay ratio' (m-t/e-m) was extended, suggestibility and source errors increased significantly. When the delay ratio was held constant, suggestibility and source-monitoring was remarkably similar across groups where overall time delays were varied. The findings are discussed in relation to Temporal Distinctiveness Models of Forgetting, and as a means for differentiating between theoretical explanations for children's suggestibility.
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Measuring parent-infant interaction: The use of PIRAT by health professionals in the field

P.J. DAVENPORT & C. BROUGHTON, St. Mary's College.

The ultimate aim in developing PIRAT was to create an assessment tool that could be used by health professionals as part of their daily evaluations of the parent-infant relationship in the home or consulting room. To this end, PIRAT has been revised and a detailed manual provided to meet the needs of health professionals working in home and clinic settings. A training and reliability study is currently being undertaken in a north London borough. This paper will report on the training of the participants and evaluate the applicability of PIRAT as an assessment tool for use in the work settings of health professionals who are well-placed to screen for at-risk parent-infant dyads. The paper will present preliminary findings in terms of reliabilities and participants' experience of using the PIRAT. The research provides the groundwork for the standardisation of PIRAT on a nationwide scale.
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The influence of question order and presence of protagonist on false belief task performance

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Controversy has surrounded whether a three-year-old can pass a test of false belief. Wellman, Cross and Watson (2001) conducted a meta-analysis of performance on false belief tasks and concluded that only four variables significantly enhanced the performance of children: deceptive motive, participation in transformation, item not real and present, and increased salience of the protagonist's mental state. The current study set out to examine whether there were any variables not considered in the meta-analysis which affect performance. The variable question order assessed whether performance differed when the false belief question preceded the memory question, compared to when it followed the memory question. The variable *presence of protagonist* relates to whether the protagonist is present when the false belief question is asked. Data collection is ongoing, however preliminary results indicate that neither variable has a significant effect on performance, although it may be the case that asking the memory question first has a detrimental effect on the performance of children on that question. These results will be discussed with relation to inhibitory control theories of failure on the false belief task.
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Some neglected early work on children's drawing ability

R.N. CAMPBELL, University of Stirling.
A.B. Clark's 1897 hatpin/apple study and at least the broad strokes of G.H. Luquet's 1913 *Le dessins d'un enfant* are well-known to modern drawing researchers. However, there remains a considerable literature from the turn of the last century which is not well-known. Most notable of many substantial contributions is Georg Kerschensteiner's work *Die Entwicklung der Zeichnerischen Begabung.* Published in Munich in 1905, this 508-page volume is illustrated by 800 monochrome plates and 47 colour plates of child drawings. Kerschensteiner's aim was to provide an account of the differences between the spontaneous course of drawing development and development under instruction. His drawing data covers a wide and sometimes unusual range of topics: besides the usual human figure, he collected drawings of animals, plants, vehicles, buildings and snowball fights, and also studied children's ability to apply graphic ornament to books, plates and Easter eggs! This material is presented and discussed and the current relevance of Kerschensteiner's work is evaluated.
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How do manipulations on the windows task help three four-year-olds' strategic reasoning?

D. CARROLL, I. APPERLY & K. RIGGS, University of Birmingham.
Three four-year-olds were tested on a reversed contingency task (the windows task: Russell *et al.*, 1991). One group completed the standard version of the task, groups received manipulations known to improve task performance (pointing with an arrow instead of with their own hand, or acting on an array where the 'empty' box contains an undesirable object). Two further groups received these facilitating manipulations for the first three trials, after which they were withdrawn and these groups reverted to standard windows task procedure. Performance in the 'Arrow' and 'Two Object' groups was significantly better than in the Standard group, as expected. Performance in the two 'withdraw' groups was found to remain high, even after the Standard task procedure was reintroduced. These findings suggest that the manipulations enabled children to formulate a new and generalisable strategy for responding.
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Are better communicators better readers?

J. CHEN-WILSON, University of Wolverhampton.
It is generally regarded that children's language skills are closely related to their cognitive and literacy development although the scope of research tends to be limited to the measures of receptive language. This study examined how both receptive and expressive language skills might relate to children's literacy development.
Data from 29 children from a mixed SES background were collated and analysed (mean age = 7.7). Each child was tested for their receptive vocabulary (BPVSII), receptive grammar (TROG2), listening skills (LIST) and reading abilities (Neale Analysis of Reading Ability). Their expressive language was elicited by a wordless picture-story book and verbal prompts.
Partial correlational and regression analyses suggest that expressive language skills are more promising in predicting children's overall reading scores and reading comprehension scores than those of receptive vocabulary, receptive grammar and listening skills. These findings will be further discussed in relation to methodological issues and educational implications.
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Young children's performance on count word sequence tasks: The effect of task presentation.

E. CHETLAND, M. FLUCK, M. LINNELL & A. COSTALL, University of Portsmouth.
Initially children learn and can recite the count word sequence with no further understanding of what these words mean or the quantities that they represent. In order to achieve such understanding, however, children must be able to access individual components of sequence as discrete items. It has been suggested that children's access to the components of the count word sequence, once it can be reliably produced, displays an orderly succession of new skills and abilities (Fuson, Richards & Briars, 1982). Recent attempts to replicate Fuson's findings with regard to the unbreakable list and breakable chain levels (Chetland, 2002, 2003), however, have been unsuccessful and have typically shown young children's abilities to be lower than those expected. The discrepancies within the results may indicate that children did not fully understand the tasks presented.
In the present study children aged 29 to 52 months were presented with seven counting tasks used by Fuson *et al.* (1982) and seven modified versions of these. In the latter, children were shown a picture of a situation in which the tasks were set and an example of the task to ensure that a joint understanding had been reached.
More children gave correct responses to the adapted versions for all seven tasks. Furthermore, when the level of sophistication of children's strategies was examined this was found to be significantly greater on all but one of the adapted versions. The adapted tasks, therefore, aid children's performance even when they are not yet able to give a correct answer, thus, indicating that they enable children more readily to access the component parts of their representations of the count sequence.
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Adjustment to diabetes in small children: The influence of mother–child relations

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Diabetic children with psychological adjustment problems have poorer psychological and biomedical prognoses. A central difficulty presented by diabetes is adherence to its rigorous treatment regimen. We investigated the relation between treatment management, parenting stress, and psychological adjustment in small children with Type 1 diabetes. We recruited 65 three- to eight-year-old children and their mothers. We interviewed mothers about their treatment practices (e.g. injections, diet). Mothers also completed assessments of diabetes knowledge, parenting stress, child adjustment and relationship maintenance. Stepwise multiple regression analyses were conducted to evaluate the influence on child adjustment of: (1) treatment management variables and; (2) maternal functioning. None of the treatment management variables predicted child adjustment outcomes although better dietary management and diabetes knowledge predicted more favourable relationship outcomes. Maternal stress and relationship variables predicted child psychological adjustment scores, with total models explaining between 31 per cent and 39 per cent of the variance. Findings suggest that interventions designed to reduce parenting stress, early in diabetes onset, could play a significant role in preventing the development of adjustment problems in the child.
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The cognitive and language profiles of children with Emotional and Behavioural Disorders (EBD)

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This study examined the cognitive and language profiles of children educated in a unit for emotional and behavioural disorders (EBD). These children had all previously been excluded from mainstream educational provision. The pupils completed assessments of general cognitive ability, receptive and expressive language and behaviour. The study identified that all the students had intact general cognitive ability but very poor abilities in receptive and expressive language, specifically grammatical and vocabulary knowledge and use. Abnormal behaviour patterns were evident across the group specifically within the categories of hyperactivity, peer relations and pro-social behaviour. This preliminary study shows that children excluded from school due to EBD show impairments in both receptive and expressive language. The theoretical and educational implications of the findings are discussed.
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Mentally adding a series of single digits

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Our knowledge of children's mental addition has largely come from studies of single digit (a+b) problems. Yet real world adding often goes beyond this. Often it will involve addressing a digit series in which a visible addend must be related to a continuously changing but invisible augend. This format of problem introduces distinctive demands. This paper reports results from studies in which children of eight to 11 years and adults solve various serial addition problems in a computer-based presentation mode. Two issues are addressed. (1) The effect of both augend and addend being simultaneously visible. It is found that addition times are slower at all ages when only addends are visible. (2) The existence of strategic digit reordering in the case of small serial sets. Children are found to be relatively slow to take advantage of reordering opportunities, even though doing so can be shown to increase their computational speed.
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Measuring parent–infant–parent interaction: The development of PIRAT©

P. DAVENPORT & C. BROUGHTON,
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The Parent Infant Project (PIP) based at the Anna Freud Centre offers psychotherapy to parent–infant dyads experiencing relationship difficulties and post natal group therapy again for parents with their infants. In addition to the collection of numerous other data from patients, information about the interactional patterns between the parent and the child are noted via a measurement tool designed and under development by the PIP therapists and researchers: PIRAT©. One of the difficulties with interactions between the parent and infant is that misattunement and miscommunication involve fleeting, subtle behavioural nuances which can be difficult to identify. PIRAT©, therefore, was designed with this scenario in mind. This paper will describe the development and use of PIRAT© including issues around reliability and validity.
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Categorical semantic priming in children and adults

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Children must develop representations of knowledge about the world but the character of this development is unclear. Findings from research using, e.g. primed lexical decision, indicate that adult behaviour is influenced by relations described in terms of association, shared category membership, and function. It may be that early in life the individual is sensitive to concrete relations that are manifest in the real world but that representations of more abstract relations, like category structure, must emerge from this experience. Yet it has been shown that young children use category membership to predict underlying similarities among objects. We tested for the presence of non-associative categorical relations in children (six years, eight years in age) and adults asked to perform visual lexical decisions. We found that lexical decision latencies were facilitated overall by categorically related primes. We conclude that sensitivity to categorical relations is manifest relatively early in development.
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Mother at the source: The lullaby and the invention of infancy

R.A. DAVIS, University of Glasgow.

The lullaby is a universal musical and literary form that has so far received only modest attention from both cultural theory and psychoanalysis. This paper offers a series of critical reflections on the experience of the lullaby in order better to understand the form's varied cultural and interpersonal meanings and the complex psychodynamics on which these rest. The subtle relationship between singer and listener in the lullaby performance embraces the intimate psychoacoustic spaces of the parent–child bond, the shifting valences of sound and sense, the musical, verbal and vocal characteristics of a song expressly crafted to induce sleep, and the wider social and cultural anxieties associated with the inscription of domestic, ethnic and gender identity through the care and deep socialisation of very young children. Examination of these features discloses important continuities between the cultural construction of the lullaby and the formation of key developmental concepts such as infancy.
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Difficulties with arithmetic? The disturbing effect of irrelevant information and increased inhibitory demands

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Recent years has witnessed an increased interest in the relationship between children's performance on executive functioning tasks and mathematical ability. The following two studies examined children's inhibitory control using an arithmetic Stroop-like task, and arithmetical word problems.
In Study 1 simple arithmetic equations were presented in four conditions formed by crossing low and high inhibition requirements with low and high switching requirements. Both high inhibition and high switching were found to have a negative impact on performance. In addition, for the low-ability participants (n=25) there was a significant interaction between switching and inhibition. This supports Roberts and Pennington's (1996) view that when inhibition and switching demands are high they may exceed the capacity of the executive system.
In Study 2, low-ability mathematicians were asked to solve a series of word problems containing: (i) Relevant Only information; (ii) Irrelevant Verbal information; and (iii) Irrelevant Numerical information. The children experienced greatest difficulty with those problems containing irrelevant numerical information.
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Immigrant children and adolescents' cultural identity development: A study of Portuguese students in British schools

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Recent studies both in Europe (Hedegaard, 2003) and the USA (Suarez-Orozco, 2001) suggest that the way immigrant children remake their cultural identities in the host country have implications for their schooling and development. These studies have also suggested a strong influence of the socio-cultural context on the remaking of cultural identities. Notions such as 'extended identities' have been put forward to explain the impact of the social on the individual. However, we still have very few studies that explored how 'extended identities' impact on the reconstruction of cultural identities. We aim to contribute to this area by examining the experiences of Portuguese students in British schools. The analysis draws on interviews with 48 students (aged seven to 19 years), their parents and their teachers. Two dimensions of 'extended identities' are analysed (Alvarez & del Rio, 1995) . One dimension involves situated activity: What types of concrete life conditions influence cultural identities extended to the students? The other dimension involves symbolic activity: What types of narratives are produced to give meaning to the development of a person who lives between a Portuguese and an English culture?
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Philosophy for children: Collaboration and discussion in the classroom

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This paper explores the discourses used in Philosophy for Children (P4C) sessions with primary school children to identify the processes used in successful collaboration. As part of the wider research project, a model was developed (the Di-med model) to clarify the dynamic nature of the socio-cultural aspects involved in classroom practice. Drawing on this model, critical discourse analysis was employed to explore the recorded social interaction of two classes of six- to seven-year-old children and their teachers in a north of England, inner-city primary school, as they engaged in their P4C session. The paper illustrates how application of the Di-med model and critical discourse analysis makes transparent the processes involved in the practice of P4C, in the ways in which children went beyond giving statements of opinion, giving reasons for their judgments and reflecting on the feasibility of their reasons, and illustrates the processes used to encourage this discourse. The implications for collaborative work in primary schools are further discussed.
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The effects of exposure to terrorism on parents and their children – a cross-cultural study

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This study investigated and compared parenting behaviours and attitudes towards the threat of terrorism in 738 Israeli, American and Scottish parents of six- to 11-year-olds. Parents were asked to rate their level of restrictiveness, stress and communication with their children, as well as evaluate their child's level of awareness of terrorism. Many cross-cultural similarities emerged in terms of the pattern of parenting behaviours in relation to the level of the parent's perceived threat of terrorism. Parents who perceive the threat to be greater tend to be more stressed and communicate more with their child about terrorism related issues. However, the level of 'perceived' threat was found to have no correlation with the level of 'real' threat in terms of place of residence (low, medium or high risk area). This finding suggests that exposure to terrorism has a psychological effect of blurring the boundaries between real and perceived danger. This could potentially cause parents to adopt a more authoritarian parenting style in order to protect their children from the perceived threat of terrorism, which in turn could have an adverse effect on child development.
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Children's understanding of secrets

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There is very little previous research into the development of children's understanding of secrets during the primary school years. These two experiments investigated children's understanding of different types of secrets and possible disclosure decisions.
In Experiment 1, 192 children aged five- to 11-years-old were interviewed about secrets. Children defined the secrecy concept and responded to questions about secrets within friendships, different types of secrets and related disclosure decisions. The majority of children from all age groups demonstrated an understanding of secrecy at a level incorporating the element of restricted knowledge. The flexibility of disclosure decisions increased with age. In Experiment 2,

225 children aged, six-, eight- and 10-years-old took part in child-led focus groups. These focus groups primarily concentrated on understanding of the secrecy concept and the different types of secrets and the associated disclosure decisions. Consistent with Experiment 1 only the older children displayed understanding of the secrecy concept at a level that incorporated flexibility of disclosure decisions.

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Arithmetic and number processing in non-verbal learning difficulties

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The arithmetic and number skills of children with 'non-verbal learning difficulties' (NLD) were assessed, in order to evaluate Rourke's (1989, 1995) description of NLD. Rourke proposed that one of the consequences of NLD is a mathematics skills deficit, and that this is caused by poor attention to visual detail, spatial organisation, and logical reasoning. The current study looked at the skills of children with NLD matched to children of the same age, reading and vocabulary level. It was found that, contrary to the predictions from Rourke's claims, children with NLD do not have difficulty with (visual) analogue magnitude representations, but problems were revealed in speed of arithmetic, verbal counting speed, and reading and writing Arabic digits. Thus, it appears that slow access to number representations, either as verbal codes or Arabic digits, explains the poor performance of children with NLD in mathematics. Where the task involves spatial skills, there may be additional difficulties, but these are not core impairments in NLD.

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The contribution of mothers' 'internal state focus' to children's mentalising abilities

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There is a growing body of evidence that (early) social and emotional experiences in the family environment, in particular the mother's focus on the child's internal states, influences children's development of mentalising abilities. Recent longitudinal research has further illuminated ways in which the mother's 'proclivity to treat her infant as an individual with a mind' might facilitate the child's understanding of the world of minds (Meins *et al.*, 2001, 2002, 2003). Building upon the current research this longitudinal study (n=100) further investigates this topic. Measures of mothers' focus on their childrens' internal states were taken through analyses of videotaped observations of mother-infant interaction at 10 months and speech sample data of the mothers' descriptions of their children at 53 months. Childrens' mentalising abilities were assessed by conducting puppet and story-board 'emotion interviews' and 'theory of mind' tasks (53 months). Results will be presented and discussed in the existing theoretical framework.

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Perceptual grouping in infancy: Evidence for grouping by luminance, shape and proximity at two months of age

E.K. FARRAN, J.H. BROWN, A. KARMILOFF-SMITH, C. HOUSTON-PRICE & V.L. COLE, University of Reading.

Perceptual grouping ability was examined in 60 infants aged two months. Results showed that infants were able to group by proximity, shape and luminance for horizontal, but not vertical grouping. Based on previous research, the ability to grouping by luminance fits predictions. However, this is a novel finding with reference to grouping by proximity and by shape. To our knowledge, a horizontal grouping superiority is also a new finding, and has potentially strong implications for both previous and future research. Differences in grouping time were also observed: grouping by proximity occurred at shorter presentation times, and grouping by luminance and shape at longer presentation times. This appears to mirror what is known about the time taken to group in adults.

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Orientation discrimination in Williams syndrome

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Williams syndrome (WS) is a rare genetic disorder in which visuo-spatial cognition is weak relative to verbal ability. This study challenges the conclusions from previous studies, in which floor effects were reported, that orientation coding in WS is a particular cognitive weakness. Using a task set at a level suitable for this population, the results of the present study demonstrate that orientation discrimination is no more impaired in WS than their general level of visuo-spatial cognition.

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Patterns of analogy in children's reading and addition

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Objectives: Analogical reasoning is fundamental to the development of children's early cognitive development. Although, little is known whether the analogical component underlying children's reasoning is similar across all domains or whether they differ according to domain constraints. The study was designed to explore the analogical component underlying children's reasoning in both reading and addition with the intention of identifying commonalities in children's analogical performance across the two domains.
Methods: 69 five- to six-year-olds analogy performance in reading and addition was assessed in two sessions on consecutive days. The *reading analogy task* was designed to assess children's ability to apply their knowledge of phonological relations as a basis for making analogies in the context of reading whilst the *addition analogy task* assessed children's ability to apply their knowledge of conceptual relations as a basis for solving analogies in the context of addition. Verbal protocols of individual strategies were recorded after the presentation of each problem.
Results and Conclusions: The results revealed that children were efficient in solving the analogy problems than unrelated control items in both domains. A cluster analysis was carried out to explore individual differences in analogical reasoning ability across the two domains. The analysis revealed distinct groups of analogical reasoning ability. In three of the groups, children showed a distinct advantage for solving analogical problems in either reading or addition (the *intermediate reasoning*, the *orthographic reasoning* and the *addition reasoning group*), whilst the remaining two group showed similar levels of performance in both reading and addition (the *high reasoning* and *low reasoning group*). These profiles were associated with children's age and domain knowledge.

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Young children's susceptibility to hallucinations

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We suggest that a susceptibility to hallucinations may be a normal feature of the young child's mental world. Thirty pre-school children (age range: 45 to 69 months, M = 54.1 months) were individually played audio recordings of a linguistically meaningless but recognisably human voice. After each clip participants were asked whether they had heard any words. On a separate occasion children were interviewed about their experience of imaginary companions, and completed the 'stream of consciousness' task (Flavell, Green & Flavell, 1993). Results showed a strong association between parentally-corroborated reports of imaginary companions and children's tendency to report hearing words on the hallucinations task. We discuss what these findings might mean for our understanding of the developmental significance of hallucination-like experiences in childhood.

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Do children with autism use semantic or perceptual strategies to learn words?

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Based on findings that individuals with autism make relatively little use of semantic information to facilitate their memory, it has been suggested that this population is characterised by a deficit in semantic processing. We suggest that instead of being deficient in processing semantics *per se*, individuals with autism adopt a more perceptual rather than semantic learning strategy. To test this hypothesis, we asked a group of children with autism and a group of children with learning difficulties to try and remember a list of meaningful and nonsense words. During a subsequent recognition test the font for half of each type of words was changed from that used at study. As expected children with learning difficulties remembered real words better than non-real words whilst a change in font had little effect. This pattern was reversed for the autistic group with memory being better for words that did not change in appearance between study and test whereas meaning had little impact on their memory.

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Children's abilities and difficulties in using the inversion concept in arithmetic

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The inverse relationship between addition and subtraction is an important concept in arithmetic. It has been shown that children can use this principle to solve four-element inverse problems (e.g. 15 + 7 − 7 = [ ]). However, when problems are presented in a missing number paradigm (with either the answer or an addend missing) then children's understanding of this principle is less complete. Different problem formats may help children identify inverse situations and apply the principle. Inverse and control four-element problems were presented to 70 children (aged eight- to nine-years-old) in three formats: digits, word problems, and cards showing items added to and removed from a box. The card presentation, which contained more context and meaning, lead to better performance, especially for inverse problems with the first element missing (e.g. [ ] + 7 − 7 = 15). Three subgroups were found in the sample: a 'high ability' group, a 'low ability' group and an 'inverse' group who scored high on the inverse problems but low on control problems and a general maths test, thus demonstrating conceptual understanding that outstrips their calculation skills.

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Going outside together: Issues for the inclusion of children with impairments and learning difficulties in play and activities in the primary school playground

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In recent years 'inclusion' and 'integration' have become key concerns in educational policy and practice. The present study aimed to explore the world of the playground, rather than the classroom, through the eyes of disabled and non-disabled children and to examine the barriers to, and opportunities for, inclusion within that world. Six Yorkshire primary schools participated in the research. Methods included observations, 'mapping' of playgrounds, discussions amongst small groups of children and individual interviews with 'focus' children, who had a range of physical impairments and learning disabilities, and members of staff. The results demonstrated a range of similarities and differences in play repertoires, the use of playground space and how children negotiate and influence their environment. The majority of 'focus' children were included – often in highly creative and imaginative ways – by their non-disabled peers. Exclusion is, rather, the result of poor staff training and inflexible school routines.

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Music and play: Diverse aspects of four- to six-year-olds' self-initiated musical play

C. GLUSCHANKOF, Levinsky College of Education, Italy.

This paper is based on research done on self-initiated play of children aged four- to six-years-old in the music area of four kindergartens in Israel. Such areas within pre-school or kindergarten settings aim to encourage various kinds of play and experiences. The objective of the music area is to foster musical interactions such as with music material (mainly small percussion instruments) or with recorded musical pieces. From the analysis of videotaped data, bases on a naturalistic approach with ethnographic methodology, a complex picture emerged of the self-initiated play in the music area, characterised by three aspects: the sensory-motor (preferred music parameters, idiosyncratic movements, and how these are organised separately and in conjunction), the cultural (children's, kindergarten', community's), and the social (peer interaction, the role of the adult). gluschan@actcom.co.il

Individual differences in literacy attainments of children with Down's syndrome

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This paper assesses the predictors of individual difference in reading and spelling ability of a group of children with Down's syndrome (DS) (mean age = 10 years 8 months), who attend mainstream schools. Forty-nine children with DS were administered tests of non-verbal ability, vocabulary, reading, spelling, and phonological skills. A wide range of reading, spelling and phonological ability was found in this sample. There were strong correlations among the reading, spelling and vocabulary measures. Phoneme awareness was significantly associated with both reading and spelling, but rhyme awareness was not. Vocabulary was a unique predictor of reading skill in this group. Phoneme awareness contributed variance to reading skill once age and non-verbal ability were controlled but it was no unique predictor of variance in reading skill once the effect of vocabulary had been accounted for. The results are compared to those of a comparison group of typically developing children and discussed within a developmental model of reading and spelling. kg12@york.ac.uk

Music therapy, a powerful catalyst for development

A. HARRISON, North Yorkshire Music Therapy Centre.

Music therapy is a powerful tool for engaging with children (and adults) who have not developed to their full potential. Making music together can bring distinct changes in reciprocal communication, a reduction in anxiety, development of language and dialogue and a confidence in their ability as opposed to the frequent measurement of their inability.

This presentation will describe the evolution of music therapy as a clinical discipline, the specific work of the only Yorkshire-based charity providing a music therapy service and with video evidence will show the dramatic responses of some of their clients. Reference will be made to children diagnosed on the autistic spectrum, those with global developmental delay and children with a complex combination of difficulties. Angela Harrison, a former member of the Hallé Orchestra, has worked as a qualified music therapist for nine years, now specialising in work with children on the autistic spectrum. post@nymtc.demon.co.uk

Memory trace strength and eyewitness recall in children with intellectual disabilities

L.A. HENRY & G.H. GUDJONSSON, London South Bank University.

Children with mild and moderate intellectual disabilities (ID) were compared to typically-developing peers of the same chronological age (CA) on an eyewitness memory task where memory trace strength was manipulated, to examine whether increased memory trace strength would benefit those with ID more than those without ID (Ellis, 1963; Ellis & Cavalier, 1982). No evidence was found for this claim. Fuzzy-trace theory was also used to contrast question types that probed verbatim memory versus gist memory. Manipulations of trace strength, when used with immediate recall (to reduce the impact of decay), were predicted to improve verbatim memory more than gist memory. The results broadly supported the predictions. Performance was not improved in the stronger trace strength condition on measures of recall that tapped gist memory (e.g. open-ended recall), whereas performance was significantly better in the stronger trace strength condition on two of the three measures of recall that tapped verbatim memory (i.e. closed misleading questions, open-ended specific questions). henrylc@lsbu.ac.uk

Language cues facilitate non-verbal memory by 18-month-olds

J. HERBERT & H. HAYNE, University of Sheffield.

The influence of language cues on the memory performance of 18-month-old infants was tested using a deferred imitation paradigm. Some infants received verbal information from an experimenter during the demonstration and at the time of test (full narration) and some did not (empty narration). When independent groups of infants were tested immediately or after a 24-hour delay there was no effect of narration provision on memory retrieval. When tested after a four-week delay, however, the experimenter's verbal cues facilitated memory performance relative to infants who had not received the verbal information. Verbal information about the target outcome did not increase the spontaneous production of target actions by control groups who had not observed the target actions. These results suggest that verbal cues can facilitate long-term retention of observational learning by infants with relatively limited verbal skills. j.s.herbert@sheffield.ac.uk

Self-other connectedness in communication: A study in autism

R.P. HOBSON & J.A. MEYER, University College London.

There is controversy over the basis for young children's experience of themselves and other people as separate yet related individuals, each with a mental perspective on the world – and over the nature of corresponding deficits in autism. Here we tested a form of self-other connectedness (identification) in children with autism. We gave a 'sticker test' in which children needed to communicate to another person where on her body she should place her sticker-badge. Whereas the non-autistic children pointed to their own bodies on most trials, half the children with autism failed to point to themselves at all, and the remainder did so rarely – even though they communicated successfully in other ways. The findings indicate that autism is characterised by a relative failure to adopt the bodily-anchored psychological stance of another person. We suggest that this process of identification is essential to self-other relations and grounds young children's developing understanding of minds. jessica.meyer@ucl.ac.uk

Underlying social problems of young people who self-harm (overdose, cutting, etc.)

J. HURRY, A. HOUSE, S. JOWETT, D. OWEN & P. STOREY, Institute of Education.

Self-harm in young people (overdose, cutting, etc.) often goes unreported. When contact is made with an Accident and Emergency (A&E) clinic, underlying psychological problems may be ignored. To what extent can adolescent self-harm be seen as merely an impulsive act and what is the nature of any underlying problems? Two studies were carried out: a case note study in 18 English A&E departments; and a study where young people were interviewed. A high proportion of these young people had a previous history of self-harm. A substantial number had dropped out of school, were unemployed and/or experiencing problems with their living situations. Those with an experience of care were over-represented. Much of this information was not elicited at A&E but it has implications for effective management of their problems. In particular, the practical problems experienced by these young and inexperienced people may benefit from being addressed. j.hurry@ioe.ac.uk

Comprehension of spatial comparative terms in Williams syndrome: Evidence for impaired spatial representation of linguistic descriptions

C. JARROLD, University of Bristol & E. LAING, University of Cardiff.

This study explored the interaction between the relatively strong language skills and relatively poorer visuo-spatial abilities associated with Williams syndrome by assessing individuals' ability to make sense of spoken spatial descriptions. A group of 18 individuals with Williams syndrome and a larger normative sample of 48 typically developing children were asked to select pictures matching descriptions of the spatial relationship between two objects under two conditions; one in which this could be done on the basis of long-term semantic knowledge, and one which required 'online' manipulation of spatial representations. Results showed that individuals with Williams syndrome were impaired on the latter task, even when their ability to make semantic spatial judgements was controlled for. This suggests that previous evidence of impaired comprehension of spatial terms in Williams syndrome reflects a fundamental problem in dealing with spatial representations, rather than a general difficulty in understanding the basic semantics of spatial terms. C.Jarrold@bristol.ac.uk

Exploring the default mechanism in autism with respect to speech: Is perceptual information more salient than semantics?

A. JÄRVINEN, P. HEATON, F. HAPPÉ, G. WALLACE & F. RAMUS, University of London.

Here we report upon studies that explore the processing of 'musical' aspects of speech by children with autism. Children with autism, and their VIQ- and age-matched controls, were tested using a paradigm that directly compared the processing of perceptual (pitch) versus semantic components of speech samples. The aim was to identify any speech processing biases. The stimuli consisted of sentences in which were embedded four different pitch contours. Presentation of sentences was followed by a visual display depicting the correct pitch contour, the incorrect pitch contour, the correct semantic choice and an incorrect semantic choice. Training was carried out in such a way that the reinforcement of any response bias was avoided. The results indicated that the children with autism made significantly more perceptual choices than the controls, and that this pattern was reversed for the semantic condition. Another reported study investigated the processing of four pitch contours. The findings indicated a greatly enhanced salience of such features in speech-like stimuli in autism. a.jarvinen@gold.ac.uk

Developmental differences in working memory and cognitive functioning ability of children with special educational needs

S. JEFFRIES & J. EVERATT, University of Surrey.

Eighty-seven children were presented with six tasks tapping the three working memory components (phonological loop, visuo-spatial sketch pad and central executive) and seven tasks tapping underlying phonological, spatial/motor and executive/inhibitory functioning. Post hoc comparisons of the three groups (no special educational needs (SEN), varied SENs, SEN dyslexia) indicated that secondary age dyslexic children showed significantly more difficulty than the varied SEN group on DST bead threading and digit naming task whereas the control group had significantly more difficulty than the dyslexia

group on the BDT pointing task. Primary ages showed no such differences. The primary dyslexia group showed significantly more difficulty in PhAB rhyme score and WM backwards digit recall than the other SEN group although the secondary groups did not. The primary age varied SEN group had significantly more difficulty with PhAB alliteration task, the WM block recall and backwards digit recall tasks than control, but secondary age group did not. Results will be discussed in terms of implications for assessment and remediation strategies.
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The use of drawing for psychological assessment by British clinical child psychologists

R.P. JOLLEY, N.S. BEKHIT & G.V. THOMAS, Staffordshire University.

This paper reports a survey on the use of drawings as an assessment tool by British clinical psychologists. One-hundred-and-fifty-eight clinical psychologists (33 working with children) practising in Britain completed a questionnaire concerning their use of and views about psychological assessment and the use of drawings in such assessment. The majority of clinical child psychologists never or only occasionally used formal drawing tests, but almost half of them reported using drawings as an informal assessment aid either always or frequently (psychologists working in other client groups used drawings less as both formal and informal assessments). The more frequent use of drawing as an informal assessment aid was consistent with their overwhelming preference for clinical interviewing as opposed to formal testing in the psychological evaluation of their child clients. The findings are compared with similar surveys conducted in the USA which show a more widespread use of drawing tests by American clinicians.
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The relationship between bullying roles, quality of friendship, loneliness and risk taking behaviour

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Little research has considered the association between the quality and satisfaction of friendships and physical and relational bullying roles. The current study considered whether victims of bullying have lower quality friendships and higher feelings of loneliness and social dissatisfaction compared to bullies, bully/victims and neutral roles. Anti-social behaviour and risk taking behaviour was also examined for differences across bullying roles. Data was collected from a sample of 401 adolescents aged between 11- to 16-years-old (188 males and 213 females). Adolescents completed the Friendship Activity Questionnaire (Bukowski), School Relationships Questionnaire, Strengths and Difficulties Questionnaire, Loneliness and Social Dissatisfaction Questionnaire and The Arnett Inventory of Sensation Seeking. The results indicated that: (1) There were significant differences in the quality of friendships between victims and bullies and neutral children, with victims reporting significantly lower quality friendships; (2) Relational victims only and not physical victims had significantly elevated levels of loneliness in comparison to neutral children; and (3) pure bullies had significantly higher sensation seeking scores compared to victims and neutral children. Results are discussed in terms of individual differences in bullying roles from a developmental perspective and linked to possible bullying intervention strategies.
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Does this restaurant serve fish? Using a novel user interface, Separate Control Of Shared Space (SCOSS), to mediate children's joint understanding of word ambiguity in jokes

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Research has found that when pairs of eight- to nine-year-old children play with software presenting them with jokes, it is not only fun but can also lead to significant improvements in their reading comprehension (e.g. Yuill, 1998). A contributing factor to this improvement was the collaborative discussions about the meanings of the ambiguous words that made the joke funny. However, current methods of enabling two children to work together at a computer are limited. We will present two studies that have demonstrated how Separate Control Of Shared Space (SCOSS), our novel user interface, can facilitate collaboration between children by visually representing the collaborative process as well its outcomes. In this way, data can also be provided to a potential learner model and the collaborative process can be monitored and guided.
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Developmental trends in bullying risk in adolescents with Specific Language Impairment

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The risk of being bullied at school was measured at two points across the educational lifespan of one hundred children with a history of Specific Language Impairment (SLI). Participants completed a questionnaire addressing their experience of bullying behaviour while attending their final year of primary education (Year 6) and also during their final year of secondary education (Year 11). In addition, the risk encountered by children with SLI was compared to that of typically-developing age-matched peers at each time. Data from the first time point indicated that 36 per cent of children with SLI considered themselves to be at risk of being bullied at school, compared with only 12 per cent of the typically-developing cohort. The present paper will reveal how their risk at the second time point compares to the first and will discuss developmental trends in the bullying risk experienced by children with SLI and the factors which may be associated.
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Using intensive imitation to increase social expectancies in non-verbal children with autism

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Recent studies (Nadel et al., 2000; Field et al., 2001) suggest that immediate imitation promote proximal social behaviour among children with autism. The aim of this study was to replicate and extend these findings. Twenty children with an autism spectrum disorder (ASD) were randomly assigned to either an imitation (n=10) or a contingently responsive group (n=10). The children had little or no functional speech, and their developmental age averaged 25 months. Both groups were presented with repeated sessions of a modified version of Nadel's 'still face' paradigm. The analysis revealed a significant increase of proximal social behaviour for the imitation group which confirms previous reports. In addition, an increase in elicited imitation as measured with the PEP-R was also observed for the imitation condition. This finding extends earlier reports in that it suggests that the social expectancies unlocked by the imitation intervention also spread to tasks outside the experimental procedure.
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The Do-Re-Mi's of early childhood: Musical preference, experience and personality

A.M. LAMONT, Keele University.

The current paper explores musical preferences in early childhood and interprets these in the light of the children's actual musical experiences and personality. Forty participants aged between 3.25 and 3.75 years took part in a musical preferences test using a toy keyboard. Three pieces of music were presented to all participants (one fast pop, one fast jazz and one slow jazz), with a fourth piece varied by individual child: for half the participants this fourth piece had been repeatedly played prenatally. Demonstrated musical preferences (inferred from time spent choosing to hear each piece) were more varied than predicted, and not strongly influenced by very early musical exposure. In addition, current musical experiences

were measured using a variation of the Experience Sampling Methodology which provided data on amount and type of music experienced over a seven-day period, and children's temperament and personality was assessed using Rothbart's (1996) Children's Behavior Questionnaire. The data are still being analysed and results will be available at the conference. Analysis will aim to trace out whether experience or personality play a dominant role in shaping children's early musical choices.
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The phonological dimension: Exploring the relationship between SLI and dyslexia

R.F. LARKIN & M.J. SNOWLING, University of York.

This study aimed to address whether SLI can be considered to be a more severe form of dyslexia. Twenty-three children with language impairments and 23 children with dyslexia took part in the study, along with a chronological age matched control group and a reading age matched control group. The children completed a battery of language, reading, spelling and phonological tests. It was found that both clinical groups showed deficits in spelling accuracy and phoneme awareness. The language impaired group also showed a strong deficit in non-word repetition skill, and a more severe deficit than the dyslexic group in using phonetic spelling strategies. Further analysis of the data enabled two subgroups of language impaired children to be identified. The first showed a similar phonological deficit to the dyslexic group, with additional poor language skills. The second subgroup showed a severe phonological deficit, below what would be expected based on their vocabulary skills.
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Transformation similarity in the children's analogical reasoning

R. LEECH, D. MARESCHAL & R. COOPER, University of London.

A novel theoretical approach to analogical development suggests that relations can be thought of as transformations. This study investigates a prediction arising from this theoretical position: that the similarity between transformations influences children's performance on simple analogical reasoning tasks. The study uses a variant of Goswami and Brown's (1989) task. Young school-aged children were asked to choose the appropriate picture to complete a:b:c:d analogies involving familiar causal relations. The distractor pictures varied in whether they shared high or low transformation similarity with the analogically appropriate d term. Once perceptual similarity had been taken into consideration, the results showed a significant effect for transformation similarity.
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The role of phrasing structure in mother–infant musical interaction

E. LONGHI, University College London.

This presentation investigates the temporal structure in early mother-infant musical interactions. In particular, the effect of the phrasing structure of the songs on the partners' behaviours is examined. Four mother-infant dyads were videorecorded when the infants were three to four months of age as well as later when they were seven- to eight-months-old. Mothers were asked to sing songs of their choice while interacting with their infants. A detailed micro-analysis of the temporal structure of the songs showed that mothers emphasise the metrical and phrasing structure of their songs. Moreover, the phrasing structure of the songs seems to help the partners to organise their behaviours in the musical interaction. In conclusion, playsongs in early mother-infant social interactions not only serve to entertain and arouse infants, they also play a vital cognitive function in helping infants learn about hierarchical structure and segmentation similar to the early mother-infant speech interactions. It is also suggested that the temporal organisation may contribute towards the infant's understanding of turn-taking.
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Learning the piano: Attitudes to parental involvement

J. MACMILLAN, Sheffield University.

Numerous studies in general education have concluded that parental involvement improves student achievement. Research in music education indicates that parental involvement is beneficial to progress on a musical instrument. However, few music teachers are known to encourage it. This paper reports on an in-depth qualitative survey that examines teachers', pupils' and parents' attitudes to parental involvement, the extent and nature of that involvement, and pupils' resultant enjoyment and achievement.

The survey found that some teachers encourage this collaboration and some do not. Teachers who have: (a) pedagogical qualifications; (b) followed specialist courses; and (c) experience, prove more likely to encourage parental involvement.

A key finding is that those children whose parents are involved in their instrumental learning welcome it. It is evident from my research that parents are more willing and able to assist than many teachers realise. So there are good grounds for believing parental involvement is beneficial and should be encouraged.

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False belief understanding and referential communication in young children

K. MARIDAKI-KASSOTAKI & K. ANTONOPOULOU, Harokopio University, Greece.

The present study sought to examine the relation between false-belief understanding and pragmatic skills of language use such as referential communication. The ability of 48 children aged six to seven years to attribute false beliefs to themselves and others was examined with tree false-belief tasks. The referential communication skills of the same children were assessed with two tests adjusted to Greek reality for this purpose. The results showed that false-belief ability correlates with ability to comprehend an ambiguous message in the role of listener. These results provide support for the claim that verbal communication and theory of mind are associated. An attempt is made in the paper for a discussion of the possible applications of the reported findings.

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Unrealistic optimism in children

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Unrealistic optimism has been studied extensively in adults and is a significant component of social-cognitive models about health. Unrealistic optimism involves the belief that oneself is less likely to experience negative outcomes and more likely to experience positive outcomes than the average other person. Unrealistic optimism is known to be associated with engaging in more risky behaviours and lifestyles. Little is known about unrealistic optimism in children. Our study investigated comparative optimism for health and non-health related topics in 101 children aged eight or nine years of age. Children were found to be unrealistically optimistic about health related events and this was consistent across two measurement types. There were indications for non-health events, children only showed unrealistic optimism when they had to make a direct comparison between themselves and others. The implications of these findings are discussed together with more recent study of optimism in relation to being overweight.

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Communication in autism: A failure to identify with others?

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A diminished propensity to relate to the subjective experiences of others may result in communicative impairment. We tested 12 children and adolescents with autism, and 12 non-autistic children and adolescents with learning difficulties, group-matched according to chronological age and verbal ability. The children were shown an action by a first investigator and were then asked to get a second investigator (not present in the room during the demonstration) to do the same action. Participants were provided with opportunities to repair their communication. We predicted group differences insofar as children with autism would: (a) copy gestures to relay a message, but without adopting the demonstrator's style; (b) have difficulty shifting roles between recipient and communicator; (c) show less experience sharing and joint attention; and (d) manifest limited emotional engagement with the investigators. The results were consistent with the hypothesis that autism involves a weaker propensity to identify with others.

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Number during the first school year: A longitudinal assessment of procedural skills, conceptual understanding and arithmetical problem solving

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The concept of cardinality imbues number words with quantitative meaning and is crucial if counting and sharing are to be mathematical tools for young children. However, pre-schoolers' numerical achievements are often founded on procedures and not genuine insight. We conducted a longitudinal study to identify the additional understanding that is associated with the ability to count and share strategically. Seventy-two reception class children were given a battery of tasks measuring their procedural mastery, their conceptual grasp of the underlying principles (using an error-detection paradigm), and their ability to draw on cardinality to solve arithmetical problems. Procedurally proficient children often failed to detect another's errors, but it was successful error-detection that predicted whether they made numerically valid judgments. We propose that prompted reasoning about miscounts can play an important role in the child's developing grasp of cardinality and extend their understanding of when counting can be employed.

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Children and stereotypes: Are there stereotype threat effects in childhood?

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The Stereotype Threat model provides a powerful explanation of situational under-performance of group members considered less skillful in a specific domain. Although the model has now been confirmed across many different tasks and across a wide variety of stigmatized social categories surprisingly little is known to date about the development of the phenomenon in children. The main aim of this study is to expand the Stereotype Threat model to childhood. Two-hundred-and-forty-five Italian school children who ranged in age from seven to 14 performed a difficult mathematics test. They were randomly assigned to either a stereotype threat condition or a control condition. Results suggest that mathematics-related gender stereotypes develop during elementary school and interfere with performance whenever the stereotype is activated. Methodological aspects and practical implications of this study are addressed.

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Improving children's understanding of illness: A comparison of group collaboration and individual learning

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Previous work has indicated that collaborative group learning may be effective at promoting understanding of biological phenomena (Williams & Binnie, 2002; Williams & Tolmie, 2000). This study aims to investigate this further by comparing the efficacy of three different intervention types (individual task, group discussion task and group discussion task including relevant facts) for improving understanding of illness. Ninety-six children between the ages of seven to eight years and 11 to 12 years participated. During a pre-test the children were asked about common childhood illnesses as well as general questions on contagion. The interventions were all focused on contagion and the main processes were emphasised. A post-test was conducted at a delay of six weeks. It is predicted that children in the group discussion conditions will show greater pre- to post-test change than in the individual condition and this may be further facilitated by the provision of the relevant facts. Video analysis of the group discussions considers types of collaborative processes and features of the peer group discussions.

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A quest for clarity on balance deficits in developmental dyslexia

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In support of their automaticity deficit hypothesis for dyslexia, Nicolson and Fawcett (1990) found that adolescent dyslexics showed a deficit in balance under dual task conditions. Subsequent investigators have employed differing designs and have found mixed results. This study provides a systematic investigation using age-matched dyslexic and control adults screened for ADHD. Participants' balance and postural control were assessed objectively while they were standing in the Romberg (heel-to-toe) position and during a motor adaptation task. Secondary tasks were used to distract attention from balancing. Tests of balance alone revealed no between-group differences, whereas the dyslexic group was significantly impaired in stability and motor adaptation under dual task conditions. Balance problems were more marked towards the end of a 60 second balance period. In conclusion, it is vital to use the appropriate design when testing balance. With adults, a dual-task, heel-to-toe balance test lasting at least 60 seconds is needed.

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Stereotypical behaviours in autism: Results from a questionnaire sent to primary carers

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Stereotypical behaviours (SBs) are usually considered to be actions occurring frequently but with no apparent purpose (e.g. handflapping). Wing (1979) identified SBs as one of the triad of impairments and they also are identified in the recent classifications. The behaviours cause disruption to learning . They also attract negative attention further impacting on already deficient social skills. A comprehensive questionnaire was used to obtain detailed reports from primary carers (n=207). The objective was to describe the major features of SBs in autism. The findings indicate that almost all individuals showed frequent SBs, and report that SBs can be a major problem in terms of managing behaviour. More detailed analyses of revealed a limited set of 'key' SBs which accounted for the majority of behaviours. These and other findings are discussed in full with the aim of showing their importance and the reasons for their neglect.

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Development of counting skills and understanding of cardinality in children with Down's syndrome

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Results will be presented from longitudinal study which has investigated the development of counting skills in a group of children with Down's syndrome. Twenty-two children with Down's syndrome (CA range: 3.5 to seven years at start of study) and 21 typically developing children (CA range: two to four years) matched for non-verbal mental age were seen three times over two years. The typically developing children were found to have significantly longer count word sequences, than the Down's syndrome group, at all three test points. Despite this disadvantage for the children with Down's syndrome, when counting or giving sets there were no significant differences between the groups. Counting performance improved equally in the groups when provided with parental support, and the support provided by the two groups of parents was similar. In conclusion,

counting skills and conceptual understanding in the children with Down's syndrome developed in line with non-verbal mental age.

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Representations of children with a facial disfigurement

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About one in 500 children has a facial disfigurement and one in 100 has a less significant disfigurement (OPCS, 1988). There is some evidence that children with a disfiguring condition experience many negative social responses from their peers and teachers. Staring, name-calling, ostracism, and bullying are often reported by children with a disfigurement. The dominant image is of a child who is visibly but also psychologically different to the non-disfigured child. The current study aims to explore people's representations of children with a disfiguring condition, and compare these to representations of children without a disfigurement. In the study we sought to examine how children with facial disfigurements are represented by members of the public, students and interested parties such as professionals who treat facial disfigurements and children and families who live with facial disfigurement. In the paper we discuss the preliminary outcomes of the analysis. The factor analysis yielded a number of different representations of children without a facial disfigurement and a smaller range of descriptions of a facially disfigured child. The study demonstrates that children with facial disfigurements are, largely, represented as different to other children not just in terms of their visible disfigurement but also their psychological and social characteristics and attributes. Whilst this concurs with previous literature, we would argue that it is important to attend to the individual context of children rather than treat them as purely a 'disfigured child'.

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Young people's representations of conflicting roles in child development: Theoretical issues

L. O'DELL, G. ABREU, T. CLINE & S. O'TOOLE, University of Luton.

In this presentation it is argued that dominant representations of child development in Britain often cause conflicts for children and young people from non-mainstream communities, such as ethnic minorities (Abreu *et al.*, 2003; Cline *et al.*, 2002). In particular, the authors argue that these representations colour the way young people and significant adults view typical and atypical work roles that young people engage in such as language brokers and young carers. The paper will build on the analysis of two recent theoretical positions within psychology: (i) the critical-developmental perspective; and (ii) the cultural-developmental perspective. Critical-developmental psychologists suggest that developmental psychology has tended to view childhood in a narrow and ethnocentric way (white, western, middle class) without appreciating that those views are valid only when children live in a particular set of circumstances and that the image of childhood on which they are based does not even apply universally within the societies in which these representations were developed. Cultural-developmental psychologists strongly suggest that the dominant individual approaches to the study of childhood have neglected how changes in society and communities impact on children's development. This paper suggests that children who act as language brokers and young carers are part of a group of children who are positioned in a series of unique circumstances due to their engagement in 'atypical' adult roles. By exploring representations about them our aim is to explore the notion that childhood is a not a fixed given but a fluid state that alters depending upon the child's cultural, temporal and geographical location.

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Imitation as an intervention for pre-school children with an Autistic Spectrum Disorder (ASD) and their parent/main carers

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The present study sought to test the hypothesis that imitation increases the social behaviours of pre-school children with an ASD and their parents/carers. Four children, diagnosed with an ASD took part in a series of 12 play sessions. Using a small-n multiple baselines design, the sessions were split into three conditions; play with a standard selection of (single) toys, play with sets of duplicate toys and play with duplicate sets of toys following parental training in the use of imitation. Sessions were videotaped and microanalytically coded for selected behaviours. Analyses to date indicate that there are positive shifts in the physical proximity and physical position of the dyad following play with duplicate sets of toys and parental/carer imitation of the child. Additionally, the data suggest that providing dyads with duplicate sets of toys (prior to imitation training) results in an increase in spontaneous imitation between partners. These findings suggest that imitative training does successfully promote positive social interaction.

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'Let them be children': Parents' representations of child development in mathematical learning

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This paper explores the relevance of parents' representations of child development in the way they make sense of and support their children's mathematical learning.

We examine these representations in the home communities of children whose parents come from a number of different ethnic backgrounds. The first part of this paper will consider child development using Vygotskian (1978) sociocultural theory and Gallimore and Goldenberg's (2001) 'cultural models' and 'cultural settings' to help understand how parents come to view child development in a variety of ways. These theoretical positions open for scrutiny new and subjective dimensions of development, which include representations, meanings and experiences. The second part of the paper will focus on parents' evocation of notions of child development to make sense of their: (i) child's achievement; and (ii) homework. Twenty-two parents belonging to a variety of ethnic backgrounds were interviewed for the study. We conclude that the parents in this sample varied widely in their representations of children development, which could be said to influence the way they structured home practices to support their child's school learning. Perhaps more importantly, some of the parents' representations of child development were not consonant with those held by the school.

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Children's drawings: A conceptual art?

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In order to explore the relationship between children's drawings and self-awareness, sixty children ranging in age from three to nine years were asked to provide a drawing and a verbal description of themselves and a same-sex peer. Representations were analysed according to the quantity and quality of detail provided. Confirmation of children's reliance on internal models in representation tasks (rather than external mirror images/models) provided theoretical support for the hypothesis that self and other drawings are indicative of conceptual maturity. Children's success in recognising and distinguishing self and other-drawings following a delay further substantiated the link between the drawings and self-awareness. Direct evidence of this connection was supplied by the observation of a significant relationship between self-aware behaviour (as evidenced by reaction to ones' mirror image following feedback) and self and other drawing ability. The discovery of objectively self-aware behaviours exhibited by three year old children suggests that reliance on explicit verbal measurement of self-awareness may be overly restrictive. Together with the observation that

children's drawings were consistently more detailed than their verbal descriptions, these results confirm that analysis of children's self and other drawings may provide a finer measure of self-awareness than traditional means.

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Cultural change and the self: The development of the self-concept in two groups of Greek pre-adolescents

E. PROKOPIOU, University of Luton & G. DE ABREU, Oxford Brookes University.

This paper reports an investigation on how sociocultural changes in Greece have affected the development of the self-concept in two groups of Greek pre-adolescents, who were living in contexts of differential rates of cultural change. Drawing on cultural psychology, the person's psychological development was conceptualised as co-constructed by individuals and their social worlds. To explore these co-constructions empirical work was conducted with primary school pupils in two islands geographically very close, but undergoing different rates of cultural change. Life Histories, the Cantril's Self-Anchoring Scale and the Kinetic Family Drawing Test were used to assess the pupils' self-concepts. Drawing selectively on data from these different sources we will illustrate the main findings. These indicated that the development of the self-concept of both groups was affected by cultural change and both groups were in a transitional phase. The differential rate of cultural change proved to be an important determinant of the different ways these groups have been adapting to sociocultural change.

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Do individuals with Down's syndrome show faster forgetting from verbal short-term memory?

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Individuals with Down's syndrome (DS) suffer from relatively poor verbal short-term memory. Recent work has indicated that this deficit is not caused by problems of audition, speech or articulatory rehearsal within the phonological loop component of Baddeley and Hitch's (1974) working memory model. Given this, two experiments were conducted to investigate whether abnormally rapid decay underlies the deficit. In a first experiment, we attempted to vary the time available for decay using a modified serial recall procedure that had both verbal and visuospatial conditions. No evidence was found to suggest that forgetting is abnormally rapid in phonological memory in DS, but a selective phonological memory deficit was indicated. A second experiment further investigated possible problems of decay in phonological memory, restricted to item information. The results indicated that individuals with DS do not show atypically rapid item forgetting from phonological memory, but may have a limited capacity in that system.

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The development of visual working memory: Evidence for a capacity increase

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While there is evidence that children get better at visual working memory tasks between the ages of four and eleven (Lindsay *et al.*, 1987), it is not clear whether this is due to a capacity increase or other factors, such as increased knowledge, processing speed or strategy use. Luck and Vogel (1997) devised a change detection paradigm for use with adults which has potential to shed light on this developmental question since it controls well both for verbal strategies and knowledge effects. The task involves spotting changes in rapidly presented arrays of coloured squares. Using this task we tested 60 children, aged five, seven and 10 years. We found that task performance improved between the ages of five and 10 years. We conclude that visual working memory capacity increases from about two items at age five to four items at age 10, but discuss the possible role that other factors may have played in our results.

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Implicit and explicit understanding about sources of knowledge

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Two experiments build on studies showing preschool children's difficulty understanding about sources of knowledge. In Experiment 1, four- to five-year-olds found it easier to report how they got to know a toy's colour or hardness (having both seen and felt it), than to predict whether they needed to see or feel in order to identify its colour or hardness. Three-to four-year-olds performed equally poorly at predicting and reporting their sources of knowledge. In Experiment 1, three- to four-year-olds spontaneously reached to feel a toy to identify its hardness more often than they did to identify its colour: they behaved as if they understood when seeing provided sufficient information and when feeling was necessary. In contrast they were relatively poor at reporting whether seeing or feeling was the informative source when they had experienced both. Results have implications for accounts of understanding about sources of knowledge and about ambiguous input.

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Temporary childhood separation: Some long-term effects of evacuation during the Second World War

S. RUSBY & F. TASKER, Birkbeck College, University of London.

The presentation gives brief details of the long-term effects found from a retrospective study of temporary childhood separation due to evacuation during the Second Word War. Some 900 respondents in the 60 to 70 age range completed a questionnaire which asked for details of their home life and experience of the war, including that of any evacuation period, and which incorporated a number of measures designed to assess their subsequent mental health, marital history and adult attachment styles. It was found that the most salient reported early experiences were the quality of home upbringing, the age at evacuation and the care received during evacuation. Each of these was significantly associated with the outcome measures of mental health, marital history and attachment style. For those evacuated in their early teens and who had received good care the experience could be a positive one, but for those evacuated in early childhood many were left with an emotional legacy affecting their adult lives.

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Transfer of spatial learning from virtual to real space: The effects of differential modes of exploration, age, familiarity and training

G. SANDAMAS & N. FOREMAN, Middlesex University.

In Experiment 1, 86 children, aged six to nine years twice experienced a virtual environment (VE) containing eight buildings, in 'yoked' active/passive pairs or individually viewing from the perimeter. They reconstructed the VE using a to-scale real model. Significant main effects were obtained for Age and Trial. Post-hoc analysis revealed that, contrary to the hypothesis that active Ps would be better, passive Ps were significantly better at T2. In Experiment 2, 42 children aged seven to eight years were tested as in Experiment 1, except that Ps were given extended training in using the input device. Post hoc analysis revealed that actives' scores were significantly better than passives' at T2. Increased training arguably reduced the cognitive effort required in use of the input device, enabling actives to benefit fully in acquiring spatial information during active exploration.

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Children's communication styles in peer group discussions: Variations according to temperament and sociometric status

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This study examined the relationships between childhood temperament, communication style and socio-metric status in peer dispute settings.

Previous research indicates a dual function of disputes as facilitators of cognitive development and as elicitors of aggression, leading to peer rejection and social mal-adjustment. Utilising the distinction between transactive vs. non-transactive communication put forward by Howe and McWilliam (in preparation), it is proposed that gain or loss from conflict would be associated children's communication style. It was hypothesised that communication style would vary according to childhood temperament, as well as according to socio-metric status. Parents of 80 children drawn from three age groups (nursery class, primary 3, primary 6) were asked to complete the Child Behaviour Questionnaire (Rothbart, 1989) and socio-metric status was assessed for each child. Same age/same sex triads were observed in four conditions and communicative characteristics were coded. Results indicate some degree of variation in communication style according to socio-metric status and temperament and their associated changes across development.

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Differences on visuo-spatial perception and working memory tasks in children rated as 'inattentive' in comparison to children with good attentional skills

A. SCOPE, J. EMPSON, S. McHALE & D. NABUZOKA, Sheffield Hallam University.

Existing literature on working memory and perception in children with attentional difficulties is ambiguous. Most of these studies do not separate visual and spatial components (Kalff *et al.*; Barnett *et al.*, 2001), and no studies have focussed on children rated as 'inattentive' in terms of a dissociation between visual and spatial within the Visuo-Spatial Sketchpad. 'Inattentive' and control children undertook tasks measuring perception and working memory on a location naming and a visual discrimination task, in static and dynamic conditions. It was hypothesised that 'inattentive' children would perform at a lower level than controls on working memory and perception tasks presented in a dynamic format, regardless of task type. The results indicated different patterns of responding between the groups on location and discrimination tasks, no main effect of static/dynamic condition was found. The difficulty experienced on the location task could be associated with a Central Executive deficit (Logie & Pearson, 1997; Logie, 1995).

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Cross-cultural collaborative computer-mediated composition in cyberspace

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The study investigated the effects of computer mediation, prior musical experience (based on having had or not had a minimum of four years formal instrumental music tuition – FIMT) and culture on the process and product of collaborative computer-based music composition. The study linked a school in the UK with a school in Norway to engage in computer-mediated collaborative composition via e-mail. There were eight participants (four Norwegian, four English) aged 13 to 14 years and they formed four composition pairs one from each country. Pair 1 were both non-FIMT, Pair 2 were both FIMT, Pair 3 were one FIMT (UK) one non-FIMT (Norway) and Pair 4 were one FIMT (Norway) one non-FIMT (UK). All composing pairs reported high levels of motivation and enjoyment. Communication on both musical and 'text' levels was revealed and 'adolescent preferences' were reported more often than 'cultural influences' as reasons for effective collaboration. Prior experience of FIMT was linked to extended and complex musical dialogue, critical engagement with musical ideas and producing an 'exploratory' environment. No prior experience of FIMT was linked to uncritical and descriptive dialogue and a 'cumulative' environment. The most productive pairings had at least one participant having had prior experience of FIMT.

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Are children with autism better at three-dimensional drawing?

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It has been suggested that savant drawing abilities in autism might partly be a result of autistic individuals being less influenced by their conceptual knowledge when drawing, than individuals without autism. Previous studies have failed to find differences between autistic and non-autistic children in intellectual realism, in particular when drawing three dimensions (Eames & Cox, 1994). However, these studies did not compare participants on baseline measures of drawing ability. Here, children with and without autism copied line drawings that represented objects three-dimensional objects and also drawings that only represented objects in two dimensions, to act as a control. Accuracy was assessed using ratings and an objective measure. Results suggested that although children with autism and typically developing children did not differ in overall drawing accuracy, children with autism produced drawings of a more consistent standard across conditions. The autistic children appeared to be less affected by the dimensionality of the stimuli, providing support for the hypothesis that autistic children are less influenced by their knowledge when drawing.

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The role of visual attention in inhibitory tasks with two locations

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Several putative inhibitory tasks involve two locations (e.g. windows, theory of mind, and grass-snow tasks): one location attracts an habitual response that must be inhibited so that the child can respond to the other location. We investigated the grass-snow task in which the child must point to one location when the experimenter names the other (e.g. point to a green card when the experimenter says 'snow'). In two studies we found no evidence that replacing habitual pointing with novel responses (e.g. pointing with an arrow) made the task any easier for three-year-olds. The second study also produced evidence that three-year-olds tended to respond to the location to which they first looked. Overall our data suggest that visual attention, rather than habitual responding, is crucial to performance on grass-snow task. These findings are discussed in relation to theory of mind and other inhibitory tasks.

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Children's and adolescents' understanding of the biological inheritance of traits

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This study is part of a three-year longitudinal project examining the development of children's intuitive inheritance concepts. It reports cross-sectional comparisons on an 'adoption' task. Children from four age cohorts (four, seven, 10 and 14 years; n=180) were told a story in which a child was born to one family and adopted by another. The biological parents were described as having one set of features (e.g. brown eyes) and the adoptive parents as having another (e.g. blue eyes). Participants were asked to judge and offer explanations for which set of parents the child would resemble. Other feature types include personality traits and disabilities. The results showed significant age and feature differences in children's inheritance judgements but no age differences in explanations of inheritance. Overall, the younger children did not differentiate strongly between the adoptive and biological parents in the acquisition of traits. Physical traits and disabilities were attributed to biological inheritance more than personality characteristics. The results are discussed in terms of the onset of biology knowledge and methodological approaches to the investigation of inheritance concepts.

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Drawing to differentiate: The effects of colour

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Sitton and Light's (1992) drawing differentiation tasks (draw a man, woman, boy & girl) was presented to 60 four- to six-year-old children, to complete either with a black pen or with 10 coloured pens (repeated measures). Differentiation by height was found in the black pen condition, comparable to Sitton and Light's findings, but not in the coloured-pen condition where the additional cognitive load also lead to a decrement in the number of features produced.

In contrast, a copying task using dolls (between subjects, 60 four- to six-year-old children) found that coloured pens facilitated copying performance. Children produced greater differentiation by salient features (e.g. skirts), and differentiated by height with coloured pens, but not in the black pen condition. In this case the colours seemed to relieve the problem of translation into monochrome, by providing a direct representational translation that was simpler than shape.

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'If you don't understand this don't worry, for the rest of you I will go on': Deconstructing children's opportunity to participate in the classroom community of practice

H. STIVAROS, J. TOBBELL & M. HARDMAN,
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Learning is a fundamental concern within Western societies as demonstrated through the development of schooling systems and National Curriculums, both of which strive to take charge of and advance children's learning. Current Government ideologies and classroom practices implicitly assume associationist learning processes and unproblematic individual competence despite acknowledgement by much psychological theory, of the constructive and interactive nature of children's learning. According to the Community of Practice formulation, learning is characterised as participation in the practices of the environment. Drawing on the ethnographic research of one of the authors, which explores the quotidian learning experiences of year six children, this paper illuminates the role of teacher as gatekeeper to pupils' learning. It is argued that teachers' classroom practices serve to dictate pupils' opportunities to participate in learning. This is a powerful supposition and in terms of children's educational development, suggests teachers and schools need to ensure access to participation levels of all pupils.

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Singing with infants: Balancing control with collaboration

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This paper presents the second of a two-part study exploring mothers' attitudes towards singing to their infants in daily caring routines. The first part was a survey of 104 mothers' attitudes to singing. The second part analysed observations of video-recordings of mothers interacting with infants between four and 10 months old. Recordings were made in naturalistic settings (at home or in an equivalent convenient venue) of 16 mother-infant pairs, followed by immediate playback and recall, to obtain mothers' commentaries on their infants' responses and their own feelings. These commentaries were recorded and transcribed. Analysis classified six types of singing in the video vignettes. Detailed sequential analysis of one vignette showed elements of collaboration across different singing types. The two recording processes complement each other and reveal insights into these intimate musical exchanges. The results suggest that mothers' singing is a very varied activity, dependent on their infants' states and on their own needs to communicate.

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Reconceptualising learning: Legitimate participation in communities of practice, explaining transition from primary to secondary school

J. TOBBELLI, Leeds Metropolitan University.

The structural and pedagogical differences between primary and secondary school have been listed in a number of research papers and have been identified as one of the reasons for the difficult process of transition. However, to date these differences have been merely described (e.g. original ORACLE project and the follow up 20 years on) and subsequent assumptions made about why they present difficulties. In this paper I will discuss a six-month research project which followed 55 children from primary school to secondary school. The outcomes demonstrated that primary and secondary schools constitute two cultures so different that notions of smooth transitions are rendered an impossible dream. I will use the learning as participation literature to demonstrate how the learning and performance are embedded in the wider practices of the schools so that, in order to succeed, children need to reevaluate and forget primary practices and involve themselves in a set of new procedures, which a significant proportion of them will find problematic because of the shift in emotional and motivational factors pursuant to the transition. I will use the data to challenge traditional notions of learning and to suggest how inclusionary practices can address transition problems.

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A connectionist approach to teaching rhythm notation to three- to four-year-old pre-school children

Y. TOMMIS & D.M.A. FAZEY, University of Bangor.

In many countries, including Britain and the USA, rhythm notation is traditionally taught utilising the mathematical relationship between note values (for example, one semibreve equals four crotchets). The purpose of this study was to investigate whether it was possible for very young children to learn to perform from conventional rhythm notation without being taught such rules. Here the children were simply exposed to rhythmic phrases along with their correct performance. Subsequently they were able to accurately perform previously unseen phrases comprised of the learned note values (semibreves, minims, crotchets and quavers). The children (n=10) received a pre-test, 20 10-minute teaching sessions, followed by post-test. Pre- to post-test gains were significant (p<0.001). Scores on a re-test administered seven weeks later were not significantly different from post-test scores (p>0.05).

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Agency: Measuring selfhood in toddlers' social actions

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This paper will present a new measure of selfhood in two-year-olds – interpersonal agency – that quantifies the ability to act effectively upon the self's goals in social interaction. Using social play and interpersonal conflict as arenas of analysis, individual differences in interpersonal agency among toddlers are described and exemplified. It will be shown that children as young as two years of age vary quite widely in their ability or willingness to affect the social environment, that this variation is consistent across a range of interactive partners, and that it is predicted by security of attachment such that securely attached children are more agentic than their insecure peers. Interactionist theories of self-development place the explanation for differences in selfhood in the child's history of social interaction. Hence, in an exploration of potential determinants, aspects of maternal interaction that may promote interpersonal agency in toddlers will be highlighted, using videotaped examples.

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Academic achievement and social functioning of children with and without learning difficulties

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Academic achievement and social functioning of children with learning difficulties (LD), low achieving (LA)-, and high achieving (HA) children was examined. The children were seven- to 12-years-old (n=234, including 39 children with LD). Children without LD were assigned to the LA or HA category on the basis of attainment scores on exams for Mathematics and English. Sociometric and behavioural scores were also collected for each child. Findings indicated positive correlations between academic attainment and positive social behaviours; and negative correlations between academic attainment and negative social behaviours. Behavioural attributes accounted for greater variance in social preference than in academic achievement. HA children scored higher on social preference and positive behaviours than LA and LD children. Only help-seeking behaviour discriminated between LD and LA groups – children with LD scoring significantly higher. These findings indicate a relationship between social adjustment and academic achievement and that intervention strategies need to target social relationship difficulties in LA children as well as children with LD.

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'He takes after his father': Children's reasoning about parent–offspring and sibling resemblance

J.M. WILLIAMS & L.A. SMITH, University of Edinburgh.

This study is part of a three-year longitudinal project funded by the Wellcome Trust examining the development of children's intuitive inheritance concepts. It reports cross-sectional comparisons on a 'mother-bias' task. Children from four age cohorts (four, seven, 10 and 14 years; n=180) were interviewed individually using a forced-choice procedure about their beliefs concerning the inheritance of three different feature types (physical characteristics, personality traits and disabilities). They were presented with pictures of the biological mother and father exhibiting variations in the feature at issue. Children were asked to select the most likely offspring out of four alternatives: same feature as the mother, same feature as the father, combined features of mother and father, neither parental feature. Children then made judgements about a second offspring. For both judgements the child was required to provide an explanation of inheritance. The results showed significant age and feature differences in children's beliefs regarding the inheritance of characteristics. Although younger children have a general understanding of parent-offspring resemblance, overall the results indicate that older children develop more complex conceptions of inheritance which include a recognition of multiple sources of inheritance, awareness of genes and genetic uncertainty.

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Emotion recognition by children with Down's syndrome: Effects of varying emotion label and expression intensity

K.R. WILLIAMS, D.S. WILLIS, J.G. WISHART &
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Sociocognitive ability is often thought to be a relative strength amongst those with Down's syndrome (DS). However, recent work suggests that some children with DS may experience difficulties with certain aspects of social cognition, including recognition of specific facial expressions of emotion. The study to be reported used a photo matching task to further explore emotion recognition ability amongst children with DS (n=28), and compared DS performance with that of children with non-specific intellectual disabilities (n=25) and typically developing children (n=28) matched on cognitive and language ability. Four conditions (regular vs exaggerated emotions, emotion labelling vs generic task instructions) were used in an attempt to establish the extent to which emotion recognition task difficulties in DS relate to perceptual aspects of facial expression or to

problems in comprehension of task instructions. Study findings and their relation to what is known of social cognition and neuropathology in DS will be discussed.
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'Do I need to look where I point?'; eye-hand co-ordination in seven-year-olds with and without developmental co-ordination disorder

K. WILMUT, J.H. BROWN & J.P. WANN, University of Reading.

In double-step pointing tasks adults store co-ordinates of target position, obtained from an eye movement, to guide hand movements. Thus, eye movements can be made to the second target before the hand lands at the first. This task was used to investigate eye-hand co-ordination in two groups of seven-year-olds; children with developmental co-ordination disorder (DCD) and typically developing children. Sequential targets were presented on a computer screen, and eye and hand movements recorded. Both typically developing children and children with DCD were able to use stored co-ordinates to guide hand movements in the same way as adults. While there was no difference between groups in the accuracy of eye movements, the DCD group were less accurate than controls at hand movements. The pattern of similarities and differences in the two groups of children suggests that the problems seen in children with DCD are not simply due to a developmental delay.
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Familiar and unfamiliar face recognition in children with autism

R. WILSON, O. PASCALIS & M. BLADES, University of Sheffield.

Recognition of faces is essential for effective socialisation, however children with autistic spectrum disorders (ASD) have been shown to display deficits in face recognition. This presentation considers the pattern of familiar and unfamiliar face recognition displayed by children with ASD. Children with ASD were tested on forced-choice familiar face (school staff) and unfamiliar face (video familiarisation) recognition tasks with three conditions: full faces, inner face features and outer face features. Children with ASD displayed the same pattern as controls of familiar and unfamiliar face feature reliance. Faces were recognised better using inner features for familiar faces and outer features for unfamiliar faces. Although ASD accuracy scores were lower than the TD groups, this was not thought to be autism specific as the deficit was also present in a VMA matched group for familiar face recognition. We concluded that children with autism have more typical patterns of familiar face recognition than previous researchers have suggested.
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A comparison of parenting of developmentally disabled and typically developing children

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The aim of this study was to compare parenting, stress and problematic child behaviour in developmentally disabled (DD) and typically developing (TD) children across two child age groups. 115 parents (55 parents of DD children, 60 parents of TD children) participated in the study. Fifty-seven children were three-to five-years-old and 58 were nine- to 11-years-old. Measures used were Rickel and Biasatti's (1982) modification of Block's (1981) Child Rearing Practices Report, and the Parenting Stress Index Short Form (Abidin, 1995). Results showed that parents of DD children experienced more stress and found their children's behaviour more problematic than did the parents of TD children, for both younger and older age groups. No differences in parenting practices were found for the two parent groups but use of authoritative parenting style with age of child was different across parent groups. Possible reasons for this are explored.
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Barriers to inclusive play for disabled children in the primary school playground

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Six schools in the north of England were involved in research (funded by the Joseph Rowntree Foundation, November 2002 – May 2004) that investigated play and activities within the primary school playground with both disabled and non-disabled children. Three types of barriers were identified as being in existence to inclusive play: *organisational*, *social* and *physical*. The most wide ranging barrier was that of organisational issues to do with both the school routine and the routine of individual disabled children. For some disabled children their individual routine, often developed over a period of time with no consultation with the child, resulted in a child having only five minutes outside at playtime compared to 15 minutes for non-disabled children. In other situations children with impairments completely missed out on playtime because of physiotherapy sessions. The social barrier to inclusion for the disabled children tended to be due to adult behaviour. Some staff were excellent at allowing children to take risk and develop confidence while others, perhaps through lack of experience or training, prevented children from developing independence. The physical issues related to aspects of playground design and management such as changes in materials, edges, kerbs and access to different external areas such as grass of playing fields.
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'Oh great!' The universality of sarcasm understanding – both British and Japanese children understand sarcasm at three years of age

M. YASUI & C. LEWIS, Lancaster University.

The domain of mental state understanding has been questioned recently for its over-reliance upon the false belief task. Yasui and Lewis (BPS Developmental Section, 2003) presented some evidence using a paradigm to examine children's understanding of sarcasm. This suggests that children were far more competent social agents than the contemporary theories allow. This paper reports the details of a series of studies with Japanese children to test further the link between sarcasm and social understanding, as Japanese people are less exposed to such speech than, e.g. Americans (Nakamachi *et al.,* 2003). We find that children as young as three in both countries appear to demonstrate an awareness of the difference between what is said and what is intended in sarcastic remarks whilst failing standard false belief tasks. We analyse these findings in terms of the role of culture in the development of sarcasm comprehension, and their implications for traditional accounts of mental state understanding.
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The interpersonal dimension: A potential source of musical creativity for young children?

S. YOUNG, University of Exeter.

This presentation will describe research into the processes of self-initiated improvisation on educational percussion among three- and four-year-olds in nursery settings, taking a specific focus on episodes of paired play, between child and adult, and between two children.
Children's music play was continuously recorded on video-tape during several one-hour visits. The 17 hours of collected data were then transcribed using broad categories. Two episodes of adult-child paired play were selected for further microanalysis using an adapted version of Bakeman and Gottman's time frame method for analysing interactions. Interest then extended to pairs of children playing collaboratively, similarly selecting episodes for comparison and one episode for fine-grained analysis. The study proposes that interactive improvisation mobilises a vocabulary of non-verbal, embodied, narrative forms acquired from experiences of sympathetic parenting in infancy and engendered by the intention to communicate and engage with others.
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Assessing young children's understanding of television advertising using a non-verbal measure

M. ALI & M. BLADES, University of Sheffield.

The American Psychological Association (APA) has argued that children before the age of eight years do not fully understanding the purpose of advertisements. The APA has, therefore, proposed a ban on all television advertising aimed at young children. Marketers have responded to this proposal by arguing that all psychological research into children and advertising is based on interviews and other verbal methods that may have underestimated young children's knowledge of advertisements. We, therefore, designed a non-verbal measure of advertising awareness. Children, aged four to seven years, watched a television advertisement and were shown five models (one of which was a shop) and they were asked to choose where they should go after seeing the advertisement. The children who saw the advertisement were no more likely to go to the shop than children in a control group who did not see any advertisements. We concluded that young children do not understand the relationship between advertising and shopping. This supports the argument of the APA.
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The impact of inhibitory control on the use of eye-gaze to infer desire by children with and without autism

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The interaction between inhibitory control and the ability to infer desire from eye-gaze was investigated in children with autism and typically developing children. Personal, perceptual and semantic saliencies were manipulated using the face reading task developed by Baron-Cohen *et al.* (1995). When there was a conflicting personally or semantically salient cue, both groups used the eyes to infer desire less than when the eyes provided the only cue. Children with autism used the eyes less to infer desire when there was a conflicting perceptually salient cue. Overall fewer children with autism used the eyes to infer desire. These results indicate that typically developing children use a range of cues to infer desire. This is discussed in terms of the development of inhibitory control on social representations and the significance of the variation in performance of both groups especially the children with autism.
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Development of face processing in children with autism and Down's syndrome

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The configural and featural face recognition has been a topic of heated dated for a number of years. We investigated the development of configural and featural development in children with developmental disorders such as autism and Down's syndrome (DS). The main research question is whether face recognition develops normally or atypically in children with autism and Down's syndrome. We presented children with a number of face recognition tasks and standardised tests. We use a new developmental trajectory approach to analyse current results (Karmiloff-Smith, Thomas, Annaz *et al.,* 2004). The results revealed that children with autism rely on featural information to recognise faces, and development of configural recognition is atypical. Whereas children with DS demonstrated to develop configural processing, however, they are delayed compared to control group. We conclude here that the importance of building developmental trajectories and choosing age appropriate tasks are important for revealing strategies used in development of face processing.
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Live music is associated with and contributes to deeper sleep and reduced heart rate in pre-term infants during their stay in the Neonatal Intensive Care Unit (NICU)

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Music stimulation has been shown to have a positive effect upon pre-term infants during their hospitalisation in the neonatal intensive care unit. **Objectives:** To assess the effect of live, soothing, constant, stable and specially composed wordless lullaby music sung by a female voice with an Eastern frame drum and one accompanying instrument upon heart and respiratory rate, oxygen saturation and behavioural state (Als's behavioural assessment scale) of stable pre-term infants. **Methods:** In a study designed of within-subjects repeated-measures, 15 stable infants received live music, recorded music and no intervention over a period of three consecutive days. Inclusion criteria were: weight>1500 grams, ability to hear, as tested by acoustic emission test, no active illness and no documentation of hyper responsiveness to music. Study measurements were recorded before, during, and after the intervention, 30 minutes for each interval. All interventions were carried out in the recommended volume range (55–75dB). **Results:** Live music was associated with a significantly deeper sleep and reduced heart rate during the 30 minutes interval after the intervention itself [Table]. Both music interventions had no significantly effect during exposure. **Conclusion:** This live music compared to recorded music and no music interventions, is associated with a deeper sleep and reduced heart rate during the 30 minutes interval following intervention.

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Levels of symbolic play and relating communicative development in a deaf child: A longitudinal study

S. BALDI, M. NUNZI & D. TUFARELLI, Via della Pisana, Italy.

In the recent literature symbolic play has received a lot of attention. Many authors claim that symbolic game is an early demonstration of young children's developing mental representation, symbolic capacity and functioning. Moreover, several studies have investigated the link between development of the symbolic play and language, as these two domains reflect the child's ability to act on and with the symbols. The aim of our study was to observe the correspondences between the development of symbolic play and communicative development in a premature deaf child. We have observed the correspondences between symbolic play and non-verbal communicative abilities in a deaf child not exposed to sign language rather than to verify the age of appearance of the abilities of symbolic communicative. If a child's language development is delayed, similar lags are seen in symbolic play and imitation.

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Investigating the U-shaped developmental curve in the understanding of proportions in the context of sweetness

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The aim of this research was to investigate children's understanding of the concept of sweetness, which involves reasoning about the proportional relations between amount of sugar and water. The development of this concept has been described as following a U-shaped growth curve. However, the youngest children in previous studies could have been performing at chance level and may not have understood the concept any better than the older children. This study analysed the issue of chance level performance in a more detailed investigation of children's understanding of sweetness. Children (n=145, age range four to nine years) made judgements about the sweetness of different types of drinks when drinks were either mixed or sampled. Performance improved with age on mixing items but on sampling items the youngest and oldest groups performed at chance. This casts doubt on the original claims regarding a U-shaped growth curve. It is argued that the important question is to understand why children make significant gains in some aspects of the sweetness concept but very little in others.

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Reading comprehension deficits in children with ADHD symptoms

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The relative contribution of word reading, reading comprehension, and listening comprehension was examined in children with high hyperactivity and/or high inattentiveness. Inferencing ability was assessed for a series of short stories after reading aloud, reading silently and listening to them. The hyperactive and the combined groups showed generalised text comprehension difficulties. However, the inattentive group was only impaired when reading silently. When stories were read out loud or listened to, they obtained similar performance to controls. These data suggest that the reading comprehension deficits of children with ADHD symptoms do not simply arise because of their poor attention skills or poor word reading ability. These results have important implications for our understanding of the relation between the symptoms of ADHD and different components of reading.

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Discrepancies in IQ profiles: Implications in term of Speed of Information Processing

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A growing body of research has accumulated evidences of a relationship between intelligence, as measured by psychometric tests (IQ), and Speed of Information Processing, assessed through Elementary Cognitive Tasks (Reaction times). Speed of Information Processing has an important role during development, despite this, it is rarely investigated in the evaluation of specific learning profiles.

The present study was aimed to investigate the characteristics of SIP in the cognitive profile of children who show a significant difference in their IQ profiles (verbal vs performance). All the 34 subjects were tested individually on a battery of five ECTs, specifically: Simple Reaction Time (SRT), Choice Reaction Time (CRT), Multiple Choice Reaction Time (MCRT), Visual Screening with Numbers (VSN) and Visual Screening with Symbols (VSS).

Results showed significant differences between groups in the VSN and VSS tasks, bringing evidence of specific impairments of SIP in different IQ profiles.

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Visual recognition memory in three-month-olds: A temporal account of the null preference?

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In visual attention paradigms, recognition memory is traditionally inferred by a preference for looking at novel stimuli compared to previously experienced stimuli. In some studies, however, a familiarity preference has been observed. A four-phase model of retention (Bahrick & Pickens, 1995) predicts that the expression of visual recognition memory changes from a novelty to a familiarity preference as a function of delay. The purpose of this study was: (1) to determine whether this model could be extended from the complex moving visual stimuli used in Bahrick *et al.* (1997) to traditional visual attention stimuli; and (2) to examine the proposed temporal transition point between novelty and familiarity preferences. Three-month-olds were tested with photographs of faces in a delayed visual paired-comparison task. Consistent with the four-phase model, infants exhibited a null preference after a one week delay, suggesting that stimulus type may not significantly contribute to the expression of recognition memory.

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Constructing a Theory of Mind: Reflections of people with autism

C. BROWNLOW & L. O'DELL, University of Luton.

Theory of Mind is widely considered to be a key theory purporting to explain autism. The theory proposes that people with autism are impaired in their ability to appreciate their own and other peoples mental states (Baron-Cohen, 1998), and consequently can not understand that other people may have beliefs that differ from their own. This poster reflects on this hypothesis and draws on discussions, comments and interactions by people with autism through the use of the creation of personal web pages. An examination of such web pages constructs an individual with autism who vocalises challenges to many professionally defined characteristics of autism in their ability to convey thoughts fluently via an online medium and displays a sophisticated ability of self-reflection and insight. In particular, discussions in this poster will prioritise reflections on the theory of mind hypothesis and the methods employed by 'experts' to test such an assertion.

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Parental involvement in the development of self–awareness in early infancy

L. CAROLAN, M.S. ZEEDYK & V. REDDY, University of Dundee.

Parental contributions to infant self-awareness process are rarely considered, either theoretically or empirically. Here, we seek to investigate the nature of parental behaviours and infant behavioural responses during mirror play over time. Parents' comments to the baby during such play (i.e. 'who is that little boy in the mirror?') and encouragement to act (i.e. 'let's wave at him') reveal the triadic nature of even early interactions. Data from 24 three-month-old infants showed that less than 20 per cent of mothers commented on their own reflection in the mirror, this is compared to the 70 per cent of pilot mothers who encouraged their infants to give their attention to their own mirror images ('Look at him.'), with about 50 per cent supplying suggestions for additional social actions ('wave at him.'). Such findings provide insights into the way in which the development of self is shaped by contextual factors, raising intriguing questions about the stability of such differences.

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Investigating the relationship between patterns of emotional regulation using physiological responses and 2D:4D digit ratio as predictors of behaviour

G. CASE, Northumbria University.

The aim of this research is to gain greater understanding of the relationship between patterns of emotional regulation and socio-emotional adjustment in children aged three to four years. Problem children appear to have more difficulty in identifying and understanding their emotions. A method has been developed to assess emotional arousal which combines three independent physiological measures, heart rate, electro dermal activity and digit ratio. These are being used with an ecologically valid experimental procedure in which children experience emotional arousal within the context of real life situations.

Preliminary findings suggest that a pattern is emerging of individual differences in emotional competence. Socially competent children are better able to regulate their emotional responses, follow instructions and delay gratification. Girls are more compliant than boys and the 2D:4D digit ratio seems to be an accurate predictor of possible problem behaviour. These findings are based on a small pilot study (n=25), modification and improvements were made to the methodology and it is now being conducted on a larger scale.

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Time concepts and temporal retrieval strategies in primary school children

C. COLEMAN & M. BLADES, University of Sheffield.

Historically children have been viewed as poor eyewitnesses, believed to have markedly inferior

memory and recall ability. Recent research has shown that children are capable of giving accurate accounts of witnessed events, although these accounts may not contain the level of detail present in the reports of adults and older children. A notable concern in estimating the reliability of children's testimony is the lack of time related detail in testimony. This study included 100 children aged four to 10 years of age, who were shown four events of different duration. The children were interviewed after a delay period (either one hour or two weeks) and asked to judge duration, temporal order and recency. Recent real life events in school were also explored, again questioning about judgements of duration, temporal order and recency. Although results have not yet been compiled, an overview of the data suggests that children's ability to judge duration, temporal order and duration are developmentally variant.

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Can one written word mean many things? Pre-readers' assumptions about the stability of written words' meanings

J.S. COLLINS & E.J. ROBINSON, Keele University.

Results of three investigations confirm that pre-readers aged three to five years judge as if the meaning of a written word changes when it moves from a matching to a non-matching toy, for example, when the word 'dog' moves from a dog to a bird. We argue these judgements are not indicative of a fundamental misconception of the way written words signify meaning. Children were more likely to treat written words' meanings as stable when a word's placement by a non-matching toy preceded rather than followed its placement by a matching toy, and when two words were moved each from a matching to a non-matching toy. To change what a word said, children selected a new physical form in preference to changing the physical placement of the original form. Pre-readers assume a one-to-one mapping between written words and meanings as with other forms of representation, but can abandon this assumption under certain conditions.

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Social-perceptual and social-cognitive components of theory of mind: How are they related?

G.J. COULL & S. LEEKAM, University of Durham.

The aim of this study was to investigate the inter-relationship between the social-perceptual and social-cognitive components of theory of mind. Previous research (Tager-Flusberg & Sullivan, 2000) has suggested that these domains are dissociable, however there has been no direct test of this. The relationship between the social-perceptual and social-cognitive components of theory of mind was investigated using a new false belief methodology that incorporated both first and second-order mental state understanding. Also, a social-perceptual test was used which assesses a person's understanding of mental states based on their perception of expressions in people's eyes. Typically developing children and young adults with Asperger's syndrome (AS) were tested. Results indicated that social-perceptual and social-cognitive processing was related for individuals with AS but not for typically developing children. Analyses revealed that for AS individuals, both social-perceptual capacity and non-verbal IQ influence social-cognitive performance. Findings also suggest that the composite false belief methodology provides a valid assessment of first and second-order mental state understanding.

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Children's tendency to invent answers during interviews, one day and one month after an event

J. DON, M. BLADES & A. WATERMAN, University of Sheffield.

Previous researchers have shown that if children are asked unanswerable questions they often invent an answer. Children's willingness to speculate in response to unanswerable questions has implications for questioning children in forensic interviews. However, previous researchers have always questioned children immediately after an event. But in forensic contexts children might not be interviewed until long after the events they have experienced. We questioned 238 children aged five, six and seven years of age about a story. Half the children in each age group were questioned one day, and half were questioned one month after hearing the story. Children were just as likely to invent responses to unanswerable questions after the four weeks delay. The implications for interviewing children are discussed.

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Developmental differences in social problem solving ability

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Successful navigation of the social environment requires both effective problem solving and inhibition of contextually inappropriate behaviour. Adolescents, by virtue of a typical development, should be more adept at problem solving and should possess more refined problem solving and inhibition capacities than younger children. Our experiment investigated the link between vocabulary capacity, inhibitory capacity, and social problem solving skills (MEPS) in both children and adolescents. As predicted, adolescents demonstrated greater proficiency in vocabulary skills and greater speed and accuracy in cognitive inhibition (Stroop task) than their younger counterparts. Cognitive inhibitory capacity and the ability to problem solve in hypothetical real life situations were correlated across both age groups. However, in social problem solving, adolescents were only significantly different from children in two of the four stories (situations of conflict with teachers and parents). One possible explanation is that these problems are the ones where adolescents were more likely to have greater experience. The ability to solve social problems may be connected to the retrieval of specific memories via the acquisition of greater experience.

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Language impairment and the development of self understanding

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The Damon and Hart (1988) self understanding interview was used to explore the developing self concepts of a group of children (n=39) with a range of language and communication difficulties. Included in the group were children with diagnoses of autism, Asperger's syndrome, semantic pragmatic impairment and children with receptive and expressive disorders. The children's ages ranged from 11 to 16 years. Comparisons of several aspects of the development of self-understanding were made between the children with LI and normally developing children matched for chronological and language age. The levels of self understanding of both groups were related to several measures of language development and social cognition.

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Children's knowledge and understanding of the causes and consequences of mental illness: A naïve theory approach

C. FOX, E. BUCHANAN-BARROW & M. BARRETT, University of Warwick.

The present study adopted a naïve theory approach to investigate children's knowledge and understanding of the causes and consequences of mental and physical illness. The study, therefore, examined ontological distinctions, coherence and causal-explanatory understanding. One-hundred-and-twenty-two children, aged six to 11 years, took part in the study. Children's understanding was investigated utilising vignettes describing three mental (depression, anorexia nervosa, dementia) and three physical (chicken pox, common cold, broken arm) illnesses and a card-sorting task. The study found no age differences in children's thinking about physical illness. However, the oldest children differentiated mental illness as a separate illness domain. They demonstrated an increase in coherence and understanding of the causes and consequences of mental illness with age. Furthermore, the oldest children demonstrated a theory-like understanding of mental illness. It appears that the theory approach to cognitive development provides a useful framework for the investigation of the development of children's representations of mental as well as physical illness.

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Children's understanding of overweight and obesity

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The prevalence of overweight and obesity amongst children is increasing worldwide and evidence suggests that a critical period for the development of obesity is between five and seven years of age and adolescence (Dietz, 1993). Previous literature has shown that children at different developmental stages may have very different understanding of biological phenomena (Kalish, 1988) and interventions should consequently be tailored to the developmental stage of each child. The present study is a preliminary investigation of primary school-age children's understanding of the interplay of factors contributing to overweight and obesity. Semi-structured interviews based around illustrated workbooks were conducted with 30 participants ranging from five to 12 years were the basis for exploring children's understanding of this domain. The results will be discussed with reference to current research on children's naïve understanding of biology, as well as Piagetian stages of cognitive development.

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Theory of Mind modularity, autism and perceptual ambiguity

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Theory of Mind is the ability to attribute independent mental states to another. Theoretically, ToM involves selective processing of one of a set of intentional interpretations derived from social data by a ToM mechanism. Autism reflects dissociable damage to this ToMM module; the default 'direct belief' interpretation is always selected over any indirect 'world knowledge' construal, hence ToM abilities are constrained (Scholl & Leslie, 2001).

However, perceptual irregularities in autism are well-documented (Plaisted, Saksida, Alcantara & Weisblatt, 2003; Mottron, Burack, Stauder & Robaey, 1999). This study suggests that atypical perception may account for ToM difficulties, in which case difficulties in generating multiple interpretations from ambiguous non-social stimuli are predicted in association with failure of ToM tasks.

This hypothesis is investigated here using ambiguous figures (AFs), or visual stimuli from which two direct interpretations are obtainable. Conclusions drawn from prior research (Ropar, Mitchell & Ackroyd, 2003) into the apparent ability of children with autism to 'reverse' AFs (i.e. switch between interpretations) are questionable, as their procedure relied heavily on researcher facilitation. The study introduces a paradigm that minimises researcher involvement, and maximises spontaneous reversal probability. Findings will address the role of perceptual processing in Theory of Mind deficits in autism.

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The role of learning goals in children's collaborative interactions

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The benefits of learning through peer collaboration have been widely documented. However, while some children are able to engage very effectively in high levels of collaborative discussion others consistently fail to work together productively. It is important to address the individual differences children bring to the collaborative group which may influence they way in which they interact with peers in this context. My research explores the effect of different motivational patterns on collaborative interactions between pairs of primary school children. Results indicate that learning goal orientation is related to the use of particular types of language within a collaborative learning environment and that mastery orientated

individuals may be advantaged in their ability to engage in certain forms of discussion. This work has implications for the way in which tasks are presented to children and also offers suggestions for the appropriate scaffolding of interactions so as to allow for the best possible learning outcomes.
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Children's understanding of commission and omission

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This study examines the relationship between understanding another's mental state and moral judgment based on acts of commission and omission. Four tasks were composed of two *levels of mental states* (first-order and second-order) x two *action types* (commission and omission). Participants (n=142) were seven, nine and 11-year-olds. Two questions asked about the protagonist's mental state and moral judgment. The results showed that seven-year-olds passed only the first-order tasks for both questions, but nine- and 11-year-olds passed second-order tasks. *Action types* did not differ under almost all conditions. Moreover, questions were correlated in all tasks. Therefore, we concluded the following: First, if we can understand another's mental state, we can judge whether his/her action is bad. Second, seven-year-olds cannot correctly judge second-order mental states. Third, seven-year-olds can already recognise that acts of commission and omission are on similar levels.
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Repetitive behaviours and imagination in typical development and autism

E. HONEY, S. LEEKAM & M. TURNER, University of Durham.

It is claimed that repetitive behaviours and imagination are associated in all children (Wing & Gould, 1979). ICD-10 and DSM-IV diagnostic criteria for autism however do not reflect this. A parental-report questionnaire was developed to examine the development of repetitive behaviours and imagination and associations between these phenomena in typical children and children with autism. Children with autism consistently demonstrated more repetitive behaviours than typical children; furthermore a decrease in the frequency of repetitive behaviours with age occurred in both clinical groups. Imaginative activities whilst evident in both clinical groups were more varied, frequent and flexible in typical children. In all groups there was an association between repetitive behaviours and imaginative activities, with repetitive behaviours decreasing as imaginative activities increased; confirming claims by Wing and Gould (1979). In light of these findings it is proposed that diagnostic criteria should be revised to reflect the relationship between repetitive behaviours and imagination.
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The impact of cultural deviation on the educational progress of Tehran schoolgirls

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The theme is derived from 120 questionnaires and interviews of Tehran schoolgirls. Deviation is presumed as inattention to dominant educational subcultures. Seventy per cent of whole contributors in the research were deviators and had particular expectations from their teachers, school personnel and educational system but only 12 per cent of their expectations were accepted. Job oriented approach of educational personnel were the persistence intention of deviation. Forty per cent of deviators were unsuccessful in their education so that 10 per cent of them were dismissed of schools and had somatic and psychosomatic problems. Twenty per cent were only successful in general courses and physical activities while nine per cent were excellent in their education. Twenty per cent were indifferent about educational progress. Nine per cent refrained from participating in the research and two percent rejected the whole idea. The result is that objective deviation is educational progress factor and imitative deviation is problematic.
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Contextual encoding in six- and nine-month-old infants

E.J.H. JONES, O. PASCALIS & J.S. HERBERT, University of Sheffield.

Human infants begin to generalise across contexts in deferred imitation tasks before they generalise across contexts in the visual paired comparison task (VPC). Does this age difference across tasks reflect the type of contextual manipulation typically used in each paradigm, or the type of memory each task assesses? In Experiment 1, six- and nine-month-olds were tested in a deferred imitation task with changes in the proximal context (background colour, or experimenter) between the demonstration and test. Nine-month-olds generalised across both changes, while six-month-olds generalised across the background colour change only. In Experiment 2, recognition memory after a three-minute delay was abolished at both six- and nine-months of age by a distal context change (the testing room) between familiarisation and test. Taken together, these findings suggest enhanced sensitivity to contextual change in the VPC, a passive learning and recognition task, compared to deferred imitation, a more active learning and recall task.
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What can measures of verbal imprecision tell us about the relationship between speech and gesture?

E. KIRK & K. PINE, University of Hertfordshire.

Researchers looking at the functional role of gestures generally align themselves with one of two positions. Some claim that gesture facilitates access to the mental lexicon whilst others argue that gesture helps the speaker to package information into units suitable for verbalisation. These are generally referred to as the Lexical Retrieval Hypothesis and the Information Packaging Hypothesis (Alibali *et al.*, 2000). The speech that gesture accompanies is not always fluent. This study quantified dysfluent speech into individual measures of verbal imprecision and is the first to explore verbal imprecision as a means of elucidating the role of gesture in speech. An analysis of the production of gesture and verbal imprecision by children as they perform the balance-beam task found support for the Information Packaging Hypothesis. Verbal imprecision measures were established to be dichotomous, with two distinct categories, one of which is clearly associated with information packaging and consistently produced in conjunction with gesture at times of conceptual change or difficulty.
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Constructing meaning for decimal numbers: The transition to euro

E. KORNILAKI & G. CHLOUVERAKIS, University of Crete, Greece.

This study examines children's knowledge of the currency of euro that was first introduced in January 2002. It was the first time children had had to use a currency with a decimal number structure. Sixty-one children aged seven, eight and nine took part in the study. They were first examined in January 2002, soon after the introduction of the new currency and then four months later. The children were asked to write and read the prices of goods, to estimate in the new currency the value of goods they frequently buy, to add and subtract prices, to exchange euros into drachmas (the old currency) and reverse, and to use the new coins to pay small amounts. The findings suggest that the children had a fastly developing understanding of the new currency. However, this knowledge was not based on a genuine understanding of the structure of decimal numbers, but on the over-generalisation of the prior knowledge of whole numbers in the new domain.
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The effect of question repetition within interviews on children's eyewitness testimony

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A child's ability to provide accurate and complete eyewitness testimony is essential, particularly in judicial contexts. Most researchers have focused on the effect of question format and repeated interviews. This study investigates the influence of question format and repetition of questions within interviews on children's responses. A total of 136 children in three age groups (five, seven and nine) watched a presentation on dog care and were questioned about it individually one week later. In the interview answerable, unanswerable and ambiguous questions in both open-ended and closed formats were repeated in random order three times. As predicted open-ended questions elicited the highest level of accuracy, with the older children being the most accurate. Accuracy in all formats diminished slightly with repetition. The levels of change in response from the initial to subsequent responses were higher than expected and were highest in the open-ended question format. Patterns of response changes were inconsistent across age groups. The results are discussed in the context of child eyewitness testimony.
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The continuity between normative and pathological rituals: Fear, worry and compulsive-like behaviour in childhood

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Obsessive-compulsive disorder (OCD) is an anxiety disorder characterised by obsessional worries and the display of ritualistic actions (Rapoport & Inoff-Germain, 2000). OCD is increasingly recognised in children, yet little is known about its development or the risk factors for it. This study was designed to investigate how fears and worries may be differentially related to ritualistic behaviour at different stages in childhood, and how the general intensity of these phenomena may alter over development. Results indicated developmental differences in that fear intensity was significantly higher in younger children (aged six to seven years). However, the experience of worry and rituals was equivalent across age groups. Ritualistic behaviour was associated with anxiety phenomena regardless of age. Furthermore, this association strengthened progressively with development. These findings are discussed in terms of the possible continuities between normative and pathologic rituals, fears and worries.
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Innate preference of low-frequency, rhythmic sea bird sounds over high-frequency, melodic garden bird sounds in infants in the first year of life

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The study investigated infant and adult perception of bird sounds. Work is still in progress at the time of submission of this Abstract. Two types of bird sounds were tested, low-frequency, rhythmic sea bird and high-frequency, melodic garden bird sounds using the head-turn preference developed by Kemler-Nelson, Juszyk and Friederici. A pilot study in Scotland showed that infants preferred sea over garden bird sounds, while adults preferred garden over sea bird sounds. Three age groups were tested: four to five months, six to eight months and 10 to 12-months-old infants. Data were collected on the continent in Leipzig, far away from the sea, where infants had no opportunity to perceive sounds of sea birds in the real world. Preliminary data analysis of the infant data showed that also continental infants preferred sea birds sounds. Further infant and adult testing is planned in the Londonmet lab, and more results will be available at the conference.
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Mental health consequences of bullying in children with Special Educational Needs (SEN)

B. LÓPEZ, I. RIVERS, N. NORET, H. MACRAE & A. RICHARDS, York St. John College.

This study investigated the mental health consequences of bullying in children with special needs who attended special needs schools or mainstream schools. The study comprised of a sample of 135 children with special educational needs, of which 80 children attended SEN schools, 32 attended special classes in a mainstream school and 23 attended a mainstream school but did not disclose their disability. A questionnaire about several aspects of school life and the Brief Symptoms Inventory (Derogatis, 1975) were administered to evaluate the extent to which children experienced bullying and the potential negative consequences on mental health. The results revealed that children with SEN experienced bullying twice as much as children without SEN. These children also experienced significantly more mental health difficulties. Children with SEN attending mainstream schools, however, were not more likely to experience bullying or mental health difficulties than children without special needs which suggests that integration in mainstream schools have a beneficial effect for the children.
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The effects of differing family structures on the well-being of young people

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Objectives: To asses whether there is any correlation between family structure and prevalence of cigarette, alcohol and drug use and mental health among a group of 12- to 16-year-old adolescents.
Method: 1832 secondary school children between the ages of 12 and 16 (mean age 13.6 years), as part of a larger survey, were questioned about their drug, alcohol and cigarette use. They were also administered the Brief Symptom Inventory (BSI) (Derogatis, 1975) to test for any mental health issues. The children came from; two parent, single father, single mother families, or from backgrounds where neither parent was present.
Results: It was found that children from single father families were most likely to experiment with illegal drugs, and cigarettes, and also produced the highest scores on the BSI, signifying the poorest mental health. Children from single mother families were found to be the most likely to experiment with alcohol.
Conclusions: Both children and parents/carers from single parent and non-parent families may require extra support regarding their mental well being and drug/alcohol education. The idea that children are less at risk from problem behaviours such as these if they live with their same sex parent was not borne out in this study.
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Can infants really keep time?

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Although time perception has been demonstrated in animals, adults and children there is only one study to date which investigates infants' time-keeping abilities. Colombo and Richman (2002) used heart rate measures to perceive that four-month-old infants can estimate time accurately especially when engaged in the sustained attention phase of information processing (Richards & Casey, 1992). Heart rate measures have some limitations one of which is the slow rate of stimulus presentation to accommodate the detection of heart rate changes. This results in very few trials being conducted and only one variable being tested.
To overcome these limitations the present study utilises another measure of attention in pre-verbal infants, that of eye movements. An eye tracker is used to give precise registration of eye movements allowing a more detailed examination of the scanning patterns of infants, and thereby enabling the authors to investigate not only that infants have noticed a change in the environment (eliciting a decrease in heart rate (see Richards &

Casey, 1992) but exactly what and where that change in the environment occurred that focused their attention.
The present study gives further support to the notion that four-month-old infants can make accurate time estimations but that this ability is mediated by the attention. By manipulating the speed of stimulus presentation the study will show that accuracy of time-keeping is influenced by the attentional resources allocated to it. This finding gives support to the notion of an attentional gate in the SET model of time perception.
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Pre-school children's understanding of partial occlusions

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This study explores a discrepancy in the literature regarding pre-school children's percept diagnosis abilities. Flavell et al. (1978) found that three-year-old children had extreme difficulty in judging the visibility of a partially occluded figure when sections of the figure were occluded from an observer using a handheld screen. In contrast Bridges and Rowles (1985) found that three-year-olds could perform diagnosis tasks successfully when the figures' head was visible through a hole cut into a screen. Experiment 1 aimed to explore this discrepancy by directly comparing performance on the tasks used in the previous studies. Performance was found to be equally good on both types of task. In addition, children were found to perform well on trials where the figures' head was in view but poorly when the figures' head was covered. Experiment 2 replicated these results when the figure was positioned upside down, revealing the face at the bottom of the screen.
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TV alcohol advertising and children's verbal response: Do they say what they mean?

A.S. NASH, K.J. PINE & D.J. MESSER, University of Hertfordshire.

Watching commercial television in the evening regularly exposes children under 10-years-old to alcohol advertising. However, very few studies have explored the appeal of such advertising to them. Interviews undertaken with children aged 10- to 12-years-old have frequently led to suggestions of age-related differences, with 12-year-old children finding alcohol advertisements more attractive than 10-year-olds and this has been attributed to the saliency of the product increasing with age. Little attention has been paid to current developmental theory which highlights representational differences between verbal and non-verbal knowledge. This interview study, with 17 children aged seven to nine-years-old, considers the theoretical implications underlying children's verbal responses, particularly in terms of age-related and category-related differences, and cognitive variability. A comparison is made with results from a non-verbal study (n=180). The applied results together with the theoretical and methodological issues are discussed and evaluated.
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A comparison of two vocabulary teaching methods

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Twenty-four children (aged seven to eight years) with poor language skills participated in a study in which they were taught new words. Half the children were taught new vocabulary items using definitions while the other half were taught a strategy for deriving meanings from written context. There were three main findings. First, although both groups had improved equally in vocabulary knowledge immediately after teaching after a three-month interval the context group showed significantly better expressive knowledge. Second, the context group demonstrated significantly better understanding of a text containing some of the taught words although there was no significant difference between the two groups on a standardised measure of reading comprehension. Finally, the context group was significantly better able to derive meanings from

written context both immediately after teaching and three months later, suggesting that they have acquired the strategy and can use it independently. Based on these findings the context method is recommended for use in schools with children who require extra help developing vocabulary knowledge and comprehension skills, it is more effective and less time consuming and costly than teaching definitions and it can be successfully used in small groups.
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An investigation on Turkish adolescents and football

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Adolescence is a period of life where many discoveries, search and changes take place. People experience cognitive, social, emotional, physical changes simultaneously and rapidly. In this process extracurricular activities are very important.
In Turkey, football is one of the most influential sports and games that effect people's lives. Considering a large part of Turkey's adolescent population (adolescents constitute one-fifth of the total population) their interest towards football and presence of football in adolescent life have been important. This study attempts to determine the extend and the direction of the presence of football in Turkish adolescents. The hypothesis of the study are so follows: Football is an important experience in adolescents; The importance of football in adolescents' life differ in two cities (Ankara & Aydın) that the research has conducted; The importance of football differ in the lives of adolescents in two sexes.
The research group composed of 350 adolescents living in two cities in Turkey (Ankara and Aydın) between the ages of 10 to 15 years who attend fourth to eighth grades at elementary schooling. Necessary permission has been obtained from the school administration and questionnaires have been administered that have been developed for the purposes of this study. The questionnaire is a 15-item survey. The research is a descriptive study and the data has been analysed by SPSS 10.0. The analysis has been carrying out currently. The findings are presented and discussed in the light of globalisation and local social character and adolescent development of the country.
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Social support in adolescence: Who do young people confide in?

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Objectives: Building on work which has highlighted the importance of social support in adolescence, the aim of this study was to determine how many young people in a sample of 1814 pupils, have no social support, and of those who do have social support, who do young people actually confide in?
Method: This study represents one aspect of a larger cross-sectional survey, conducted within 14 secondary schools in the north Yorkshire region. Pupils completed a self-report survey, questioning them on alcohol and drug use, bullying, current concerns and mental health. Of interest to this study, was the question 'If you were in trouble or concerned about something personal who would you confide in?' The questionnaire then offers a list of possible confidants.
Results: Overall, 7.8 per cent of the sample reported having no-one to talk to, with more boys reporting this than girls; 'friend' was the most commonly reported confidante, particularly among girls. A large percentage of participants also stated being able to talk to a teacher, with more pupils in Special Educational Needs schools reporting this than mainstream pupils
Conclusion: The majority of pupils in the survey had some form of personal support, the interesting results were found in the differences in school type in terms of how many pupils confide in teachers and other school professionals.
Concerns over body image and their impact on mental health among a sample of adolescents
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Concerns over body image and their impact on mental health among a sample of adolescents.

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Objectives: Reflecting on previous research on the relationship between Perceived Body Image Dissatisfaction in adolescence, this study aimed to examine the relationship between concerns over body image and mental health.

Method: A sample of 1814 adolescents aged 12 to 16, from 14 secondary schools in north Yorkshire completed a self-report questionnaire which focused on many aspects of school life, this study highlights one aspect of this study.

Results: There was a strong association between gender and concerns over appearance and body size, with these concerns being more prevalent among girls than boys. These concerns peaked in frequency at age 14 before gradually reducing. Significant differences were found on all scales of the mental health measure, between adolescents concerned about body image and those who were not. A significant association was also found between being concerned over body image and thoughts of being born in the wrong body.

Conclusion: Concerns over body image were found to be prevalent among adolescents, particularly girls, with such concerns peaking at age 14. These concerns were found to have a strong impact on mental health.

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Familiarisation of faces in children (four to six years) and differing sensitivities to selected facial information manipulations

V.L. O'DONNELL, Leeds Metropolitan University & C. O'DONNELL, Trinity & All Saints College, Leeds.

Face processing is a complex visual task. Faces can be processed using a variety of information such as local features or configural/holistic information. Earlier work (O'Donnell & Bruce, 2001) has shown that adults have a preference for the featural and configural information gathered from the eye region of the face, when familiarising a new face. Here we report a paradigm we designed to study what facial information children use to familiarise a novel face. The paradigm was an adaptation of Brace *et al.*'s (2001) picture book task. In our picture book task the children had to complete three stages; the first was to familiarise a face, the second was to verify that familiarisation had taken place and the final stage was a test where they were presented with familiar and unfamiliar faces. In the test phase faces had either internal or external facial feature (configural or featural) manipulations carried out. The children's accuracy and speed of response were recorded. Our study's outcomes are discussed, firstly in terms of providing a paradigm to test facial familiarisation in children, and secondly in terms of the developmental differences in facial manipulation sensitivities and their impact on theories of face processing and recognition in children.

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The effects of medication on children with ADHD, using a computerised test of attention

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The objective of this research study is to investigate the effects of medication on children with Attention Deficit Hyperactivity Disorder (ADHD), in order to understand the true impact of attention drugs on children's performance.

This study used a repeated measures design, collecting data from children's scores on a computerised test of attention. Results were collected from 50 participants aged between six and 18 years, who had been referred for an ADHD assessment. The measure used was a computerised test of attention known as the Integrated Visual and Auditory Continuous Performance Test (IVA CPT) (Sandford, 1993–1999). This test provides attention, hyperactivity and impulsivity scores in the auditory and visual fields. Children were tested using this measure when taking ADHD medication

and when taking no medication. The data was analysed using SPSS, comparing children's scores on and off medication, to determine the effects of such drugs on children's performance. Overall for the two age groups combined, children showed an improvement in their performance on the IVA CPT when on medication. Specifically six- to 11-year-olds appeared to benefit more from medication, compared with 12- to 18-year-olds. The results of this study have provided insight into the effect of medication on children with ADHD. The findings have implications for the age at which children are prescribed ADHD medication. Whilst both age groups improved on medication, the 12- to 18-year-olds did not show significant improvement for the sub-scale auditory processing speed. This implies that this age group may benefit from other types of approaches, to help improve their performance. Clearly there is a need for further research to be carried out on this area of ADHD, to inform clinical practice.

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A child's construction of cultural identity as a mathematics learner: The case study of Monifa

S. O'TOOLE, University of Luton &
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This research sought to understand what life is like for pupils who make the transition between home and school, in multiethnic communities. The particular focus of the study was on how the pupils experienced the relationship between their home and school mathematics learning. Two theoretical points are drawn upon to understand this transition process and they are, social identity and the concept of coupling. When we write about social identity it is acknowledged that identities develop through participation in social practices and [in relation to] our broader social relationships and symbolic realities (Duveen, 2001; Wenger, 1998). Identity is first seen as being constructed externally to the individual in the negotiation of meaning and cultural representations of communities before it becomes internalised (Abreu & Cline, 2003). While the child is experiencing two different contexts of home and school there develops a meaning system that utilises both of these, thereby creating hybrid identities and this is known as coupling (Beach, 1999). This poster focuses on the case study of Monifa, the high achieving daughter of a Black African family who developed hybrid identities as she made the transition between home and school. The exploration of Monifa's identity demonstrated that the identity extended to her by her parents and teacher had a powerful influence on the construction of her self-identity as a mathematics learner.

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Development of an anxious cognitive style: An exploration of the role of parenting

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Parents provide an emotional and cognitive framework for their children, who then use this framework to interact with their world. Certain parenting styles and attitudes could influence the child's cognitive schemes heightening his/her sensitivity to threat and danger. Research using different paradigms has found evidence for an attention and interpretative bias for threat in high trait or clinically anxious children (MacLeod & Vasey, 2001). In addition, the influence of parenting in the development of cognitive biases in childhood anxiety has been outlined by various researchers (e.g. Short *et al.*, 2001). This study explored whether the threat bias observed in childhood anxiety is a function of the emotional relationship a child has with his or her parents. It is hypothesised that biased processing styles will be a mediator between parenting styles, attitudes or feelings towards their child and his/her levels of anxiety.

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The effects of parental scaffolding on children's formation and development of problem-solving strategies

S. PHILIPS & A. TOLMIE, University of Strathclyde.

The objective of this study was to find whether children's formation of strategies within and across tasks was affected by the presence or absence of a parent, and the level of intervention used by the parent. The Balance Scale and Tower of Hanoi tasks were administered on two occasions to 25 children aged seven years. At Time 1, all children undertook the Balance Scale task alone prior to the Tower of Hanoi, and then half of the children worked on the Tower of Hanoi puzzle with a parent, whereas the other children worked on it alone. All children worked alone at Time 2. Results indicated that parental support did affect performance on the Tower of Hanoi task, as it promoted exploration of moves at Time 2, which was not evident in the unsupported children. Furthermore, parental support was found to be beneficial as long as it was non-directive. No differences were found on the Balance Scale task between the two time-points.

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Patterns of attachment and the development of Theory of Mind (ToM) abilities in children of pre-school age

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The aims of our study were:
(a) to investigate the relation between Patterns of Attachment (Klagsbrun & Bowlby, 1976; Attili, 2001), and ToM abilities (Howlin, Baron-Cohen & Hadwin, 1999; Wimmer & Perner, 1983);
(b) to explore the existence of a trend in the development of ToM abilities (Perner, 1999);
(c) to test the effects of a specific ToM training (Howlin *et al.*, 1999).
We tested 10 children of three-years-old, 10 children of four-years-old and 10 children of five-years-old (five males and five females in each group), all attending the same pre-school.
Data show that a Secure Attachment can be predictive of an advantage in the development of ToM abilities (rs=0.491, p<0.01; χ^2=8.816, p<0.05) and underline that as children grow up they improve their ToM abilities (χ^2=15.140, p<0.01). Eventually, the significant difference between pre- and post-test demonstrates the positive effects of our training (Z=–2.032, p<0.05).

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Familial aggregation in Specific Language Impairment

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The familial aggregation of language, literacy and general cognitive deficits was investigated in the first degree relatives of a large cohort (n=93) of adolescents with Specific Language Impairment (SLI). Prevalence rates were estimated from both parental report of difficulties within the family and contemporaneous direct assessment using standardised psychometric measures. The proportion of relatives with any reported language or literacy difficulty was 39.6 per cent compared to 35.9 per cent exhibiting any such difficulty on formal assessment. The results indicated good agreement (of true negatives and true positives) for reading and spelling difficulties between the two types of estimation method. However, less agreement was observed between report and assessment of receptive and expressive language and also general cognitive deficits. The findings indicate that language domain of interest, method of assessment and familial status may impact on prevalence rates obtained. Accurate estimation of aggregation amongst the relatives of those diagnosed with SLI has both clinical and theoretical significance.

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What factors determine the inhibitory demands of a go/no-go task with a novel go response?: Evidence from the cat-mouse task.

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In the literature three go/no-go tasks have been used with young children to study inhibition. In the bear-dragon and box search tasks the go responses seem to require inhibition on nogo trials because these responses are well established or habitual behaviours (imitation and box-opening respectively). In a Luria light's task the go response of pressing a button when a light is illuminated seems to be a novel rather than a habitual behaviour and the evidence that the task requires inhibition is limited. Using a 'cat-mouse' task, we investigated the circumstances under which a go/no-go task with a novel go response has high inhibitory demands. Two studies provided evidence that a frequent go response with relatively rapid trial presentation was necessary to create high inhibitory demands. The implications of these findings are discussed in relation to data already collected with the Luria light's task in particular and inhibitory process more generally.
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Children's and adolescents' understanding of the biological inheritance of traits

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This study is part of a three-year longitudinal project examining the development of children's intuitive inheritance concepts. It reports cross-sectional comparisons on an 'adoption' task. Children from four age cohorts (four, seven, 10 and 14 years; n=180) were told a story in which a child was born to one family and adopted by another. The biological parents were described as having one set of features (e.g. brown eyes) and the adoptive parents as having another (e.g. blue eyes). Participants were asked to judge and offer explanations for which set of parents the child would resemble. Other feature types include personality traits and disabilities. The results showed significant age and feature differences in children's inheritance judgements but no age differences in explanations of inheritance. Overall, the younger children did not differentiate strongly between the adoptive and biological parents in the acquisition of traits. Physical traits and disabilities were attributed to biological inheritance more than personality characteristics. The results are discussed in terms of the onset of biology knowledge and methodological approaches to the investigation of inheritance concepts.
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'Giving voice' to children as participants of the teaching and learning relationship: The influence of the researcher lens

H. STIVAROS, J. TOBBELL & M. HARDMAN, Leeds Metropolitan University.

As a participant of the teaching and learning relationship, the voice of the child is increasingly being sought, particularly in relation to research adopting a narrative approach. Whilst this is laudable, 'giving voice' to children as research participants can be problematic as they are predominantly viewed as the powerless group in the research context. Drawing on excerpts from the ethnographic research of one of the authors, which explores the quotidian learning experiences of year six children; this poster gives prominence to the intricacies of accessing the child's voice. Underpinning such issues are notions of power, which it is argued, stem from the positions adopted by adult researcher and child participant within competing Communities of Practice (CoP). It is proposed that the formation of a new research CoP enables both adult and child to move from the periphery towards full participation; thus rendering the child's voice as central participator, accessible. Nevertheless, the researcher lens has a prominent influence on the child's narrative finally imparted and the poster questions whose voice comprises the research we disseminate.
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The effects of single and dual representations on children's gesture production

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Investigations that focus on children's hand gestures often conclude that gesture production arises as a result of having multiple representations. To date, the predictive validity of this notion has not been tested. In this study, 84 children, aged five to six years were allocated to a condition where they would either be holding a single or a dual representation. The children retold a story narrated to them, with pictures, by the experimenter. In one condition the children heard a false belief story and hence, when retelling, held two representations concurrently. In the other conditions the children retold a version of the story without the false belief component and therefore held single representations. Children were four times more likely to gesture in the false belief condition than in two comparable true belief conditions, supporting the notion that gestures may function to externalise some of the child's cognitive process particularly when multiple representations are present in the cognitive system.
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Repetitive behaviour and social gaze in eight- and 14-month-old infants

R. TODD, S. LEEKAM, M. TURNER, E. MEINS, L. VITTORINI & B. HURST, University of Durham.

Stereotyped repetitive behaviours such as banging, flapping and rocking occur frequently in young infants. These behaviours are thought to have a functional role for the development of the motor system as infants gain increasing control over their physical movements. In this study we investigated whether developmental changes in repetitive behaviours are related to changes in social behaviour – particularly the use of social gaze. Twenty infants were observed in a play session at eight months and at 14 months. Video-taped data was coded using a computer-based digital video analysis system. Results showed a clear interaction between age and behaviour type. As infants gained increasing control over motor behaviours and more flexible gaze behaviour between eight and 14 months, the frequency of their repetitive behaviours reduced while the frequency of social gaze behaviours increased. These results may have implications for the early detection of autism.
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Social judgements from faces in autism

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The judgement of social attributes from faces is likely to draw strongly on social knowledge and understanding and be vital in social interaction. Sixteen adults with Asperger's syndrome (AS) were compared to 24 control adults, while 14 children with Autism Spectrum Disorder (ASD) were compared to 18 controls on a task involving the judgement of the social attributes trustworthiness, attractiveness and social status from faces. Control judgements of age and of price of objects were also recorded. Adults rated attributes on a seven-point scale whilst children responded either 'yes' or 'no' to only the most extreme stimuli. Children with ASD were unimpaired relative to controls on all social judgements whilst the AS adults were impaired only at attractiveness judgements. Surprisingly, the children with ASD were impaired on the price judgements. Individuals with ASDs are, therefore, relatively unimpaired at making non-mentalising social judgements from the way people look from pictures.
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Do bilingual children have more explicit representations of 'word'?

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Previous research investigating differences between bilingual and monolingual children's linguistic skills identified that bilinguals are not different from monolinguals in terms of analysis of linguistic knowledge, but have better skills at Control of selective attention to linguistic forms (Bialystok, 1999). Karmiloff-Smith's (1992) model of Representational Redescription (RR) is a potentially useful model of Bialystok's 'analysis' as it describes how linguistic representations become increasingly analysed and explicit. A group of bilingual, age-matched monolingual and older monolingual were each given three tasks which tap into children's representations of what counts as a 'word'. These tasks differentially access Bialystok's two mechanisms of linguistic processes: analysis and control. The bilinguals were consistently more accurate than age-matched monolinguals on these three tasks illustrating that by using Karmiloff-Smith's (1992) RR model as a model of analysis bilingual children have both more analysed linguistic representations than monolingual children in addition to better skills at linguistic control.
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Face learning in children

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Recent studies have shown that children aged seven years and above recognise familiar faces better by their internal features, whereas they recognise unfamiliar faces better by their external features. The move from relying on external to internal features has only previously been investigated in adults. This study investigated the reliance on face features over time in five- to six-year-olds, seven- to eight-year-olds, 10- to 11-year-olds and adults. Participants were familiarised with six moving faces over a period of three days. Recognition of the faces by their internal and external features was measured at five time points over the three days. Faces were recognised best in full, however, no difference in accuracy was found in recognition using inner and outer features across all three groups. Children showed faster learning than did adults so after three days the 10- to 11-year-old group recognised faces at an adult level on the inner, outer and full features, whilst the seven- to eight-year-old group were only performing at an adult level on the inner feature group.
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Working memory and achievement in mathematics: Which areas of working memory are important for mathematical success?

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A significant body of research suggests a link between working memory (WM) and performance in mathematics. However, much of this research samples mathematical performance in a general way. In this study 16 Year 4 children were given a battery of working memory tests (the WMTB-C, Pickering & Gathercole, 2001) and their scores on Key Stage 2 Maths tests were also obtained. Mathematics scores were grouped separately using national curriculum attainment targets. Children of lower mathematical ability performed significantly worse on a test of static visual memory (visual patterns) and on two measures of central executive (CE) functioning (counting recall and backward digit recall.). The results suggest a possible fractionation of visuo-spatial working memory, with recall of static visual information being particularly important for mathematical tasks. The importance of long-term memory is also emphasised in the light of the domain specific nature of the CE tasks that correlated significantly with mathematical performance. The findings also raise questions about the ability of children to generate and use cognitive strategies and whether explicit teaching of such strategies could have a positive impact on children's mathematical functioning.
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Exploring the experience of living with bulimia nervosa: A qualitative study

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The most recent version of the *Diagnostic Statistical Manual* (DSM–IV), published by the American Psychiatric Association, defines bulimia

as: recurrent episodes of binge eating, along with attempts to compensate for this behaviour, by purging, fasting, or excessive exercise, at least two times weekly. Numerous other diagnoses are associated with bulimia, notably depression, personality disorders, anxiety disorders, self-harm and substance abuse. This suggests that the symptoms and reasons for bulimia will vary between individuals. Because of this level of subjectivity, there is the need to explore this phenomenon using a methodology that enables the participant to tell their own story. The present study, a qualitative case study, is, therefore, using Interpretative Phenomenological Analysis (IPA), Smith, (1995, 2003) to explore the narrative of Claire, who has lived through the experience of bulimia and self-harming behaviour and has indeed overcome the illness. IPA allows the exploration of the participants view of the world to adopt as far as possible an 'insider's perspective' of the phenomenon under study.

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A JELLYfish or a jelly FISH? Children's understanding of intonation in sensible and anomalous word compounds in relation to metalinguistic awareness

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English intonation distinguishes phrasal and compound interpretations of noun phrases (e.g. 'a green house' vs. 'a GREENhouse'). Children comprehend this distinction between seven to 12 years, despite correct production much younger. Such intonational cues are used in jokes to yield anomalous interpretations (e.g. 'jelly fish' = 'fish made of jelly'). We argue that understanding such anomalous interpretations involves a higher level of metalinguistic awareness than for standard compounds, as they require the hearer to use form (intonation pattern) in preference to plausible meaning (familiarity of a known phrase). We hypothesised that performance would, therefore, be related to other measures of metalinguistic awareness and also to comprehension skill more broadly. Forty children of seven to nine years of age chose pictures as interpretations of anomalous and non-anomalous phrases with phrasal or compound intonation. Performance on both types of phrase was predicted by reading comprehension skill but not by other measures of metalinguistic awareness. Children's understanding of intonation in standard phrases conflicted with previous results and we discuss several linguistic and contextual factors that influence children's intonation understanding.

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Postgraduate Occupational Psychology Annual Conference

KEYNOTE SPEAKERS

Challenges to the dominant paradigm in employee selection: GMA testing, multilevel effects, and applicant perspectives

N. ANDERSON, University of Amsterdam.

This paper will consider the future of science and practice in employee selection. As the drivers for change continue to force organisations to adapt and become ever more flexible, HRM policies and procedures need to reflect this more amorphous business environment. This keynote will consider the impact of these environmental drivers in five key challenges to the dominant paradigm in selection. Focusing upon popular techniques such as cognitive ability testing, personality testing, and applicant reactions research, this presentation will explore the range of challenges currently facing selection researchers and practitioners. Particular examples will be drawn from our major european meta-analysis into GMA test validity and the implications for international generalisability of research findings in selection specifically, and IWO psychology more generally. Equally, procedures will be considered from the applicants' perspective and research into candidate decision making integrated into this discursive review and discussion. Illustrative contrasts will be drawn between the British and the Dutch systems of occupational psychology and strengths and weaknesses in both noted in regard to student training, education, continuing professional development, and science-practice relations in both countries. Future trends in both selection practice and research will be posited and the overriding need for science-based practice emphasised as the only viable option of British occupational psychology to remain robust, pragmatic, and relevant to the needs of business.

Exploring the relevance of research to organisational psychology practice

B. KANDOLA, Pearn Kandola.

Diagnosing the recruitment problem in medicine: A prescription for selecting doctors in the future

F. PATTERSON, City University.

Over the past 30 years, organisational psychologists have made a significant impact upon HR systems through advising organisations in best practice selection and assessment methods. This success is partially attributed to the widespread publication of empirical evidence regarding the relative validity of different selection methods. This talk describes a series of research and consulting programmes, over nearly 10 years, to develop new competency-based selection systems for medicine in the UK. Selecting doctors represents a new frontier in the application of organisational psychology as, after medical school, medics are traditionally selected on the basis of educational qualifications and work experience. Here, the new selection systems are also designed to target important doctor competencies such as empathy, communication skills, problem solving, professional integrity, coping with pressure, over and above clinical expertise. The selection methods used in medicine tend to be based on unstructured panel interviews. Historically, the medical profession has been criticised for patronage and a lack of equal opportunities monitoring when selecting and promoting doctors. There have also been recent high-profile media cases where the ongoing assessment of doctor performance has been called into question. Specifically, this talk explores the development and application of research as an example of best practice selection and assessment processes (from job analysis, to validation, to large scale application, through to utility analysis). In particular, the talk will highlight lessons learnt regarding translating research into practice within organisations.

As background, the UK Government has recently re-engineered the entire training and career development pathway for doctors in all specialties. This re-engineering has implications for gateways to progression, which in turn places emphasis on developing robust selection and assessment systems. From a practical perspective, the costs of training doctors are immense. The career pathway for doctors starting at medical school through to Consultant level takes approximately 17 years. In terms of costs, a three-year basic specialty training programme for one General Practitioner is approximately £275k. There are over 3000 training posts in the UK every year (with 14,000 applicants per post) and there are approximately 32,000 GPs now working in practice. Further, General Practice is only one specialty of over 20 in the training pathways for doctors. Given the high financial stakes, and more importantly, the implications of poor selection for patients, targeting the appropriate assessment criteria and using valid screening tools are paramount.

In summary, this talk aims to highlight the unique skills of organisational psychologists in this setting. I show how research can be applied to practice in order to produce positive change and the importance of developing and maintaining our focus on scientific methods is emphasised.

INDIVIDUAL PAPERS

Work characteristics, stress and upper-limb disorders in Malaysian workers

H. ABDULLAH, T. COX & A. GRIFFITHS, University of Nottingham.

Background: This study looks at type of work characteristics as psychosocial factors and it's contribution towards the development of Upper Limb Disorders (ULD's) in Malaysian assembly workers.

Methods: The methodology used in this study was developed from the risk management paradigm for the assessment, reduction and prevention of work-related stress. Discussions were initially held with a Steering Group unit and focus groups to elicit information pertaining to work stress and health in this particular group. Participants in the focus groups were randomly selected on the basis of their department and shift. Repetitive work tasks in the factory environment were evaluated using a check list provided by Health and Safety Executive (UK). A questionnaire was designed, based on the information gathered from the focus groups and distributed to a sample of all assembly workers available at a particular time. Well-being was measured using the General Well-being Questionnaire (GWBQ) and musculoskeletal pain measured using the diagrammatical questionnaire in the form of a mannequin. Medical and sickness absence records were gathered from the factory's occupational health service. Physical characteristics of work environment were assessed by direct observation. The questionnaire was designed in English, translated into Bahasa Malaysia (language use in Malaysia) and validated with back translation. A pilot study was conducted and the questionnaire amended where necessary before distributing it to participants.

Findings: Factor analysis revealed two type of work characteristics: (1) work organisation and environment; and (2) repetitiveness that have significant impact on well-being as well as the development of ULDs of the assembly workers.

Discussions: The findings shows that industries that have environments with the same design and management need to impose some intervention. This is to improve the workers' well-being as well as to reduce the risk of Upper Limb-Disorders.

Building a competency framework for good stress management

E. AHNSBERG, Goldsmiths College, University of London.

Background: Work-related stress has been identified as the main health and safety concern in four out of five UK schools (UK NUT, 2000). Although teacher stress has been associated with a

range of causal factors, including those intrinsic to teaching, individual vulnerability and systematic influences, little is known about the role that head teachers and departmental heads (i.e. managers) play in the causation, alleviating and prevention of teachers' stress.

In response to the escalating problem and cost of work-related stress in the society as a whole, HSE has developed a set of National Management Standards (HSE, 2003). The management standards aim to guide risk assessment and management of work-related stress. As it is reasonable to believe that the responsibility of risk assessment and stress reduction will be placed on head teachers and departmental heads a greater understanding of the relevant skills and abilities to do so effectively is necessary. Head teachers and departmental heads must also have a greater awareness of what stress is and how to mange stress experienced by teachers.

It is also essential to clarify the role head teachers and departmental heads play in the causation, alleviation, prevention and management of teacher stress in schools. Further it is important to explore head teachers' and departmental heads' ability to identify teachers' stress in the first place. The aim of this study is to advance the understanding of the management skills, abilities and behaviours underpinning effective stress management in schools by developing a competency framework specific to effective stress management.

Methods: Approximately 40 teachers will be invited to participate in a 20-minute long interview. The interviews, incorporating the critical incident technique (Flanagan, 1954), will focus on teachers' experience of effective and ineffective management of stress but also on head teachers' ability or inability to identify teacher stress. The data collected will be analysed using content and thematic analyses to capture core behavioural indices and constructs. The construct will be validated by subject matter experts and compared to qualitatively to general management frameworks.

Findings: The anticipated result is a competency framework for effective stress management. The framework elicited from the data will consist of a cluster of stress management-specific competencies distinct from those typically incorporated into general management frameworks for good management. The ability to identify stress in employees is anticipated to be related to attributes associated with transformational leadership style.

Discussion: A competency framework for effective stress management provides a distinct set of competencies specific to the management of stress, enabling us to compare and contrast it to existing management competency models and leadership constructs. A competency framework for management of stress could also provide a review of competencies for managing well-being and would be uncontaminated by perceptions of performance and other organisational drivers. The results are likely to implicate future research and management training and development.

Exploring core job characteristics in the modern workplace: 'A qualitative and quantitative cross-sectional study'

M. AL-ZOUBI & F. ZIJLSTRA, University of Surrey.

Developments in theory of work design have not kept pace with the changes that have occurred in the workplace. A number of criticisms can be raised towards existing job enrichment theories because of the limitation of the existing job characteristics (i.e. lack of job complexity and hygiene variables). The current study is based on previous study findings conducted by the researchers that aimed to explore the desirable job features in today's workplace. Our hypothesis was that we would extract other/additional job features if we talk to people about their jobs, the aspects they like and dislike and as well as the aspects that bring them motivation or satisfaction. Additionally, we thought that by applying qualitative and quantitative methodologies we would achieve deeper analysis and better understanding of employees needs as

well as solving some of the previous models' limitation. Therefore, in the first study we took job design research one step back and 75 participants were interviewed or filled an open questionnaire. Content analysis identified 77 job features that perceived as promoting employees' motivation, satisfaction and well-being. The current study is to validate these qualitative data using quantitative techniques and reducing the number of features to minimum using factor analysis. Our hypothesis was that these features represent broader dimensions and would be clustered into groups by using quantitative techniques. Therefore, the qualitative features were developed into a checklist with a five-point Likert scale ranging from not important to very important. Participants were 424 employees working in different British organisations and different job types (women = 59.4 per cent, men = 40.6 per cent, average age = 34 years). The participants were asked to indicate about how important it was to have a job with the listed features. Data were entered and analysed using SPSS software. Items indicated by participants as 'important' or 'very important' (45 items) were entered into principal component factor analysis (Oblimin oblique) (χ^2=52118.56, df=99, p=0.001; KMO=0.815, p=0.001). The results show a 12 factors solution with a total of 58.73 per cent explained variance. These factors were labelled as following: Intellectually challenging tasks, work-home conflict, supportive management, autonomy, valued recognised member, supportive co-worker climate, decision latitude, task-ability-fit, feedback, healthy physical environment, organisational rewards and home-work conflict.

In conclusion, we argue that these characteristics are not a random selection but rather they represent a line of conceptual and theoretical framework that is supported by organisational behaviour research. The implications of these dimensions and their potential for future modelling were discussed.

A risk assessment of fatigue and health effects on shiftworkers in a UK downstream oil refinery

Y. ARAS, R.L. FINN & P. TOTTERDELL, University of Sheffield

Research has shown that there are undesirable consequences for those working extended shifts and outside of normal daytime hours, particularly during the night or with early morning starts. In the UK alone, around 20–25 per cent of those employed in manufacturing industries are required to work on some form of shift system. Although this may be economically profitable, there is an extensive body of research literature that has identified a wide range of problems that individuals may experience as a result of working shifts. Studies have identified acute disturbances of sleep and chronic impairment of mental and physical health as only a few of the many symptoms associated with shiftwork. These consequences can affect performance, increase the likelihood of mistakes and accidents at work and have a negative effect upon health.

In recent years, there has been an increase of research into shiftwork; however, there appears to be a lack of studies on the health and safety of shiftworkers in downstream oil refineries. This refinery uses a backward rotating shift (2-2-3) shift-system, which may lead to fatigue and stress, and thus may consequently be an important individual and Organisational risk factor. These problems may be elevated during the 'shut-down' (turnaround) period. The shutdown period is a four-week stretch where the compartments of the refinery are closed off and thus many employees are required to work for longer hours and more days.

The main aims of the study are to identify the parts of the shift schedule that are associated with greatest fatigue, identify between-group differences on outcome measures; identify problems of the shift system on sleep, fatigue and health; and, highlight the implications of the findings on employees and the organisation.
Methods:
Design: The chosen Standard Shiftwork Index (SSI) measures will be given to shift workers in a one-off questionnaire. Participants will also be given an Alertness Diary (methodology) Rating which they will need to complete on a daily basis for 14 days.

Participants: 85 shiftworkers at the UK downstream oil refinery. Participants were randomly selected from three work-groups: 'operators working normal shifts', 'operators on extended shifts (shutdown)' & 'contractors'.
Measures: A shortened version of the Standard Shiftwork Index, designed to measure the experiences of problems related to 'Sleep & Fatigue' and 'Health & Well-Being', followed by a 14-day Alertness Diary Rating will be utilised.
Results/Findings: Data will be analysed to determine the following:
● Whether shiftwork influences levels of fatigue and/or health effects of shift workers;
● Whether there are differences in sleep and fatigue at different time points in the work schedules, and the cumulative effects of shifts;
● Whether the sleep/fatigue levels relates to their health.
Results are in progress and will be available to discuss at the conference.
Discussion: This research has both theoretical and practical implications for employees and the organisation, and is an extension of current knowledge into shiftwork.

Would 360 degree feedback be worthwhile for personal development in a French SME?

E.T. BILLYARD-LEAKE, City University.
Background: According to Geake and Gray (2001) the use of 360 degree feedback has been increasingly important and very often successful in recent years despite the little amount of research on how individuals actually feel about it. The present study differs from the latter in that it focuses on an organisation of no more than seven people as opposed to the 115 employees used by Geake and Gray (2001). Additionally, the organisation is French which pinpoints on culture differences that need to be more thoroughly investigated as suggested by Funderburg and Levy (1997).
The main research question, therefore, focuses on whether 360 degree feedback is worthwhile for employees of a French and small-structured organisation and whether it would stimulate their personal development.
Methods: The study will include both quantitative and qualitative elements to ensure the most effectiveness. All six employees and their employer have participated in each stage of the process. In-depth interviews have been conducted which have yielded common themes. These have been used to design a questionnaire that has been distributed to each participant. All completed questionnaires will be put through a factor analysis in order to see whether these common themes coincide. Additionally, Geake and Gray's (2001) tool will be used. This is a semantic differential that looks at sensitive areas such as feelings and emotions. Participants are asked to rate their feelings according to 12 bi-polar adjectives at the beginning of the study thus prior to the interview and at the end of the study thus after the questionnaire will be completed. This additional quantitative analysis will be a repeated measures t-test.
Findings: The interviews yielded a general interest in the 360 degree feedback even though it would not be effective within the studied organisation. This, however, was not explained by the size of the organisation *per se* but rather by its structure. 360 degree feedback was generally considered to be useful when some sort of organisation is already in place which is not the case in this context. On the other hand, a general lack of communication with the employer was noted when concerned with the evaluation of their work and a strong need for a traditional, top-down process was requested. This, they believed, would contribute much more to their personal development within the company than a 360 degree feedback.
Quantitative elements have not yet been analysed, however, it is expected that factor analysis will yield more detailed themes. Furthermore, the feelings expressed throughout the study are expected to be rather similar to those found by Geake and Gray (2001): a general sense of interest and curiosity prior to the interview which would decrease at the end of the study due to less novelty.
Discussion: At the height of the success of 360 degree feedback, there are still some organisations

that are not structured for such a system. In this case, there is no hierarchy amongst the employees and openness is particularly important to them but also to the employer who has made a point of establishing such an atmosphere. Furthermore, the Latin, and rather direct aspect of the French culture as opposed to the more reserved and courteous trait of the Anglo-Saxon culture may also explain some of the results, although this needs much more development.
This is of major relevance to occupational psychology in that it deals with a topic that has become under more and more scrutiny over the past decade and plays an important role in the field of personal development.

Is psychological acceptance in the workplace a function of age?

P. CHAVDA, Goldsmiths College, University of London.
This study aims to look at the prevalence of psychological acceptance in different work-related groups. The main objective is to get a better picture of where acceptance is most likely to be found in an organisation. Acceptance has been described as the willingness to accept thoughts and feelings without letting them affect one's actions and behaviours. Psychological acceptance has been linked to job control (Bond & Bunce, 2003), however, its prevalence in work groups such as specific departments, managers versus employees and location has not been researched. It is hoped that some conclusions can be drawn as to when acceptance peaks in terms of age and work environment. The nature of these findings will have important implications for life span theorists and also career counselling. The independent variable will be age and it is planned that acceptance and its prevalence in work groups will have some relationship with age. Possible relationships that indicate acceptance works as a function of age will link in with life span development theories that will be more focused on specific work environments (e.g. departments). The independent variable will be psychological acceptance and will be operationalised by asking participants to answer the AAQ (Bond). The dependent variables will be age, department, manager and location, these will be operationalised by asking participants to fill in a questionnaire that asks this information. Over 100 UK employees from an international organisation will be selected through quota sampling to participate.

Am I right or are you? The validity of Multi-Source Feedback ratings

J. T-H CHNG, University of Sheffield.
Background: Multi-Source Feedback (MSF) is an increasingly popular approach to managerial development. It involves multiple ratings sources (e.g. self, superior, peers) to obtain an accurate and rounded picture of a person's strengths and weaknesses. The fundamental assumption underlying the use of MSF is that different rating sources offer relatively unique information about an individual's behaviour. However, there is still limited research on its validity and effectiveness. The aim of this study is to examine the validity of multi-source feedback ratings (often competency ratings) in two respects. The first concerns the extent of agreement between different rating sources. It is hypothesised that the agreement between raters is low to moderate at best, and that agreement between 'other' raters (e.g. peers and subordinates) tend to be higher than that between self and 'other' ratings. The second issue concerns the relationship of self-other agreement with work outcomes. Managers who over-estimated their competency ratings are predicted to have poorer performance.
Previous research has used a limited range of 'other' rating sources, and has mostly examined manager's individual outcomes (e.g. competencies, performance). The present study uses a fuller range of rating sources, namely self, superior, peers, subordinates, and customers, as well as both individual and team outcomes.
Method:
Design: The validity of MSF ratings is investigated using regression and correlation analyses.
Participants: Participants were 68 senior managers from a large Borough Council. Aside from self

assessments from the senior managers, ratings were provided by his/her superiors (n=67), peers (n=329), subordinates (n=338) and customers/external colleagues (n=280).

Measures: The MSF instrument comprises 72 items tapping nine managerial competency dimensions. Team performance and team climate data are also obtained from other raters.

Procedure: MSF ratings were collected for developmental purposes only. Participants were able to select their own raters (except for superiors).

Analyses: Profile similarity indices, intra-class correlations (ICCs) and standardised differences were computed to assess congruence between rating sources. Regression analyses will be performed to examine the relationship between self-other agreement and outcome measures.

Findings: Preliminary findings show that agreement between self and 'other' tends to be lower than that amongst 'other' – smaller ICCs and larger standardised differences between self and 'other' raters. Average ICCs between self and 'other' ratings range from 0.23 (self-superior) to 0.31 (self-subordinate) while that amongst 'other' range from 0.27 (subordinate-superior) to 0.52 (peer-customer). Average standardised differences between self and 'other' ratings range from 0.24 (self-subordinate) to 0.43 (self-peer) while that amongst 'other' range from 0.16 (peer-superior) to 0.27 (peer-subordinate). Other analyses are still in progress and will be reported in September.

Discussion: In keeping with the hypotheses, there is a differential pattern of agreement across the groups of raters. Furthermore, the varying levels of agreement across rating sources support the notion that different raters contribute unique perspectives, which could help to increase a manager's self-awareness and facilitate development. Possible explanations for the discrepancies between raters (e.g. different opportunity to observe) are also discussed.

Trends, challenges and developments in employee selection: A Caribbean perspective

P.A. CRUISE, City University London.

Background: Traditional personnel selection paradigm is based on stable jobs, places high emphasis on individual job performance, job analysis, determination of performance criteria, prediction of work outcomes and development and evaluation of assessment tools. However, nowadays, jobs are often not well defined, employees are selected to work in teams on different projects, they may frequently change work roles and may follow diverse organisational career paths (Lievens, van Dam & Anderson, 2002). As a result, employee selection and assessment in the 21st century will be radically different than any other period before. Staff skills and knowledge base will need to be examined using different conceptual and methodological approaches for four key reasons: the changing nature of work as work has become more difficult to define, more fluid and more interconnected; the breakdown of corporate geographical boundaries as evidenced by the selection of expatriates and the location of corporations outside their parent country; technological developments and the use of the internet in assessment and psychometric testing; and labour market shortages resulting in competition for scarce human resource.

As Howard (1997) puts it, if the traditional application forms, interview and references will not suffice in today's workplace, why, then when organisations and the nature of work are changing so dramatically, are people relying on 40-year-old techniques to evaluate managers and other personnel?

As a result of these four key developments, many countries across the globe are adapting new methods and designing new systems to select and assess employees, thereby triggering international trends in selection. In the USA and Canada, for example, internet testing, virtual reality testing and automated in-baskets are gaining prominence in selecting federal employees. In Australia, online application forms and cognitive testing are the emerging selection trends. In Asia, employment testing and interviews are the most preferred method, whereas, ability testing, interviews and employment tests are trends in Mexico. In the UK

e-based psychometric testing, online application forms and remote in-tray exercises are steadfastly gaining ground.

Unfortunately there are no published empirical findings on the phenomenon in the Caribbean. What is the current selection experience like? What is the prevalence of specific selection techniques? What role does technology play in current selection techniques and how will it impact future strategies? Given the fact that the Caribbean is affected by the same global economic, labour and technological developments, would global trends in selection also be mirrored in the region?

Methods: By replicating the four stages used by Lievens et al. (2002), the present study utilised a combination of qualitative and quantitative research approaches in order to identify existing and future trends in the Caribbean. Stage 1 adopted a quantitative approach that utilised items from the Best International Human Resources Management Practices Survey (BIHRMPS) to obtain the prevalence of selection systems and organisational practices from 80 HR Practitioners. Correlations and T-Tests were conducted to compare existing practices across groups, industries and organisational structures as well as to examine differences in perceived future trends and developments. Stages 2 and 3 utilised qualitative approaches by analysing secondary data from published research and conference proceedings to examine the structure and content. Data were classified using grounded theory to identify emerging themes. Whereas, Stage 4 utilised in-depth interviews with eight HR consultants to assess the impact of technology, culture and legislation on the future of selection strategies in the Caribbean. Data were classified using discourse analysis.

Findings: Analyses are currently underway.

Discussion: The present study hopes to contribute to the paucity of research on employee selection from a Caribbean perspective while evaluating existing themes in recent conference and seminar proceedings. The research also aims to compare selection techniques between the Caribbean and the rest of the world as well as to ignite discussion within the profession on the impact of culture in future selection. If work agents are the same globally, will the impact of culture be as great as previously believed? The implications for future research in the field are great, if it is found that culture plays a minor role in the choice of selection strategy.

How mental models of job seeking can be used to inform the design of a touch screen user interface for jobseekers served by a government employment agency

R.L. CUMMINGS, University of Sheffield.

Rationale: As computers become an everyday facet of our lives it is necessary for them to be accessible, usable and effective for task completion. This study examines and evaluates a government employment agency's interface for job searching. Previous in-house evaluations have focused on the satisfaction ratings of the new computer system as compared to the old card method of finding job vacancies. As such these investigations were insufficient in demonstrating the psychological impact of the interface for users. Furthermore, the evaluations had uncovered problems pertaining to the system's usability status in particular the Job Category assignments. The Job Categories are based on the Standard Occupational Classification (SOC 2000), however, job seekers repeatedly experienced problems locating under which category their occupational vacancy would be stored. Although a novel piece of work, this investigation draws on a range of literature including usability principles (Nielsen, 1994), a human-centred design review, particularly the standard ISO 13407 and user personas as outlined by Cooper (1999). The literature review also incorporates theory, practice and methods pertaining to mental model elicitation (Carroll & Olson, 1994). The overall aim of the investigation is to understand how the mental models of job seeking can be used to inform the design of a touch screen user interface for jobseekers.

Method: Individuals represent knowledge about their environment in the form of mental models. One can view mental models as a network of

associations between domain concepts whereby humans generate descriptions of system purpose and from, explanations of system functioning and observed system states (Langan-Fox & Code, 2000). This investigation uses Verbal protocol analysis and a card sort technique to elicit jobseekers mental models. Verbal protocol analysis requires participants to think aloud whilst interacting with the system interface to reveal the mental processes that take place as individuals work through a task. The card sort task requires participants to list all the concepts they believe are related to the domain of job seeking. This method lends itself particularly well to this investigation as the final set of cards represent the participants mental model which can be used to inform the layout of the screens of the interface. A total of 43 jobseekers participated in the study, the majority were made up of jobseeker traffic within job centres.

Results: The data was subjected to stringent content analysis (Card Sort, Nueman, 2000) and template analysis (Verbal Protocol, King, 1994, 1998) techniques. The results raised a plethora of usability and functionality issues. Many jobseekers complained of crowded screens and difficulty following system instructions. Job categories were non-intuitive and caused problems for jobseekers finding required vacancies. Often important icons such as multiple selection and 'more jobs' remained unobserved by users which inadvertently narrowed their search capability. Participants were asked to undertake a personal search for their chosen occupation followed by an unfamiliar and user persona guided job search. The data shows that jobseekers undertaking a familiar search gain more successful results than when they carry out an unfamiliar investigation. This result demonstrates that the interface fails to be usable for all personas.

Conclusion: The findings from the study enabled a prototype to be designed based on a generic mental model of users to aid usability and functionality of the system.

Do managers' attributions for workplace performance vary according to the gender and ethnicity of the subordinate?

F. GAFFNEY, A. KOCZWARA & J. SILVESTER, Goldsmiths College, University of London.

The number of ethnic minority members in the UK population increased by 53 per cent between 1991 to 2001 (Office of National Statistics), whilst the demographic profile means that ethnic minorities will account for over half the growth in Britain's working age population over the next decade (DTI White Paper, 2004). However, members of some minority groups are still more likely to be unemployed and receive lower pay relative to the general population. Therefore, understanding the experience of minority employees is of key importance in today's workplace.

Attribution theory has elucidated how managers' explanations for performance vary according to employee gender (e.g. Silvester et al., 2004; Koczwara & Silvester, 2004). Such research has found that if an employee's performance is perceived as more internal, controllable and stable, which is often the case for male employees, it is evaluated more positively leading to different workplace outcomes such as more opportunities to develop, or to take on extra responsibility. This study aims to extend this research by investigating how employee ethnicity may also influence managers' performance evaluations.

Participants from the financial services sector will complete a questionnaire describing 12 hypothetical scenarios of good and poor work performance. Scenarios were set in a global investment banking training programme, a context where one would expect to find UK White and Ethnic Minority trainees, and participants were asked to imagine that they were the trainees' line-manager. Using multiple versions of the questionnaire, trainee behaviours (i.e. the scenarios) were held constant whilst gender and ethnicity were manipulated. An example scenario is: 'Clive performs below average on the Financial Maths component of the programme. He is asked to re-submit the piece of assessed work to demonstrate an increased understanding of the subject matter.' Participants will be asked to indicate the extent to which they believed the causes of the trainees'

behaviours to be internal and controllable to the trainee, long-lasting, and controllable to them as the manager. The study design is mixed, with a between-subject variable of participant gender and repeated measures variables of trainee gender, ethnicity and good/bad performance. For each scenario candidates were also asked 'overall what do you think causes the trainee's behaviour?' to which they could respond freely, providing additionally the opportunity of performing qualitative analysis on those responses.

Pilot interviews were conducted (n=8) to check the questionnaire's face and content validity. A naming survey (n=32) was also conducted to ensure that the trainees' names could easily be categorised as UK White or Ethnic Minority. Agreement from several organisations has been secured, providing a sample of approximately 500 participants.

The level of interest from participating organisations highlights the need and opportunity for more research in this area. Cox and Nkomo (1990) argued that attribution theory could hold 'particular promise' (p.428) for generating a theory on race effects, and Kenny and Briner (2004) made a plea for more psychological research on ethnicity in the workplace. It is anticipated that this study will make a contribution in both those areas.

New realities for career development in the police force
S. HAASE, University College Worcester.

Background: New Career Realities. There have been dramatic transformations in work organisations due to profound changes in the context of employment (Arnold, 1997b), creating new 'career realities' (Kidd, 1996) within them. Fixed lattices of job positions and stable career paths are less likely to be encountered (Dalton, 1989).

One important concept related to the new career that has emerged is the increasingly 'hands-off' approach of organisations to career management (Arnold, 1997a). Therefore, because of the growing responsibility placed on the individual (e.g. Stickland, 1996; Sturges, Simpson & Altman, 2003) career interventions offered by organisations are beginning to not only focus on Organisational concerns but also on helping individuals to manage their own careers (Kidd, 1996).

The participating organisation. The police in the UK aim to participate in the growing movement to encourage employees to 'own their careers'. As a result, police officers are expected to take charge of their careers within a general framework. However, the organisation is encountering increasing difficulties in filling posts of higher ranks and specialised roles. Consequently, there is a shift to more future oriented, formally identified and structured development opportunities based on competencies in order to increase the potential internal applicant pool for selection.

The research project. This research aims to develop an approach to career guidance that supports police officers' progression through and within the ranks. Stage one of the project is presented here.

Method: Semi-structured interviews were conducted with an opportunity sample of 13 police officers. Participants were asked to comment on questions regarding career aspirations, individual career planning and career development. Each interview lasted approximately 30 minutes. A mixed format with prompting cards was applied. Closed questions such as on career satisfaction were analysed with regard to frequencies only. Qualitative content analysis (Mayring, 2000) was used to analyse the free response questions in order to identify common issues and problems perceived by police officers with regard to career development.

Findings: Almost all officers saw it as their responsibility to take charge of their own career. 'Personal determination', a 'support network' and 'playing the system' were viewed as important factors helping individuals to manage their careers, while 'organisational constraints', 'lack of opportunity' and 'lack of knowledge' about own strengths and weaknesses were perceived as preventing successful career management. The open door policy, mentoring and support provided by the organisation were mentioned as most helpful features of the current career development system.

Discussion: The results can be interpreted using the intelligent career model (Arthur, Claman &

DeFillippi, 1995), which introduces a competency-based view on careers and involves the development of three career competencies: knowing-why, knowing-how and knowing-whom. The interviews seem to suggest that while the organisation tends to concentrate on the knowing-how competency by basing career development on its competency framework, individuals also experience the other two career competencies as being important for career success. On the whole the findings support the call for a more holistic approach to the subjective career, which the concept of the intelligent career corresponds to. Competencies have been suggested to be of benefit if used in career development (Craig, 1992; Rothwell & Lindholm, 1999), however, research supporting these arguments is lacking. Therefore, the aim of future planned work is to clarify the impact of competencies on career success, using the three arenas of knowing as a framework.

Relationship between well-being, achievement motivation and personality in Armed Forces Personnel
A.K. JAIN, University of Nottingham.

Each year about 500 officers from the Armed Forces are selected to pursue a highly prestigious postgraduate course. The present study intends to explore the relationship between wellbeing, achievement motivation and personality in personnel recently selected to pursue this course. The competition for entry into this course is intense. Selection is based on a written examination (achievement-striving behaviour). It has been made clear by the work of Selye (1956) and others that stress may be produced by a wide variety of agents or stressors, but stress-induced damage to the organism arises chiefly from prolonged and recurrent stress states. Vulnerability to repeated or prolonged psychological stress depends in part upon certain motivational dispositions. The role of motivational dispositions in stress has been discussed in detail by Lazarus and his colleagues. Most significant models of occupational stress include personality and motivation as factors that influence the onset and sustenance of stress. A recent model by Landy, Quick and Kasl (1994) identifies dispositional (habitual, often considered as personality, most prominent being Type A personality) factors, need for achievement, locus of control and self-esteem/self-efficacy as moderators of stress. Research has shown that those who exhibit Type A personality show higher levels of achievement. It has been found that personality traits such as neuroticism have significant positive correlations with stress/wellbeing. This study set out to find the interaction between these moderators in the current context.

Standardised questionnaires were used to assess well-being, achievement motivation and personality (Big-five and Freneticism) in a sample of officers from the armed forces (n=225). The sample was controlled for age, length of tenure and gender. The questionnaires used were GWBQ (Cox & Gotts, 1987), Ray-Lynn Achievement Orientation Scale (Ray and Najman, 1988), Freneticism scale (Ray and Bozek, 1980) and Unipolar Personality Scale (Goldberg, 1990). Results lead to the conclusion that the relationship between these variables, as found in previous researches, is extendable to the military organisation. The findings also supported the hypothesis that an inter-relationship exists between the three variables and both achievement motivation and personality (neuroticism and freneticism) help in predicting well-being. Stress levels reported were not high, while scores on achievement motivation were high. The results are further discussed in relation to past research and possible implications for future research into the area are suggested.

Do employee perceptions of meaningful work and organisational support mediate the effects of satisfying job conditions upon affective organisational commitment?
T.E. JOHNSON, Manchester School of Management, UMIST.

The positive effect of favourable intrinsic and

extrinsic job conditions upon affective organisational commitment are relatively well recognised, but the mechanisms by which such conditions enhance commitment are not (Meyer & Allen, 1997). This study aimed to assess the extent to which perceptions of organisational support and meaningful work account for such effects. On the basis of previous research, it was hypothesised that the effects of intrinsically satisfying job conditions upon affective organisational commitment would be partially mediated by perceptions of both organisational support and partially mediated by perceptions of meaningful work, and that the effects of extrinsically satisfying job conditions upon affective organisational commitment would be completely mediated by perceptions of organisational support.

This cross-sectional study obtained responses from 152 employees, using a convenience sample from a variety of occupations and organisations. Each latent construct was indicated by three measured items, all constructed by previous researchers. Organisational tenure and size were also measured in order to control for their effects. Questionnaires were completed at employees' workplaces and returned to the researcher by post.

Confirmatory factor analysis indicated that the proposed measurement model containing seven discrete constructs provided a reasonable representation of the data, with chi-square difference tests indicating more constrained models to display significant decrements in fit (Bentler & Bonett, 1980). Given this, the hypothesised structural model was next compared to four theoretically plausible alternatives, each with an additional direct path between constructs. Although all hypothesised paths were supported, chi-square difference tests indicated that a model with an additional direct path from extrinsically satisfying job conditions to perceived work meaning presented the best goodness of fit (Bentler & Bonett, 1980). Further analysis indicated that the previously significant direct effects of intrinsically and extrinsically satisfying job conditions upon affective organisational commitment became non-significant when accounting for the effects of perceived organisational support and work meaning, indicating complete mediation.

The results of the present study indicate that an examination of perceptions of meaningful work and perceptions of organisational support may help explain the psychological mechanisms by which favourable job conditions enhance affective organisational commitment. The larger effect of intrinsically satisfying job conditions upon affective organisational commitment may be explained due to the unexpected negative effect of extrinsically satisfying job conditions upon perceived work meaning. Caution must be urged in interpretation, as the low ratio of respondents to model parameters suggests doubts about the model's statistical stability. Replication with a larger sample is clearly required. Nonetheless, the results suggest that managers neglecting to pay attention to such experiences when attempting to enhance affective organisational commitment through the modification of satisfying job rewards may fail in their desired aims.

The relationship between psychological contract violations, organisational citizenship behaviours and intention to quit: Using Job Embeddedness to further understand the link
H.K. JONES, JCA (Occupational Psychologists) Ltd & Cardiff University.

The aim of the study was to further examine the relationship between Job Embeddedness and the negative consequences of psychological contract violations. Previous studies have established a link between psychological contract violations and both increased turnover and decreased organisational citizenship behaviours. In the past, such consequences of psychological contract violation have been extensively researched but the processes by which these consequences occur have often been neglected. In addition, many studies that do attempt to create a model of these processes only find partial mediation of the relationship.

Job Embeddedness is made up of two subscales; Organisation Embeddedness and Community

Embeddedness. It was hypothesised that Organisation Embeddedness would mediate both the relationship between psychological contract violations and intention to quit and the relationship between psychological contract violations and organisational citizenship behaviours. It was also hypothesised that Community Embeddedness would moderate the same relationships.

Data was collected from a FTSE 100 financial services provider. Mediational analyses were carried out according to the methods set out by Baron and Kenny (1986). All three conditions of mediation were satisfied (p<0.001) for both Intention to Quit and Organisational Citizenship Behaviours. That is it was found that Organisation Embeddedness fully mediated the relationship between psychological contract violations and both Intention to Quit and level of Organisational Citizenship Behaviours. Moderation was tested for using the product variable approach set out by Baron and Kenny (1986). A moderating relationship was not found for the relationship between psychological contract violations and either Intention to Quit or levels of Organisational Citizenship Behaviours.

Given the findings as they stand the implications are that if employees were made to feel more embedded in their organisations then they would be less likely to respond negatively to a psychological contract violation. Organisation Embeddedness is composed of three subscales: fit to organisation, links to organisation and organisation related sacrifice. Targeting these three sub-areas may well lead to a reduction in the negative consequences of psychological contract violation. This could be done in many ways, by utilising effective selection strategies to recruit people who fit well with the organisation; by increasing the comparative attractiveness of being employed by the organisation so that there would be a sacrifice involved in leaving; and by recruiting people with a good fit to the organisation it may be possible to reduce the negative effects of psychological contract violation.

Lessons from actors' portfolio careers for job seekers in the 21st century
J. NOWLAN, University of East London.

Many organisations, due to the changing nature of work (e.g. Herriot & Pemberton, 1995), now employ fewer full-time employees, often supported by part-time and short-term contract workers. Consequently the numbers of part-time, contract and flexible workers is increasing. This is a reasonably new phenomenon for most job seekers, but the career of being an actor has always been organised in this way. Actors have always had boundaryless careers (Arnold, 1994) and a portfolio of skills (Handy, 1989). Therefore, it was the intention of this study to try to understand how actors might manage their careers and to offer lessons to other job seekers.

Other aims of this study were to add to the acting literature *per se*. Actors have been under-researched (Phillips, 1991) and more than a decade on little has changed. The little research that has been carried out on actors has been mainly from the psychoanalytical perspective and tends to portray actors as not having a 'self', hence the need to take on 'another self' (Novick, 1998). This study has sought to dispute this extremely pessimistic view by exploring other reasons why actors might feel a need to act.

Four focus groups, with three actors in each, were recorded of actors who are not famous. The transcribed tapes were analysed by qualitative methods, with the aim of looking at the discourses these actors used to describe their motivation and how they manage their careers and continue to want to act. Various themes emerged. They were: compelled to act; origins of the motivation to act; money, fame and success as a motivator; unemployment; and rejection. Although the qualitative method does pull out certain themes, it also looks for differences between what people are saying and how they are constructing their world. It acknowledges that we all have a different reality. Individual semi-structured interviews were then carried out with each actor.

Results and conclusions that were drawn from this study seem to suggest that actors may be motivated to act because they are simply 'addicted' to it. Because of this 'addiction', most of the actors

that took part in this study were prepared to endure the hardships that the profession invariably brings in order to pursue their love of acting. The main lessons and advice from actors on managing careers in the 21st century seem to derive from the acceptance of enduring the hardships that the acting profession carries because of their absolute love of their chosen career. Therefore, it would seem that in order to manage a successful portfolio career an individual must be highly committed, motivated and love their personal choice of career.

In addition some of the practical implications that may be drawn from this study concern actors' worries regarding feeling depressed after a contract is finished. Some of them confessed to feeling 'down' for several days and found it hard to motivate themselves and pick themselves up again. This is possibly due to the 'adrenaline rush' dropping (Evans, 1995). Therefore, actors may take some comfort in knowing that it will pass and there is a physiological reason for it. They will most likely continue to be highly motivated again in order to pursue and manage their portfolio careers. If other workers also experience this same 'low' then they too might be relieved to know that their motivation most probably will return after a brief spell.

The LEO leadership-training programme: An investigation of individual, environmental and training factors influencing the transfer of learning back to the workplace
A. O'NEILL, University of Sheffield.

Training is now viewed as an integrated, integral aspect of competitive organisations. However, due to its cost it is important to identify not only whether a programme is effective, but more specifically in what situation, for which people and why. Therefore, in line with Baldwin and Ford's (1988) framework, and Axtell et al.'s (1997) recommendations, multiple influences on training outcomes (reactions, learning, transfer of learning to the workplace and organisational results) were investigated in this study.
1. **Environmental factors:** Despite more research being conducted on the influence of social support on training transfer, specific levels of social support are less frequently studied and with conflicting findings (Facteau et al., 1995). Therefore, this study investigates social support at four levels, the subordinate, peer, supervisor and top management.
2. **Training factors:** Although both motivation to transfer and perceived course usefulness have both been independently found to influence training, the relationship between them has rarely been explored. Therefore, this study investigates whether motivation to transfer mediates the relationship between perceived training usefulness and transfer.
3. **Individual factors:** As literature exists indicating that the intuitively appealing characteristic 'openness to experience' influences training effectiveness, this is investigated in this study. Research also suggests that people who are 'open to experience' not only acquire training more rapidly but also adapt quickly and innovatively when hindrances arise in applying the knowledge. Therefore, as it has not been previously explored, the potentially moderating relationship between social support and transfer of training will also be investigated.

Methods: The study was set in a large Primary Care Trust, who were offering leadership-training (LEO, 'Leading an Empowered Organisation') to all employees. One-hundred-and-eleven employees who had attended a LEO programme received a questionnaire as did 111 participants who had not been trained (the control group).
'On-the-job behaviour' (training transfer) and 'motivation to transfer' (an affective measure of the importance of behaviours) were assessed using 'retrospective' measures, wherein participants were asked to rate on a five-point scale both their importance and use of leadership behaviour now and six months ago. Learning was assessed by comparing the 'leadership' knowledge of the control group with the trained group.
A pre-test, post-test design was also incorporated in a smaller second study. Approximately 20 participants received a questionnaire both before and two weeks after attending a LEO training

programme, assessing the above cognitive, affective and behavioural outcomes. Measures used included 'reactions', consisting of course 'enjoyment', 'usefulness' and 'difficulty' (Warr, Allan & Birdi, 1999). 'Learning' (a five-item measure developed in collaboration with a programme facilitator), the affective outcome, 'motivation to transfer' and 'on-the-job behaviour' (transfer) (Werrett et al., 2002), 'openness to experience' (Costa & McCrae, 1985b; McCrae & Costa, 1987) and the assessment of changes occurring in patient care and organisational performance attributed to the course. Social support was assessed across the four aforementioned levels (including items from Birdi, unpublished PhD; Axtell et al., 1997).

Local government – How to attract, recruit and retain young people and prospective graduates
Z. PATEL, University of East London.

Background: The main goals of the research were to investigate the perceptions, attitudes and expectations of young people and undergraduates concerning their future careers, as well as the organisational structure and culture of local government. Local government is experiencing a shortage of young workers. A current need to attract, recruit and retain young people and graduates was identified, with the need to develop effective strategies and practices to promote local government as an employer of choice.
The main research hypotheses state that local government is not perceived as a preferred employer of prospective graduates and young people and that its benefits are not considered attractive to them.
Methods: The evidence was collected through a combination of quantitative and qualitative research techniques. An attitude survey via questionnaires distributed to 112 final-year undergraduates was used to collect quantitative data that was further analysed by using a Statistical Analysis (SPSS). Qualitative data was elicited through two Focus Groups with young members of staff in Kingston Council and sixth-form pupils from the local school. One semi-structured in-depth interview with a recently employed graduate in the Council through the National Graduate Development Programme was also utilised. Thematic analysis was used for a data analysis.
Findings: The main research hypotheses were supported by the results from the statistical analysis of the questionnaires – 56.3 per cent of participants perceived the private sector as their preferred employer.
Elicited repeated themes that emerged from the Focus Groups and a semi-structured interview are summarised below:
1. There is a perceived lack of awareness, information and knowledge about careers within local government.
2. There is a lack of engagement by local government with young people.
3. The distinctive organisational culture of local government and a stereotypical perceptions serve as a combined barrier to employment of young people and prospective graduates.
4. The aspirations of young people are mainly materialistic and the financial benefits of local government do not appeal, if compared with the private sector.
Discussion: Several recommendations were proposed in order to improve the recruitment and retention of young people and prospective graduates in local government. Proactive marketing, effective informing and advertising with an emphasis on establishing specific links with Universities, were seen as the key factors in this process. A varied approach to attracting a young workforce in the form of work placements, site visits or other types of work experience was considered crucially important. Planned and specific recruitment strategies that would move beyond ad hoc recruitment and target young people and prospective graduates, were also indicated.
Conclusions: The conclusions from the research confirmed that local government has to make an organised effort in planning its recruitment campaign targeted at young people and graduates. Successful recruitment and retention can only be

achieved by taking into account their expectations and aspirations, changes in the nature of work, as well as the competitive edge of private sector organisations. The application of the Occupational Psychology principles is essential in this respect to offer practical solutions to the problems that local government is facing.

Faking it: Applying for jobs online vs on paper

R.E. PRICE, City University.

Background: Methods of selection and assessment are increasingly delivered via a computer instead of on paper. Because of this, many studies have been conducted to discover the equivalence of the two. One area of interest is the level of social desirability, or faking, which occurs on paper vs on computer. Previous empirical studies have shown that applicants can, and do, fake their responses to present themselves in a more favourable light. This can have an impact on the predictive validity of the selection method. A meta-analysis by Richman *et al.* (1999) explored how mode of administration affected levels of social desirability on personality tests. The findings were mixed, but overall suggested that when a computer made the applicant feel anonymous, private, free of social pressure and free of the evaluative test situation, social desirability was lower. Application forms are now widely available on computer, and as they ask for self-reports of information are open to social desirability distortion. Given previous empirical findings it was hypothesised that applicants completing the form on the computer would have lower levels of social desirability than those completing it on paper.

Methods: This research was field-based and formed part of a graduate selection procedure.

Participants: 172 participants completed a graduate application form and the Marlowe-Crowne Social Desirability Scale – Short Form (MC-SDSsh) (Crowne & Marlowe, 1961; Ferguson, 1992). The participants chose whether to complete the form on paper, or on the computer. Overall social desirability scores were calculated for each participant, and independent t-tests were applied to discover if there was a difference in levels of social desirability and mode of administration.

Findings: Independent t-tests showed that there was a significant difference between the social desirability scores and mode of administration (t=−3.00, df=170, p<0.01). Inspection of the means table showed that participants who completed it on the computer had significantly lower social desirability scores than people who completed it on paper.

Discussion: The results support the previous empirical research conducted on personality tests. The results support the hypothesis and show that people who completed the social desirability questionnaire on paper had higher levels of social desirability. The implication here is that people who complete the application form on paper may be faking their answers more than those who complete it on the computer. This has consequences for the predictive validity of the selection method of application forms. In practical terms, recruiters may wish to use computer-based application forms exclusively if they are more reflective of candidates' knowledge, skills and abilities.

Employee Engagement – another fad or the future? Case study at a City investment bank

S. PRICE, City University.

There is no doubt about it Employee Engagement is in vogue. Considerable hype is being generated in the world of Human Resource Management and Organisational Psychology about the significant business benefits it promises to bring to organisations. Employee Engagement has been linked to increased employee retention, profitability, productivity, customer engagement and safety to name but a few (May, Gilson & Harter, 2004; Harter, Schmidt & Hayes, 2002; Royal Bank of Scotland, 2003).

So what is Employee Engagement? Employee Engagement is being proffered as 'one step up from commitment' or 'commitment plus' (Robinson, Perryman & Hayday, 2004). Therefore, it is suggested that it will bring about even greater

business improvements than those well documented and conclusively proved by increased employee commitment (see Rucci, Kirn & Quinn, 1998, for Sears, USA). Employee Engagement also appears to have clear overlaps with the more exhaustively researched psychological constructs of Commitment and Organisational Citizenship Behaviour. However, a unanimous definition of the concept is yet to be achieved.

Others are more sceptical. Their concerns relate to whether Employee Engagement is just another 'HR fad', some would say like Job Enrichment or the Psychological Contract. Furthermore, concerns abound as to whether Employee Engagement is just a new and more glamorous term for a collection of well-established constructs such as Commitment, Organisational Citizenship Behaviour, Motivation, and Satisfaction. Such sceptics want empirical evidence that it is in fact a new knowledge domain from which substantial business benefits can be made. Currently little academic research and limited empirical evidence exists on Employee Engagement. It appears to be a largely practitioner driven area.

The aim of this project, therefore, is to investigate this exciting 'new' concept that currently appears to be at the forefront of many business discussions. This in-depth empirical study aims to establish what Employee Engagement means to a City Investment Bank and to design a theoretical model based on this information to test and predict business outcomes at the bank.

The study will use both quantitative and qualitative analysis. Initially focus groups with key stakeholders at the bank will be used to explore and define what Employee Engagement means to the case study organisation. A bespoke model of Employee Engagement for the bank will then be developed, based on a thorough critique of the latest Employee Engagement model by Robinson *et al.* (2004) on behalf of the Institute for Employment Studies. Items from a well established and validated annual employee survey at the bank will be mapped to the Robinson *et al.* (2004) model and used to build the Employee Engagement model for the bank. Factor analysis and card sorts will be used to ensure that the questions selected from the bank's survey are measuring the underlying psychological constructs that were found, through the focus group, to make up Employee Engagement at the organisation.

The final stage of analysis will use the theoretical Employee Engagement model for the bank to scientifically measure business outcomes and make reliable business conclusions as suggested in the literature. For example, the relationship between Employee Engagement and Employee retention will be investigated using regression analysis. The relationship between Employee Engagement and employee age, gender, tenure and line of business will also be investigated using the same method. Structural equation modelling will also be used to look at the estimated structural relationships between these factors.

This project hopes to further the Employee Engagement debate by empirically testing what Employee Engagement is and, furthermore, whether it has a positive relationship with the many business outcomes being suggested.

Innovation in organisations at the individual, managerial and organisational level

J.L. SCOTT, City University.

What are the relationships between innovation at the individual, managerial and organisational levels? This study aims to investigate these relationships to establish whether a person's propensity to innovate is effected by individual factors such as motivation, managerial factors such as feedback, and organisational factors such as climate and culture. This is the first study to look at innovation at all three levels.

At the individual level, various traits have been identified as being important predictors of innovation. Port and Patterson (2004) found that motivation is a key component of innovative behaviour and may be the most important variable in the process. At the managerial level, research has shown that employee innovation is inhibited when individuals feel insecure and unsafe at work (West & Farr, 1990). Managers may have an influence on employees perceived safety in the work place;

feeling 'safe' may promote innovation at work. At the organisational level, research has shown that various factors have an influence on innovation at work. Patterson, Port and Hobley (2003) identified the following themes; factors that create a culture or climate that promotes innovation, factors which influence the organisational structure and work processes, and factors which are external to the organisation.

Assessing employee innovation at the three levels has been limited in the past by poor measures of innovation, and studies that have not been based in the work place. The present study will utilise three pre-validated psychometric tools to assess employee innovation at each level. Each tool was developed through extensive research in organisations and will reveal the important factors involved in the innovation process. In addition, a short eight-item questionnaire will be completed by managers, to rate their employees on various innovation components. This will provide an objective indicator of employee innovation.

Hypothesis 1: Employee innovation will be related to an individual's motivation.

Hypothesis 2: The propensity for employees to innovate will be mediated by their managers.

Hypothesis 3: Employee innovation will be related to the extent to which employees perceive organisational factors as being supportive of innovation.

Methodology: This study utilised a cross-sectional design, with a sample of adult employees from a large outsourcing organisation. Three psychometric questionnaires have been e-mailed to 26 managers to distribute to all of their respective subordinates (approximately 250 employees) for completion. A 'Managers' questionnaire was also e-mailed to each manager, for them to rate how innovative they perceived their employees to be.

Scale scores will be calculated for each of the factors within the psychometric questionnaires. A series of correlations will be calculated, and path analysis technique will be utilised to indicate which factors within the three levels have most influence on employee innovation.

Discussion – work in progress: It is fully recognised that enhancing innovation within organisations is necessary for growth and productivity in all sectors (Patterson, 2002). The findings of this study will provide a more complete model of the factors that influence employee innovation, which may direct future approaches and methods to enhance it.

The psychometric properties of the Cubiks In Depth Personality Questionnaire (CIPQ): A construct validation study with Orpheus

S THOMAS, City University.

This study will investigate the construct validity of the big five personality variables when assessed using a new Five-Factor Model (FFM) based inventory – the 213 item Cubiks In Depth Personality Questionnaire (CIPQ; Feltham, 2003) – and a well-established FFM-based inventory of personality – the 190 item Orpheus personality questionnaire (Rust, 1996). Danish and English language versions of CIPQ have been developed in parallel. The first trial of CIPQ was conducted in Denmark and currently a second round of trials is underway. The present study will form part of the second round of trials and will be the first trial of CIPQ with a UK-based population. CIPQ will be completed online; Orpheus will be completed using the paper-based version. The sample will comprise of 118 participants employed in a National Health Service Primary Care Trust. Initially the internal consistency of CIPQ will be examined. Evidence for the construct validity of the big five personality dimensions when assessed using CIPQ will accumulate from three studies. First, using the big five sub-scales as variables the underlying factor structure of CIPQ will be examined through confirmatory factor analysis. Second, the relationship between the big five sub-scales as measured by CIPQ and the Orpheus will be examined through correlational analysis. Third, the extent to which CIPQ and Orpheus discriminate among two different occupational groups (senior and middle mangers; n=59; and nursing staff, n=59) will be examined through comparison using an independent t-test. Results will be discussed in terms of the need for occupational psychology to

be able to provide reliable and valid measures of personality to predict and understand individual, team and organisational performance and effectiveness. Recommendations for the development of CIPQ are expected.

What really drives knowledge sharing in task-related work groups? An exploratory case study

V. WIMALASIRI, T. COX & S.O. BRENNER, University of Nottingham.

Background: In an era where intangible assets are replacing tangible ones as value providers to organisations, knowledge has rapidly gained ground to become the currency of the new-age economy. Figures show that the global expenditure on knowledge management (KM) initiatives is estimated to reach US $8.8 billion this year, with a failure rate as high as 70 per cent. Increasingly these failures are attributed to the lack of accommodation for psychosocial factors in the design of KM systems.

Literature states that workplace learning, which ultimately gives rise to organisational knowledge develops within communities of practice. These groups form naturally as a result of shared work practices and personal preferences. Many studies have identified interpersonal interaction as the more efficient medium for sharing knowledge over IT-based platforms. The transfer of tacit knowledge that occurs through processes such as observation and active narration are seen to be the crucial factors that determine the success of this form of communication. However, due to the complexities involved in inferring the content of tacit knowledge-sharing, it is seldom the subject of organisational research.

This research reports on findings on an exploratory case study that focuses on three main objectives:
1. To explore tacit knowledge-sharing between workers by using a standard cognitive mapping technique which will help go beyond normal conversation, and in doing so.
2. Establish whether there are any common learning patterns within task-related work groups in the organisation, and will also look to.
3. Explore psychosocial factors that reinforce such learning patterns.

Method: Learning in the case-study organisation has traditionally taken place in strictly formalised, task-related groups (research groups working in labs), where technology is rarely used for purposes of learning.

Participants: Participants were randomly chosen from lists of names. Task-related work groups were identified on the basis of membership to a particular research group. Knowledge-sharing within the groups were investigated by using a cognitive mapping technique. Open-ended questions were used to explore psychosocial factors that effect or enforce knowledge sharing practices within the groups and throughout the organisation. Topics of discussion were established following initial exploratory interviews. As part of adhering to the BPS ethical code of research conduct, a successful submission was made to the Institute's ethics committee prior to commencing the study.

Analysis: Data obtained through cognitive mapping is currently being analysed qualitatively by the use of a template analysis. A secondary quantitative analysis will be carried out based on the findings of the initial qualitative analysis. Discourse analysis will be used to investigate the data derived through open-ended questions.

Expected types of findings: Knowledge sharing patterns, and processes within this case study organisation are of special interest. Another type of expected finding concerns the extent to which learning stays within the boundaries created by task-related work groups, and what psychosocial factors determines this process. It is hoped that the study will contribute towards emphasising the importance of psychology in the study of organisational knowledge, and thus illustrate the need for more organisational psychologists to get involved in this ever evolving topic of knowledge management.

Coping with the effects of significant organisational change and the role of acceptance

T.W. WRIGHT & F. BOND, Goldsmiths College, University of London.

The experience of large scale transformational, directive organisational change has been shown to be stressful for employees but relatively few studies given its significance have examined the underlying causal process. Using an open ended interview methodology, a critical incident approach to probe behaviours and template analysis, we explore employees' perceptions of the organisational change stressors, their effects and the coping responses employed to deal with them. A secondary focus considers acceptance as established in the COPE inventory (Carver, Scheier & Weintraub, 1989), its relationship to organisational level, and potential links to Psychological Acceptance, defined as an individual's willingness to experience all psychological events without changing, avoiding, or otherwise controlling them and the subsequent effective use of their energies in ways congruent with their values and goals. The main research questions focus on which aspects of the change process employees find most significant and how coping responses, if appropriate, are used to deal them. We expect our data to confirm the relevance of established change stressors (Cartwright & Cooper, 1997) as well as support earlier research into coping taxonomies. In addition, use of a narrative-based, process-oriented approach should allow dynamic patterns of coping behaviours to emerge over time from the individual's transaction with their environment. Overall we hope to build on previous research and identify a process of coping with the effects of significant organisational change. For future research it may be interesting to consider the value of ACT (Acceptance and Commitment Therapy) training to support employees through similar periods of change.

Innovation and personality: Viewed from the dark side

L.D. ZIBARRAS, City University.

Background: Is innovation related to an individual's 'dark side'? By exploring the relationship between innovation and personality, this study aims to reveal which aspects of a person's 'dark side' are related to their propensity to innovate through different phases of the innovation process from idea generation to implementation. Creativity (or idea generation) has long been thought to be related to madness. Eysenck (1993; 1995) suggested that it is not psychosis *per se*, but an underlying trait called psychoticism. At high levels psychoticism leads to psychotic illness under stress, but is also closely associated with innovation. Innovative people are described as: outspoken, unstable, irresponsible, disorderly, rebellious, asocial and in the extreme psychopathic (Eysenck, 1995). Serious questions have been raised about the empirical evidence on which Eysenck's theory is based because of the use of Divergent Thinking tests; it is not certain whether these tests actually measure abilities involved in idea generation. Furthermore, most of the studies were not conducted in the work place. Since Eysenck's research, a new measure of innovation potential, the Innovation Potential Indicator (IPI), has been developed by Patterson (1999). It was developed from extensive research in a variety of organisations and allows a more comprehensive exploration of what innovation truly entails. Alongside this more effective measure of innovation and the Innovation Phases Scale, this study will also use the Hogan Developmental Survey to uncover 'dark side' personality characteristics; revealing how a person's 'dark side' and innovation are linked.

Hypothesis 1: Innovation will positively correlate with the four HDS dimensions: confident-arrogant; charming-manipulative; vivacious-dramatic; and imaginative-eccentric.

Hypothesis 2: Innovation will negatively correlate with the two HDS dimensions: diligent-perfectionist; and dutiful-dependent.

Hypothesis 3: Different personality characteristics will be associated with idea generation and implementation phases of the innovation process.

Methodology: This study is cross-sectional in design, drawing on a convenience sample of adults in the working environment. The sample will

primarily involve two companies, but will involve a 'snowballing' sampling method to increase the sample size. Three psychometric questionnaires have been posted to 310 participants. Demographic information from the participants will also be collected, including age group, gender and company type. Scale scores will be calculated for the 11 HDS scales, the four IPI factors and the innovation phases scale. A series of correlations will be computed, and a correlation matrix calculated. From this, any significant correlations can be determined.

Discussion – work in progress: The tendency for people to be innovative is described as one of the least understood aspects of human behaviour at work (Bunce & West, 1995), but it is thought to be key in driving the progress of organisations. By improving the understanding of innovation and personality, organisations will be better equipped to harness innovative potential. Furthermore, if 'dark side' personality characteristics do exist in innovative people, understanding this will enable managers to be better equipped to manage innovation in the workplace.

POSTERS

An investigation of gender differences in the career possible selves of adolescents

J.B. BLACKFORD & L. MILLWARD, University of Surrey.

Although gender inequalities remain in organisations to varying degrees, the workplace has generally become increasingly accessible to women, with females taking up more traditionally 'masculine' roles. Women in these positions are nonetheless a minority, with females still heavily influenced by traditional views of what constitutes legitimate work for women. Possible selves, the selves we hope for and fear becoming, have a motivational quality affecting our interpretations of events, our choices and our behaviour. The influence of gender constraining stereotypes on adolescents' possible selves could thus inappropriately delimit the occupational choices made by females at the interface of education and work. This research tested possible selves theory to investigate gender differences in the aims and fears of adolescents, with a view to informing school vocational guidance. Questionnaires were completed by 195 adolescents in GCSE and A-Level education inviting them to list Hoped For and Feared possible selves, which were then categorised into one of 17 Hoped For or 15 Feared Possible Selves categories. Depth follow up interviews were also conducted with a small number of adolescents. Gender differences were found across all possible selves generated with girls listing significantly more than boys, in part due to the greater number of feared possible selves they generated. There was no gender difference however in the number of hoped for possible selves generated. It appears that female adolescents' perceived options are as numerous as those of males, yet girls see more potential problems than boys, listing significantly more feared possible selves. Contrary to previous research, girls also generated significantly more unrealistic occupational possible selves than boys. As possible selves have been demonstrated to be culturally influenced, this difference may be a function of available role models in the popular media. Numerous successful men are well known within society across a broad spectrum of occupations, for example, lawyers and doctors. However, such successful female role models are less common, instead tending to be found in more 'unrealistic' occupations, for example singers or actresses. As a general theme, girls tended to list more feared possible selves than boys, listing significantly more feared interpersonal and 'physical health of others' possible selves. Interestingly however they also generated significantly more hoped for interpersonal possible selves, demonstrating a greater concern for relationships than boys. The gender differences found in the numbers and content of hoped for and feared possible selves of adolescents in full time education appear to have significant implications for career development and guidance. Although a wider range of previously traditionally masculine jobs are becoming more accessible to

females, female adolescents tend to hold more traditionally feminine possible selves, and indeed seem less grounded in their views of occupations. This has important implications for career counselling, allowing the ambitions and fears of adolescents to be understood, and therefore enabling a more tailored and effective approach to adolescent career development programmes, with girls possibly requiring more information as to available options, and their likelihood.

Naturalistic Decision Making: Validation of the Recognition-Primed Decision-Making model using ACT-R cognitive architecture

C.L. McANDREW & A. BANKS, University of Surrey.

The aim of this research is to develop and further specify the theory of Recognition-Primed Decision-Making (RPD), one of the major theories of Naturalistic Decision Making (NDM). In their current form, models of NDM such as the Recognition-Primed Decision-Making Model (RPD Model) (Klein, 1989) are limited theoretically and in their application by the derivation of decision protocols from retrospective interviews. This methodology has two implications: (i) it produces models that are abstract in form under-specifying the cognitive processes involved; and (ii) there is a lack of quantitative data to support them. The current research agenda seeks to increase the specificity of the RPD theory and provide an empirical basis for it by creating and validating a computational model of the cognitive processes used in RPD using ACT-R.

A general procedure binding qualitative interview methodology with cognitive modelling was used. Un-structured interviewing was firstly conducted with an expert from the organisation with view to discovering the types of decisions typically encountered within this industry. From this, collaboration between the expert and researcher produced a scenario of suitable relevance. Interviews using the scenario were conducted using a sample of 15 expert engineers and marketing personnel (nine male and six female, mean experience = 15 years) within a multi-national telecommunications organisation. Using un-structured interview methodology, the experts' decision-making processes were elicited through a series of prompts which sought to determine: (i) the actions they would take to make an assessment of the situation; and (ii) what their ultimate decision would be.

Work currently in progress has its focus upon the content analysis of interview transcripts. From this, the data will be used firstly as the basis of an initial qualitative analysis of the data. Secondly, the coded interviews will be converted into the explicit production rules compatible with the ACT-R production system (Anderson & Lebière, 2001). Data from two-thirds of the sample will be used to develop an ACT-R model of the RPD process. The remaining one-third of the sample will be used as a comparison sample to validate the representativeness of the RPD Model of actual situation assessment processes through an assessment of data-model fit. Signal Detection Theory will also be used in order to analyse the veracity of the predictions as 'hits', 'misses' and 'false alarms'. In its most basic form this lends towards empirical validation of the RPD Model by assessing the degree of model-prediction fit. Whilst the main conclusions drawn from the ACT-R model are yet to be determined preliminary analyses from qualitative review challenges the antithetical position of NDM to Classical Decision Making (CDM). Indeed, this research has suggested the possibility for decision-making situations to be both naturalistic and demand the use of CDM strategies in determining optimal choice from a fixed set of alternatives. Besides benefits for academia in affording NDM and RPD Model re-specification and development, this research programme also has a number of applied utilities such as the development of organisational decision support systems. That is, by virtue of cognitive modelling, systems may be designed to support decision-making that: (i) guard against errors associated with the experts' preferred strategies; and (ii) support experts' naturally preferred strategies.

Enhancing employability: Recognising what graduates want when applying to jobs

L. TAGLE, City University.

Background: This study will examine graduate attitudes towards the ideal job and if these attitudes translate into behaviour of choice. Evaluation on what graduates are doing to make their choices will take place. The recruitment consultancy Robert Walters recently analysed the responses of 8000 worldwide employees towards what they considered key considerations in accepting a new job. They discovered personal development, training and a healthy work-life balance key rather than the basic salary package. Furthermore, according to a survey conducted by organisers of the National Construction Recruitment Exhibition, 46 per cent of graduate and professional engineer specialists consider career prospects more important than salary in choosing an employer. In reviewing the sources of these attitudinal surveys, there lacks a clear definition on whether graduates gender, subject of study or type of degree (BA/Bsc, MA/MBS/Msc) has any influence on their attitudes and choices. Building on previous findings, this study will attempt to research what graduates of the class of 2004 want out of a job and will demonstrate what type of graduates (if any) cite a high salary as more important than career progression or other factors. Graduate attitudes about jobs will vary according to what they ideally want out of a job as opposed to what they are doing in reality to get the ideal job and to gender, degree status and subject area studied. This study hopes to show organizations the key factors graduates want most out of their job so that they can better their recruitment procedures and bring out potential for a long-term commitment to their future.

Methods: The sample study will be composed of 200 graduate students from different subject fields. Data will be both quantitative and qualitative. Data will be gathered directly from graduates in person or via e-mail by means of a questionnaire. Interviews will be conducted on up to 10 graduates in person. A self-constructed questionnaire will be used to measure graduate attitudes toward the ideal job. The attitude ratings will be measured on a five-point Likert scale (1=disagree strongly, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). Data will be analysed using SPSS ANOVA and post-hoc tests used to measure differences among groups. The 30- to 45-minute interviews will elicit information on behaviour of choice and what graduates are doing to make that choice. Analysis of information will take place via coding and categorising individual responses.

Findings: In progress.

Discussion: In progress.

Evaluation of graduate attitudes will be made using five categories (career/achievement, income, flexibility, job satisfaction and job security) and classified according to age, gender, degree title and subject field of study. Based on the sample studied it is hypothesised that links within the five categories will occur among different subject fields. Career/achievement and job satisfaction is highly to correlate among art graduates as opposed to engineering and finance graduates who will regard income and job security as more important. It is also proposed that there will be gender differences among the categories and that the realistic expectations will differ highly from the ideal expectations.

'Big doctors don't cry': Emotion at the GP's practice

M.E.A. WILLIAMSON, Birkbeck College, University of London

Background: GPs may attend 50 patients per day presenting with symptoms and emotions; GPs run businesses too. This study researched how GPs learn to respond to emotion-provoking incidents, whether they engage in emotional labour, and emotion work, alter their emotional displays depending on their audience, and 'catch' emotions from patients. This research draws on conceptualisations and research on emotion management, including: Hochschild, 1983; Ashforth & Humphrey, 1993; Wharton & Erickson, 1993; Morris & Feldman, 1996; Grandey, 2000; Strazdins, 2000. For mechanisms and potential impact of emotional contagion this study draws on: Hatfield et al., 1993, 1994; Singelis 1996; Doherty, 1998; Wild, Erb & Bartels, 2001.

Methods: Developing iteratively this exploratory qualitative study collected 'rich' data from semi-structured interviews with GPs, focussing on incidents with patients and practice colleagues when strong emotions were encountered. Interview transcripts were coded, analysed and interpreted using an organically developing template.

Findings: The GPs had been taught not to show emotion to patients but have developed emotion display rules for doctor-patient interactions, have learnt by experience to manage their emotional displays (surface and deep acting, sometimes being emotionally deviant) and to manipulate patients' emotions. They believe this facilitates task-effectiveness, although it can provoke emotional dissonance (see Rafaeli & Sutton, 1987).

These GPs reported engaging in emotion work to sustain working relationships, using different display rules for medical partners and non-partners. Failure to follow appropriate rules with colleagues seems to exacerbate rifts in medical partnerships, and contribute to emotional overload (see Wharton & Erickson, 1993).

Repeated exposure to 'negative' patient emotions leads some of these GPs to 'catch' them, influencing subsequent patient consultations and leaving GPs feeling drained. GPs reported using 'compartmentalisation' to prevent emotions arising in patient interactions spilling-over into colleague interactions, and vice versa. Intensely emotional clinical events can leave long-lasting effects on GPs which these theories of emotion management and contagion do not adequately explore. Non-clinical activities, considered as 'skiving', provoked emotionally charged partnership interactions and aroused emotional dissonance. The GPs' sense of social identity (see Ashforth & Humphrey, 1993) as 'doctor' rather than 'GP' (doctor with business responsibilities) may contribute to such friction.

The GPs mentioned training, co-worker support, and having opportunities to replenish emotional energy as mitigating the impact of emotions and safeguarding their psychological health.

Discussion: This study identified that GPs may engage in significant, apparently effortful emotion management, which appears to be inadequately recognised, prepared for, or supported; and could be detrimental to GP well-being. Study findings echo research on other healthcare workers (e.g. Bussing & Glaser, 1999; Bakker & Schaufeli, 2001; Le Blanc et al., 2001) indicating the relevance of emotion management to this occupational field, and to occupational psychology. If GPs are to cope with increasingly holistic patient care, and complex businesses, doctors' training should address emotion management.

Theoretical conceptualisations facilitated analysis of antecedents, mechanisms and potential outcomes associated with emotion management and contagion. Conceptual refinements, for example to emotion display types (Wharton & Erickson, 1993), and to inter-relationship between sets of display norms (Ashforth & Humphrey, 1993) would better portray this complex occupational setting.

Division of Health Psychology Annual Conference

KEYNOTE SPEAKERS

New findings on subjective well-being

E DIENER, University of Illinois.

The intersection of health and well-being is an exciting area of research. One finding from my laboratory that is relevant to health and medical satisfaction research is the fact that most people are happy, which implies that positive levels of satisfaction with health or medical interventions do not necessarily mean that conditions are excellent; it may only mean that there are no glaring problems. A second set of findings from the well-being literature is related to the discrete components that make up well-being. Most people are now familiar with the separability of positive and negative emotions (they should be assessed separately, not in a bipolar way), but other distinctions are also important. For instance, people's online experience of moods and emotions differs in predictable ways from their memories of those episodes; factors such as expectancies and self-concept can bias people's memories of their affect. Another important distinction is between broad and narrow satisfactions. We find that global levels of satisfaction (e.g. with one's health) are not simply summations of satisfaction with the lower-order elements. This suggests that to obtain sensitive measures one must target the level of well-being about which one is concerned, and not rely solely on reports of broad satisfaction. In terms of causes of well-being, we now understand the influence of a temperament-based setpoint on well-being, and some events that can change the set-point. Related, we find that factors such as close personal relationships and mental health are necessary conditions for feelings of subjective well-being. A relatively new topic in the field of well-being research is whether happiness is desirable and has beneficial outcomes beyond simply feeling good. Based on a review of existing literature, we conclude that happy people are successful people – in marriage, in income and on the job, in citizenship, and in health and longevity – although there are limits to this conclusion. In recent research we conclude that optimum levels of happiness vary depending on the task at hand. Finally, the talk ends with a suggestion that we need national indicators of well-being to complement economic indicators of societal quality of life.

Applying the transtheoretical model to increase impacts on health behaviours

J. PROCHASKA, University of Rhode Island.

Traditional research and practice paradigms in health psychology have had too little impact on health behaviors, health and health care costs. The field's preoccupation with the efficacy of clinical interventions has too often left the vast majority of at risk populations being understudied and underserved. The focus needs to shift to intervention impacts which equals an intervention's efficacy times reach times number of behavior risks changed. Programmes of research applying the Transtheortical Model will illustrate the principles needed to maximise recruitment to health behavior change programs and the principles needed to reduce premature termination. Research will also illustrate the integration of TTM constructs across a broad range of health behaviors. Practical applications of TTM will demonstrate how interventions can be tailored to the needs of individuals within entire populations. A series of failures to enhance efficacy of tailored communications raise the question of how to continue to increase impacts of interventions. These failures have lead to the development of programs for changing multiple behavior risks within populations as a next step for increasing impacts. Outcomes will be reported across a variety of populations and behaviors for both disease prevention and disease management. Disseminating high impact programs will require innovative practice paradigms to complement currently established practices.

SYMPOSIA

Symposium: Current applications of the transtheoretical model: Improving health in community and workplace settings

Convenor & Chair: C. HASLAM, University of Nottingham.

Discussant: J. PROCHASKA, President and CEO, Pro-Change Behavior Systems, West Kingston, Rhode Island.

Aims: This symposium aims to: (1) demonstrate the wide range of health psychology research currently employing the transtheoretical model (TTM); (2) explain how the model can be applied to a broad range of health related behaviour, including: dietary behaviour, improving health and safety in the workplace, maternal smoking cessation; bullying prevention; and teen pregnancy prevention; and (3) explore the future potential of the model for promoting health across community and workplace settings.

Rationale: This symposium directly relates to this year's conference theme of positive psychology and health promotion. The symposium will show the extensive variety of health psychology research projects incorporating TTM and consider how health promotion interventions can be made more effective by taking account of recipients' attitudes and health beliefs.

Summary: Five papers have been selected to illustrate the diverse range of health related behaviour to which TTM has been applied. Chris Armitage will describe a dietary intervention study employing a general public sample. The study showed that an implementation intention intervention successfully promoted stage of change progressions and was most effective in progressing people from the precontemplation and contemplation stages. Whysall et al will outline how they developed items for assessing organisational and employee stage in relation to reducing musculoskeletal disorders (MSDs). They will describe a range of interventions they are conducting in manufacturing, construction, public sector, education and service industries to determine if tailoring advice according to stage increases the effectiveness of interventions. Lawrence and Haslam will describe their study showing that pregnant smokers in the precontemplative stage are less likely to take folic acid and vitamin/iron supplements and less likely to feel responsible for the health of their unborn child compared to women further along the cycle of change. The paper examines the case for future tailored antenatal interventions to reduce maternal smoking. James and Janice Prochaska will present results of a series of effectiveness trials on bullying prevention programmes for middle and high school students. These studies indicate that TTM-based interventions are effective in reducing bullying in schools and can be adopted in different settings with staff with minimal training. Dunn *et al.* will describe their study on sexual experiences and attitudes toward condom use among young people (13- to 16-year-olds). Those in earlier stages of change were less confident in their ability to use condoms and less convinced of the health benefits. The implications for TTM-based sex education will be considered.

Stage dependent interventions to reduce musculoskeletal disorders in the work place

Z.J. WHYSALL, Loughborough University, C. HASLAM, University of Nottingham & R. HASLAM, Loughborough University.

Background: In occupational settings, behaviour at the individual and organisational level is influenced by a set of underlying attitudes and beliefs. This research applies the transtheoretical model to health and safety practices at work, specifically in relation to reducing musculoskeletal disorders (MSDs).

Method: A study was conducted to develop assessment tools to determine employee and organisational stage in terms of reducing MSDs. Questionnaires and checklists were developed and administered to 100 health and safety managers, supervisors and directors from 85 organisations, and 168 employees from 10 different organisations.

Findings: The assessment tools possessed high levels of reliability and validity. Both organisations and individual employees were situated at various stages of change, although the profiles of organisational and employee stage showed distinctly different distributions. Organisational stage differed significantly according to respondent's role (e.g. Director, Health and Safety Manager, Supervisor), organisation size, sector, whether the organisation had received compensation claims and respondents' attitudes towards MSDs. Employee stage differed according to sector, attitudes toward MSDs, experience of musculoskeletal pain and colleagues' experience of pain.

Discussion: The findings suggest that there is scope for improving interventions by tailoring advice according to stage of change. The next phase of this research involves comparing stage dependent vs standard interventions to reduce MSDs in range of settings (manufacturing, construction, postal work, utilities, public sector, education and baggage handling) to determine if tailoring advice according to stage increases the efficacy of interventions.

Evidence that implementation intentions promote transitions between the stages of change

C.J. ARMITAGE, University of Sheffield.

Background: Dietary intake is an important determinant of morbidity and mortality from coronary heart disease and cancer at several sites. Theory-based interventions represent an important means by which dietary behaviour may be changed. The present study used Gollwitzer's (1993) concept of implementation intentions to promote transitions between transtheoretical model stages.

Methods: Participants recruited from the general public (n=554) were randomised to receive either questionnaire-only or questionnaire-plus-implementation intention intervention.

Findings: Results showed that implementation intentions progressed a significantly greater number of people through the stages of change than did the questionnaire alone. Decomposition of these effects revealed that the implementation intention interventions were most effective in progressing people from the precontemplation and contemplation stages. However, implementation intentions did not arrest regression from the stages of change, suggesting that alternative strategies may need to be identified in order to prevent relapse from the stages of change.

Discussion: Although the present findings should be replicated in further domains (e.g. exercise), they suggest that implementation intentions successfully promote stage progressions. Further work that explores the processes associated with the maintenance of behaviour is required.

Application of TTM to sex education: Patterns of decisional balance and confidence

O.M. DUNN, L.M. WALLACE, K.V. NEWBY, Coventry University, K.E. EVERS, Pro Change & H. WAREING, Public Management Associates.

Background: There are high rates of sexually transmitted diseases and unplanned conceptions amongst teenagers in England and Wales. There are few theoretically derived sex education interventions, and efficacy is unproven (DiCenso, 2002). TTM-based interventions have been successful for other health behaviours, e.g. smoking cessation but have not been applied to sex education of teens. This paper provides cross-sectional data on TTM variables in English teens and its integration to the design of a TTM-based intervention.

Methods: A cross-sectional survey was used to collect data from over 3500 schoolchildren aged 13- to 16-years-old on heterosexual experiences and TTM variables.
Findings: Preliminary analyses (n=1352) show that 28 per cent (n=380) of pupils were sexually experienced, of these, 63 per cent (n=241) reported using condoms on a regular basis. Those in pre-contemplation, contemplation and preparation stages were significantly less confident in their ability to use condoms than those in action and maintenance stages. Importance of pros of using condoms demonstrated a similar pattern, in that ratings were significantly higher in action and maintenance stages. Importance of cons of using condoms was uniformly low across stages.
Discussion: Initial analyses suggest that the pattern of pros and cons across stages for condom use in school aged teenagers differ from patterns generally seen for other behaviours and in other groups (e.g. Prochaska *et al.*, 1994). These differences are important to take into account in the design of TTM-driven sex education.

Smoking in pregnancy: The way forward for stage of change-based interventions

W.T. LAWRENCE, MRC Resource Centre, University of Southampton & C. HASLAM, University of Nottingham.

Background: Research has shown that pregnant women's smoking stage of change is related to their perceptions of risk relating to maternal smoking (Haslam & Draper, 2000) and Haslam (2000) has argued that antenatal smoking cessation advice needs to be tailored to stage of change.
Method: This study investigated the relationship between smoking in pregnancy, smoking stage of change, and other health behaviour and beliefs. Participants were 1203 pregnant women from three UK hospitals in this cross-sectional survey. They completed questionnaires regarding smoking status and stage of change, alcohol consumption, folic acid intake, use of vitamin and iron supplements, and Fetal Health Locus of Control (FHLC, Labs & Wurtele, 1986).
Findings: 19 per cent were current smokers, with 14 per cent of ex-smokers having quit for their pregnancy. Current smokers (especially precontemplators) were significantly different to non-smokers, in that they were less likely to have increased their folic acid intake or be taking iron/vitamin supplements. Non-smokers also had higher internal FHLC than smokers, whilst internality increased in smokers further along the cycle of change.
Discussion: Babies of smokers are likely to experience a poorer intrauterine environment, both in terms of smoking and nutrition, but a review of the current literature on TTM interventions in pregnancy reveals contradictory levels of success. So what elements of these interventions work, and how can the significant findings on smoking stage of change be translated into successful interventions? Building on previous and current research, this paper discusses the particular challenge provided by pregnant smokers and suggests some ways forward.

TTM effectiveness trials on bullying prevention

J.O. PROCHASKA, University of Rhode Island & J.M. PROCHASKA, Pro-Change Behavior Systems, Inc.

Background: Recently an important and provocative article identified our field's over-reliance on efficacy trials as a major barrier for putting health promotion research into practice. Efficacy trials test whether a programme does more good than harm when delivered to select samples under optimal conditions. Effectiveness trials test whether a programme does more good than harm when delivered to entire populations under real-world conditions.
Method: This paper reports a series of effectiveness trials on bullying prevention programs in 12 middle schools and 13 high schools. The trials were designed to assess whether the programmes are effective across a broadly defined population, can be broadly adopted in different settings and can be implemented by different staff with minimal training. These were the first trials to apply a series

of TTM tailored communications for bullying prevention on a population basis.
Findings: In spite of all the 'noise' inherent in real-world effectiveness trials, these interventions produced strong signals of effectiveness in reducing students participating in bullying, in roles as bullies, victims and/or passive bystanders. The reduction in each of these roles was approximately 30 per cent for middle school students and 40 per cent for high school students. The odds ratios for treated groups compared to control groups ranged from 3.89 to 4.38, with the greatest odds ratios being on measures that combined all three roles. Built-in replication in these trials supports reliability and generalisability of the programmes.
Discussion: These results compare favourably to effectiveness trials of the current multi-level model programme for bullying prevention that is more intensive, extensive and requires much more competence and commitment from school staff.

Symposium: Prevention of Falls Network Europe (ProFaNE): Psychosocial factors in prevention and rehabilitation

Convenor: K.J. McKEE, University of Sheffield. Chair & Discussant: C. TODD, School of Nursing, Midwifery & Health Visiting, University of Manchester.

Aims:
- To present an introduction to the Prevention of Falls Network Europe (ProFaNE):;
- To bring attention to the importance of falls for the health and well-being of older people;
- To describe current international research on attitudes to falls prevention programmes;
- To outline new developments on the conceptualisation of fear of falling in older people;
- To discuss the ways in which health psychology can contribute to the well-being of older people through falls interventions.

Rationale: At least 30 per cent of persons over 65 years of age fall each year. Falling is the sixth leading cause of death in older people, and by far the greatest cause of hospitalisation, with serious injury such as hip fracture in 0.5 per cent of fallers under 70 years of age, rising to 10 per cent of fallers over 80. After a fall, the short and longer-term consequences for the older person's independence in activities of daily living are considerable. In the short-term recovery period, decreased activity is reported in approximately 40 per cent of fallers, with raised levels of anxiety and depression detected, and a fear of further falls in 40 to 73 per cent of fallers. In the longer term, only half of the patients experiencing a hip fracture regain pre-event levels of mobility, and only 33 per cent – 50 per cent regain pre-event independence levels.
This symposium has particular relevance for the current conference, since the research described seeks to improve the well-being of older people, and their enhance their experience of a positive old age. This can be achieved through improving uptake of falls prevention programmes, and reducing the fear of falling in frail older people.
Summary: ProFaNE is an EU thematic network with 25 partners focusing on the issue of prevention of falls and improvement of postural stability amongst older people. It comprises four work packages: (1) taxonomy and co-ordination of trials; (2) clinical assessment and management; (3) assessment of balance function; and (4) psychological aspects of falling. The aim is to bring together workers from around Europe to focus on a series of tasks required to develop multi-factorial prevention programmes aimed at reducing the incidence of falls and fractures amongst elderly people.
This symposium brings together four presentations from psychologists involved in the ProFaNE network, from the UK and Switzerland. The work described concentrates on two key areas: attitudes to falls prevention programmes, and the fear of falling in frail older people. The first two papers examine attitudes to falls prevention programmes in the UK and across Europe, utilising qualitative methods. The third and fourth papers explore they ways in which fear of falling has been conceptualised, paper three through quantitative

methods, paper four using interviews with older people to explore their own concepts of fear of falling. The discussion will harmonise the two areas of research, and suggest opportunities for health psychology in improving the quality of life of older people.

Attitudes of older people across Europe to falls prevention programmes: Factors influencing uptake and adherence

L. YARDLEY, University of Southampton, C. TODD, University of Manchester, K. HAUER, University of Heidelberg, N. BEYER, Copenhagen, G. KEMPEN, University of Maastricht & C. PIOT-ZIEGLER, University of Lausanne. Prevention of Falls Network Europe (ProFaNE).

Background: ProFaNE is an EC-funded network supporting collaboration between researchers in the field of falls injury prevention. This paper will firstly present the aims of the ProFaNE network, and particularly the objectives concerned with psychosocial aspects of falls prevention, which include assessment of fear of falling and attitudes to falls prevention programmes. Secondly, findings from members' collaborative qualitative research on attitudes to falls prevention will be presented.
Methods: Each member carried out interviews with 10 to 14 older people, assessing their beliefs and attitudes regarding falls prevention programmes. Interviews were structured around the Theory of Planned Behaviour, were carried out in the UK, the Netherlands, Germany, Switzerland, Norway, Greece and Italy. The thematic analysis reported here compares the beliefs of those who had taken part in a falls prevention programme and those who had not been offered this option.
Findings: Participants reported being motivated to take part in falls prevention programmes that are designed to improve strength and balance chiefly by a desire for, and experiences of, immediate benefits (including improved functioning and mobility, enjoyment and increased self-confidence) rather than by fear of falling. The main reported barriers to participation included lack of familiarity with such programmes, concern about exertion, transport and financial obstacles, and lack of motivation.
Conclusions: Participation in falls prevention programmes may be enhanced by maximising and promoting their immediate benefits rather than their potential for reducing falls, by removing practical barriers, and by providing opportunities to sample programmes in order to demonstrate their immediate benefits.

Attitudes of older people to advice about falls prevention activities

M. DONOVAN-HALL, L. YARDLEY, University of Southampton, C. TODD & K. FRANCIS, University of Manchester.

Background: One-in-three people aged over 65 fall each year, and there is evidence that multifactorial falls prevention programmes (comprising exercise and risk reduction) are effective in preventing falls among older people in the community, but there is often low uptake of these programmes. The aim of this research was to identify the attitudes acting as barriers and motivators to uptake.
Methods: Interviews and focus groups were carried out with 60 UK citizens aged over 65 who had not taken part in a falls prevention programme, recruited from senior citizens organisations, churches, leisure centres and sheltered accommodation. The data was analysed iteratively using thematic analysis.
Findings: Many people rejected the idea that falls prevention had any relevance to them, either refusing to take part in our study, addressing falls prevention only as a topic relating to care of other people (i.e. those who were more frail and dependent), or criticizing advice on how to reduce risks (e.g. suitable footwear, home alterations) as being 'common-sense', increasing their fear of falling, and interfering with their lifestyle. These attitudes were less common among those who were older and more dependent, but were not exclusive to fit and healthy older adults. Exercise was not regarded as a falls prevention activity, and was valued for promoting functional capability and enjoyment.

Conclusions: 'Falls prevention' has negative connotations for many older people, associated with lifestyle restriction and decline. A focus on exercise as a way of promoting health, fitness and independence may have wider acceptability.

Reformulating the fear of falling

K.J. McKEE, University of Sheffield,
M. CHEUNG Chung, University of Plymouth,
H. BARKBY, E. HANGER & T. PAIS, University of Sheffield.

Background: Fear of falling is known to be very common in older people. However, fear of falling has been conceptualised in a number of different ways. This study sought to determine the extent to which different operationalisations of the 'fear of falling' construct share variance, and whether these differing measures of fear of falling explain recovery after a fall in older people.
Methods: Older people (≥65 years) admitted to hospital as a result of injury due to a fall were recruited to the study, and given a questionnaire-based interviewed to assess fear of falling, psychological and physical functioning variables. At two months and six months after initial interview, participants were sent a postal questionnaire for self-completion, assessing fear of falling, depression, anxiety, and functional limitation.
Findings: Analyses of an initial sample of 31 patients indicate our affective measure of fear of falling (worry over further falls) is associated with post-traumatic stress disorder (PTSD) diagnosis, and both subscales of the Consequences of Falling scale. The cognitive measure of fear of falling (perceived risk of further falls) is not associated with our other measures of fear of falling. One-third (32.3 per cent) of the sample meets the complete criteria for full acute posttraumatic stress disorder (PTSD).
Conclusions: We have now recruited 82 patients and the study is ongoing. We will report results of the analyses of the available sample, highlighting the statistical and conceptual overlap in the fear of falling variables, and their capacity to explain recovery after a fall.

Differential meaning of fear of falling in community-dwelling and institutionalised elderly: A qualitative study

C. PIOT-ZIEGLER & T. CUTTELOD, University of Lausanne.

Background: Fear of falling (FOF) has been widely studied and questionnaires have been created to measure it, but many questions are left unanswered and no consensual definition of FOF has been achieved. We have used a qualitative approach to understand the true meaning of FOF from the elderly perspective.
Methods: 100 elderly living in two different environments (50 at home, 50 institutionalised) were interviewed with a semi-structured questionnaire exploring falls and their consequences. Qualitative analysis was performed and revealed that FOF was context dependant, and could not be uniquely defined.
Findings: In community-dwelling elderly, FOF appeared gradually along with social and physical negative consequences and lead ultimately to heavy emotional impact (loneliness and depression) and strong negative feelings. Consequences of falls were directly linked to fear of institutionalisation and dependency. In institutionalised elderly, FOF was experienced by almost all residents, but did not always have a negative connotation, and could be related to their personal philosophy toward life. Dependency was defined positively or negatively based on its acceptance by the elderly. Consequences of falls could ultimately be linked to death, and could be accompanied by heavy anxiety and helplessness. Professionals' and family's attitude toward fall played a central role in the elderly self-perception (acceptance, guilt or shame).
Conclusions: Our results suggest that FOF should be understood in a contextual and phenomenological perspective, taking into account its meaning and its integration in the life-course of the elderly. FOF evaluation should be apprehended with very specific definitions, adapted to each environment.

Symposium: Using psychological theory to advance evidence-based health professional practice

Convenor: S. MICHIE, University College London.
Chair: R. LAWTON, University of Leeds.
Discussant: D. PARKER, University of Manchester.

Aims:
● To further the scientific understanding of the psychological processes involved in the implementation of evidence-based practice (EBP) in health services.
● To describe an approach to integrating psychological constructs for use in the multidisciplinary study of the implementation of EBP.
● To provide examples of the application of psychological theories to the empirical study of guideline implementation.
● To consider the theoretical, research and policy implications of the research findings.
Rationale: The developing field of EBP poses a new challenge to the adequacy of the theoretical models that health psychologists bring to the field of health services research. Despite having evidence about best practice, this evidence is not implemented effectively, with the result that best health outcomes are not achieved. Other disciplines are looking to psychology for an increased theoretical input into implementation research. We should respond to this challenge.
Summary: This symposium considers how behavioural theories have been used in studies of guideline implementation (P. Davies et al.) and demonstrates how one theory (the theory of planned behaviour) can be used to investigate why GPs and nurses implement some evidence based practices but not others (J. Francis et al.). A method of integrating the multitude of psychological theories and constructs relevant to implementation research will be described and evaluated (M. Johnston et al.). The application of this approach to the study of why some GPs meet targets set in the Coronary Heart Disease National Service Framework, and others do not, will be outlined. The discussion will focus on the theoretical, research and policy implications of the research findings.

What can behavioural theories contribute to our understanding of the effectiveness of clinical guideline implementation strategies?

P. DAVIES, University College London,
A. WALKER, University of Aberdeen &
J. GRIMSHAW, University of Ottawa, Canada.

Background: Clinical guidelines are a feature of most health care systems. Whilst the development of guidelines has the potential to improve clinical practice, a well-developed evidence base to guide the choice of implementation strategies is lacking. Behavioural theories may contribute to an understanding of how interventions to implement guidelines operate to change behaviour, and the circumstances in which they are effective.
Aims:
● To explore the theoretical basis of guideline implementation strategies.
● To focus on use of theories in relation to one intervention type (reminder systems) to consider the value of a theory-based approach.
Method: A systematic review of the use of behavioural theories in 235 studies of the effectiveness of guideline implementation strategies identified 53 (23 per cent) studies that used theories. Data were abstracted on intervention type, and level and stage of theory use. Thirteen studies of reminder systems received further analysis.
Findings: 13 studies used six theories to investigate reminders. Only one provided a test of the theory used. Most used theory to guide the choice or design of their intervention. Theories used offered a range explanations including how reminders operate, types of behaviour for which reminders are appropriate, and moderating factors that influence effectiveness, and revealed avenues for further research.
Discussion: Psychological theories represent a useful tool for developing effective interventions to implement guidelines. More studies that use theory explicitly are needed. An analysis of theory use in relation to reminder systems generated useful insights and suggestions for further research. Other interventions may benefit from such analysis.

Investigating multiple behaviours using the theory of planned behaviour: Why do health professionals implement some evidence-based practices but not others?

J.J. FRANCIS, University of Newcastle-upon-Tyne, M. JOHNSTON, University of Aberdeen, M.P. ECCLES, University of Newcastle-upon-Tyne, J. GRIMSHAW, University of Ottawa, Canada, A. WALKER, University of Aberdeen, E.F.S. KANER, University of Newcastle-upon-Tyne & E. SMITH, University of Aberdeen.

Background: The theory of planned behaviour (TPB) has been used extensively to investigate single behaviours related to individuals' health. A smaller body of research has explored behaviours of health professionals who are often required to enact a range of treatment behaviours within the clinical context. This study used TPB cognitions to predict GPs' and nurses' intentions to perform multiple behaviours in managing Type 2 diabetes.
Design: Questionnaire study (conducted post-intervention) within a clinical trial structure.
Participants: 59 GPs and 53 practice nurses (40 males, 72 females; mean years since qualified: 23.07, sd=9.05), being 41 per cent of participants in the trial (55 in intervention group; 57 controls).
Measures: A questionnaire was constructed following interviews to assess behavioural, normative and control beliefs regarding three specific management behaviours: measuring blood pressure; inspecting feet; prescribing statins (to lower cholesterol). Behavioural data were obtained from clinicians' records.
Findings: Intentions were strongest for measuring blood pressure and weakest for prescribing statins. Multiple regression models accounted for 23 per cent to 50 per cent of the variance in intentions. When participants were classified on the basis of highest scores, results were in line with model predictions. For example, participants whose highest intention score was for prescribing statins also tended to have the most positive attitude to prescribing statins (chi-square analyses: all ps<0.005).
Discussion: The application of the TPB to multiple behaviours by clinicians suggests that the model may be useful in understanding why some, but not all, evidence-based practices are implemented. Theoretical and methodological issues associated with this approach will be discussed.

Implementing evidence-based practice: Making psychological theory useful

M. JOHNSTON, University of Aberdeen &
S. MICHIE, University College London
(on behalf of the Implementation Theory Group).

Background: Despite increasingly good evidence about best practice, this evidence is not implemented effectively, with the result that best health outcomes may not be achieved. Interventions to improve implementation have produced inconsistent findings, with the result that it is not possible to recommend an effective method of implementation. It is proposed that these results might be more easily integrated and interpreted within a theoretical framework. However, it is necessary to simplify the many existing theoretical frameworks before they can be used in this way.
Objectives: To identify an agreed set of key theoretical constructs for use in studying the implementation of evidence based practice developing strategies for effective implementation summarising evidence related to effective implementation.
Methods: 18 health psychologists and 13 implementation researchers met on four separate occasions and conducted six phases of work: theory and construct generation, construct domain simplification, construct domain evaluation, interdisciplinary evaluation, backward validation and interview question generation.

Findings: Participants reached a consensus on 11 key constructs: knowledge, skills, professional role, beliefs about capabilities, beliefs about consequences, motivation and goals, memory, attention and decision processes, environmental context and resources, social influences, emotion and action plans. An interview was developed to explore these 11 constructs and demonstrated to be feasible in pilot interviews.

Discussion: This work demonstrates interdisciplinary agreement about key constructs for use in implementation research, and the successful development and application of a theoretically based interview. The key constructs can be used to integrate and summarise the findings of implementation research.

Achieving national health targets in primary care: A theory-based study

S. MICHIE, University College London,
J. HENDY, London School of Tropical Medicine
& Hygiene, J. SMITH, Birkbeck College London
& F. ADSHEAD, Camden Primary Care Trust.

Background: Despite the introduction of National Service Frameworks for health care, there is considerable variation in evidence-based practice in the NHS. This study uses a psychological framework, derived from theories of behaviour change, to compare the beliefs, behaviour and organisational context of GPs who have achieved certain milestones set out in the NSF for Coronary Heart Disease with those who have not.

Method: 16 London GPs were interviewed, eight 'high implementers' (having met five or more of six CHD NSF milestones) and eight 'low implementers' (having met one or two milestones). Practices were matched for practice size across the groups as far as possible. The interview consisted of open-ended questions, based on theoretical constructs identified as key to implementation research. Interviews were transcribed, and analysed using the qualitative method, Interpretative Phenomenological Analysis (IPA).

Findings: There were three main areas that differentiated high and low implementers: beliefs about evidence-based practice; control over professional practice; and consequences of achieving the milestones. Low implementers expressed less belief in evidence-based guidelines as the basis of their practice, were more concerned about their lack of control over the development and implementation of the guidelines (lack of ownership), and their control over their own practice (lack of autonomy). High implementers perceived more negative consequences and fewer positive consequences, both for themselves and for patient care.

Discussion: These results suggest areas that could be targeted in developing interventions to increase guideline implementation in primary care. Their implications for health service policy will be discussed.

Symposium: Twenty-five years of repressive coping research: Implications for health psychology

Convenor & Chair: L.B. MYERS, University College London.
Discussant: M. EYSENCK, University of London.

It is 25 years since Weinberger, Schwartz and Davidson (1979) in their seminal paper identified a group of individuals who possess a repressive coping style. Since then, there has been a growing body of research on different facets of the repressive coping style (or repressive defensiveness). 'Repressors' are identified by their low scores on self-report measures of trait anxiety (measured by various trait anxiety scales) or the Weinberger Adjustment Inventory (Weinberger, 1990) and high scores on defensiveness (usually measured with the Marlowe-Crowne Social Desirability Scale – Crowne & Marlowe, 1964).

Numerous studies have found that repressors dissociate their somatic reactions from their perceptions of distress, with repressors in potentially stressful situations reporting low levels of distress but exhibiting high levels of physiological activity (e.g. Weinberger et al., 1979, Derakshan & Eysenck, 1997).

It has been thought that not attending to bodily signs of distress such as anxiety can be detrimental to health. Repressive coping has been linked with poor physical health including cancer, poor immune functioning and cardiovascular disease (see Myers, 2000). It is postulated that this association is due to repressors not attending to somatic information (Schwartz, 1977, 1983, 1990). In addition, repressors constitute a significant proportion of the general population, ranging from 10 to 20 per cent (e.g. Myers & Vetere, 1997; Phipps & Srivastava, 1997) and amongst chronically ill samples (around 30 per cent) and, therefore, are an important group for health psychologists to study. Until recently, many of the studies on repressive coping and illness have been cross-sectional, and it was unclear whether possessing a repressive coping style was a risk factor for disease/worsening of disease. However, recently there have been some good quality longitudinal studies. In a five-year follow-up study of the Montreal Heart Attack Readjustment Trial, the programme was associated with significantly worse survival in repressors of both sexes. Similar results were found in a 10-year follow-up of a European study of MI patients (Denollet et al., 2002). Early results of a study of metastatic breast cancer patients indicate that repressors had a significantly worse survival rate (Geise-Davies et al., 2002), which replicates and extends an earlier study (Jensen, 1987). Therefore, research into repressive coping and illness has gained recent momentum.

The speakers in this symposium report latest findings on repressive coping and a wide-range of health-related issues, including cancer in children (Phipps) pain (Burns), diabetes (Davis) asthma (Myers) and neurophysiological issues (Derakshan).

Repressive coping and health: An overview and findings from two asthma studies

L.B. MYERS, J. STYGALL, L. COOKE &
E. KEMHADIJIAN, University College London.

Background: 25 years ago, Weinberger, Schwartz and Davidson (1979) identified a group of individuals who possess a repressive coping style. 'Repressors' are identified by low scores on self-report measures of trait anxiety and high scores on defensiveness. They answer self-report measures in a positive fashion. This paper provides an overview of research on repressive coping and health and describes two studies which investigated repressive coping and asthma.

Methods: Lung function (objective measure of asthma control) and asthma severity (self-report measure) were measured in both Study 1 (n=21) and Study 2 (n=38). Study 2 also measured patients' attributions of asthma symptoms. Patients were recruited from out-patient asthma clinics. Marlowe-Crowne and the Taylor Manifest Anxiety Scales were used to measure repressive coping.

Findings: Analyses of variance were performed. In both studies there were no group differences in self-reported severity of asthma. However, repressors had a significantly lower score on objective lung function measures than non-repressors. In Study 2, repressors self-reported fewer asthma symptoms. No repressor attributed any symptom to anxiety and reported that they were more calm and content, less tense and worried and more in control of their asthma than non-repressors. In both studies there were a high number of repressors in the samples: 33 per cent and 38 per cent of repressors respectively.

Discussion: These studies demonstrate that repressors exhibit poorer objective measures of health, but report fewer symptoms – the repressive dissociation originally reported by Weinberger et al. (1979).

Are repressors who have diabetes healthier or unhealthier than non-repressors?

A. DAVIES, L.B. MYERS & J. STYGALL,
University College London.

Background: It is estimated that diabetes affects between two to three per cent of the UK population. Research has highlighted that better metabolic control in diabetes is associated with better health outcomes, e.g. fewer diabetic complications. Previous studies have indicated poor health outcomes in persons who exhibit a repressive coping style (repressors). However, there is a lack of research investigating diabetes and repressive coping. The present study aimed to examine the relationships between, and the role of, repressive coping in relation to metabolic control and self-reported adherence in adults with diabetes.

Methods: Participants were 87 outpatients with Type I and Type II diabetes. Repressive coping style (using the Marlowe-Crowne and the Taylor Manifest Anxiety Scales), metabolic control (HbA1c) and intentional non-adherence were measured.

Findings: 50 per cent of participants were classified as repressors, a figure greater than previous assessments of prevalence in chronic illness patients (approximately 30 per cent) and the general population (approximately 10 per cent). Analysis of variance indicated that repressors showed significantly better metabolic control than non-repressors. There were no significant differences for self-reported adherence.

Discussion: Repressors with diabetes showed better metabolic control than non-repressors, suggesting better health: which is the opposite finding to that of other illnesses, suggesting that repressive coping may be adaptive in diabetes. Further studies need to explore this finding. It could be that repressors are superior at following advice about life-style, which is the cornerstone of good diabetic control. If this is the case, this may help in designing successful interventions in diabetes to improve metabolic control.

Determinants of health-related quality of life in children with cancer: Impact of adaptive style

S. PHIPPS, A. LONG & D. LOUWERSE,
St. Jude Children's Research Hospital,
Memphis, Tennessee.

Background: This study examined self-reports of health-related quality of life (HRQL) in children with cancer as a function of adaptive style.

Methods: Children with cancer (n=165) and a healthy comparison group (n=72) completed measures of adaptive style: repressors, high-anxious, low-anxious, and defensive-high-anxious groups were identified using the Children's Social Desirability Scale and the State-Trait Anxiety Inventory for Children. Children and parents completed an identical version of the HRQL (Child Health Questionnaire, CHQ).

Findings: The cancer group showing a higher percentage of repressors and defensive- high-anxious and lower percentage of high-anxious and low-anxious than controls ($c2$ (3,236)=13.9, p=0.002). The impact of adaptive style was examined in a series of 2 (cancer-control) x 4 (adaptive style) ANOVA's on the CHQ subscales. Adaptive style was a significant determinant of all HRQL outcomes. Cancer-control differences were observed for physical health outcomes but not social/emotional health outcomes. Parent-child consistency on the CHQ was good, with correlations on CHQ subscales ranging from 0.32 to 0.71, with repressors reporting better, and high- anxious children reporting poorer HRQL than their parents.

Conclusions: Adaptive style is a significant determinant of HRQL in children with cancer, and also serves to explain some of the previously reported discrepancy in parent vs. child report of HRQL. Self-reports of children with cancer are known to be biased towards self-enhancement, a phenomenon that is partly explained by differences in adaptive style and high levels of repressive adaptation in children with cancer.

Suppression of negative thoughts and emotion: A mechanism linking repressive coping with long-term pain sensitivity

J.W. BURNS, P. QUARTANA & E. ELFANT,
Finch University of Health Sciences/Chicago
Medical School.

Background: The hardiness of repressors during lab pain-induction contrasts with pain sensitivity reported by repressor chronic pain patients. To reconcile this discrepancy, we proposed that repressors routinely suppress distressing thoughts and so suffer ironic effects: suppression leading to short-term pain tolerance but longer-term sensitivity as pain-related thoughts become increasingly salient and accessible. We expected

repressors not instructed to suppress to show the same pattern of rebound effects shown by repressors instructed to suppress.
Methods: In Study 1, we examined whether repressors suffer long-term pain sensitivity because they suppress *during pain*. Two-hundred-and-twenty-one healthy adults underwent a cold pressor test (CP) while suppressing or not, and were followed during recovery. In Study 2, we examined whether repressors bear long-term pain sensitivity because they suppress *during mental stress*. One-hundred-and-thirty-five healthy adults performed mental arithmetic (MA) while suppressing or not, and then underwent a CP. For both studies repressors, high-anxious, low-anxious, and defensive-high-anxious groups were identified using the Marlowe-Crowne and Taylor Manifest Anxiety scales.
Findings: Results were analysed using analyses of variance. In Study 1, all repressors showed high pain tolerance during CP, but reported high pain severity during CP recovery. Repressors who suppressed during CP revealed the greatest pain and Mean Arterial Pressure (MAP) changes during CP recovery. In Study 2 only repressors who suppressed during MA showed high pain and MAP changes during CP recovery.
Discussion: These findings support a mechanism linking repressive coping with long term pain sensitivity and highlight the importance of identifying repressors undergoing pain management programmes.

Emotion regulation in repressors

N. DERAKSHAN, University of Leeds.
Background: Repressors are often defined by high physiological arousal and low self-report of distress under stressful situations. This is believed to relate to adverse physical health outcomes. It is hypothesised that this discrepancy reflects the experience of anxiety at early stages of processing followed by avoidance at later stages.
Methods: The time-course of emotional processing was investigated in a visual cueing paradigm that examined patterns of engagement and disengagement from emotional faces in low-anxious, repressor, high-anxious, and defensive-high-anxious individuals, identified with the Marlowe-Crowne Scale and the Speilberger State-Trait Anxiety Scale (n=79). Emotional faces (angry, happy) and neutral faces were presented at short and long cue-target-Intervals, before targets that did or did not replace the cue. Participants responded to target with a button press. Event-Related Potentials (ERPs) were analysed from parietal, and temporal sites.
Findings: Analyses of variance and multiple regression were performed. Repressors attended to emotional material at early stages of processing but avoided them quickly: they were faster to identify happy and angry faces and showed faster disengagement. This was not the case for neutral faces. Findings were indexed by reaction times and by ERP analysis. Repressors showed greater peak magnitudes for emotional faces indicating a greater amount of attentional resource allocation to such stimuli.
Discussion: Results indicate that rapid disengagement from emotion can relate to failures in emotion regulation – suggesting a mechanism of how repressors may fail to attend to threatening information, such as bodily cues which may lead to adverse physical health outcomes.

STRUCTURED DISCUSSIONS

Is facilitation of patient involvement in health care treatment choices achievable?

Convenor: H.L. BEKKER, University of Leeds.
Purpose: To draw on policy, theory, research, and clinical interventions to address issues in the measurement and facilitation of patient involvement in treatment decision making.
Objectives:
● To identify the roles and responsibilities of patients and professionals to achieve patient involvement.
● To describe the effectiveness of measures to assess patient involvement.
● To evaluate the effectiveness of interventions to facilitate patient involvement.

● To ascertain the contribution of psychology theory and research to develop 'gold standards' of patient and professional behaviour, measures to assess operationalisation of standards in practice, and interventions to encourage changes in professional and patient interactions.
Rationale: This workshop provides a timely integration of advances in intervention design, measurement development, policy initiatives, and empirical evidence. It is of relevance to the conference because these advances have drawn on psychological theories of decision making and behaviour change, and associated research methods.
Activities: The contributors will present short overviews that covers: roles and responsibilities of patients and professionals; theories of patient and professional decision making; role of HRQoL and outcome assessment; interventions to facilitate patient decision making; implications for teaching and training. Those attending the workshop will be split into small groups to generate discussion about key issues such as aids that facilitate patient involvement, measures that assess changes in level of involvement, and psychological theories that inform this area of research and application. Note, participants will be asked to identify those areas they have a particular interest in at the beginning of the session so that the workshop is able to respond these issues if appropriate.

An overview of interventions that facilitate decision making in the health care context

H.L. BEKKER, University of Leeds & A. STIGGELBOUT, Leiden Medical Centre, The Netherlands.

This overview presentation to the workshop includes a description of three models of professional-patient interaction (paternalistic, shared, informed). An explanation that most health care decisions involve risk, beliefs about illness and treatment, and many are time-pressured; evidence indicates that individuals are less likely to make decisions effectively in such situations. Further most health care decisions involve two or more individuals with different experiences and beliefs, which increases the likelihood that optimal decisions are not being made. Professionals and patients need to develop skills that enable them to be involved, or involve others, in the decision making process. Over the last five years, several information and decision aids have been developed for professionals and patients informed by models of behaviour change, and behavioural decision theory; integrated into current practice through training, and developing computer, video and leaflet resources. The authors will use specific examples related to patient information and decision aids.

Applying health-related quality of life and outcome measures to encourage involvement

J. GREENHALGH, University of Salford.
This presentation examines the idea that feedback of individual health-related quality of life (HRQoL) information to clinicians is an intervention to facilitate decision making. The presentation reviews the relevant theoretical and empirical literature. The literature hypothesised that such information enables clinicians to address issues important to the patient, and promote informed decision making within the consultation. Current evidence of the impact of this intervention on decision making is weak; trials have made a number of assumptions regarding the degree to which HRQoL measures reflect patients views and the extent to which these issues will be discussed in the consultation. Few randomised controlled trials have drawn on the theories available within health psychology to specify how the feedback of patient reported outcome measures to clinicians could promote effective decision making, and inadequate conceptualisations and measurement of effective decision making. The presentation will conclude with directions for future research.

Deciding to include others in decision making

D. HARCOURT, University of the West of England.
Most research into health care treatment choices has focused on patients' experiences of decision-making and the role of health care professionals on this process; little research has focused on the role played by 'significant others' (e.g. family, partners) or their experiences of being involved in/excluded from, the decision process. Our data shows that decisions relating to appearance-altering treatment (undergoing breast reconstruction) are very much influenced by these significant others. This presentation will illustrate how significant others might be (in) directly involved. It will suggest that: (a) choices are not made in a social vacuum; (b) research and clinical practice give greater consideration to the context in which decisions are made; and (c) the logistical and practical difficulties related to involving significant others in busy clinical settings. Participants will discuss ways in which the needs of significant others could or should be incorporated in treatment contexts.

Professional decision making

C. HARRIES, University College London.
A number of techniques have been used to describe the factors that influence professional decision making. These include interviews, process tracing based on think aloud and other techniques, and techniques such as judgment analysis (statistical modelling). These different descriptive methods elicit different descriptions, rely to different extents on a person's ability to describe what they do, and make different assumptions about the generalisability of results across clients, and across professionals. I shall compare and contrast the assumptions underlying different approaches, and the implications that differences in results have for incorporation of a client's opinion into the decision making process.

Motivation Interviewing and decision making

G. LATCHFORD, St. James University Hospital of Leeds.
Motivational Interviewing (MI) is a common treatment approach for addictions and lifestyle change. A form of MI, Health Behaviour Change Counselling, is particularly suited to work with patients with physical illness, particularly for use in non-adherence. The emphasis of MI is on helping patients articulate factors influencing their decision. In this it is similar to a decision aid and may be a technique to help ambivalent patients in decision making. A guiding principle is a non-directive, open and non-confrontational style of interaction, similar to person-centred approaches. The decisional balance is a commonly used metaphor but although MI emphasises individual responsibility for change, the health professional's role is to help 'weight' the side favouring action, utilising the ambivalence characteristic of cognitive dissonance. The discussion will focus on the tension between facilitating patient decision making and supporting behaviour chance, and meeting the guidelines on person-centred approaches.

Written-disclosure and health: State of the art and future directions

Convenor: E. DUNCAN, Glasgow Caledonian University.
For more than a decade the extent to which written-disclosure of upsetting and traumatic events enhances the physical and mental health of clinical and non-clinical populations has been explored. This symposium wishes to establish the current status and projected future directions of this challenging and sometimes controversial field of study. Accordingly this symposium has several purposes. The first is to highlight and evaluate the many ways that the traditional Pennebaker paradigm has been modified since its inception. One particular modification is the Guided-Disclosure Protocol. On what could be regarded as a continuum of small to substantive changes the Guided-Disclosure Protocol represents the most dramatic alteration of the traditional paradigm. This method is built upon previous research in brain processes and on certain cues from clinical

findings. Whilst modifications are not wholly unjustifiable there are concerns that different types of instructions tap into different levels of cognitive complexity and do not help to establish a consensus for best practice. Related to this issue of best practice and to the symposium title are the conclusions from a recent systematic review. This systematic review highlighted equivocal findings and cautioned against the adoption of this paradigm in clinical practice until larger randomised-controlled trials are first conducted. Related to the recommendation for larger more collaborative studies is the need to develop and clarify the underlying processes at work during written-disclosure. The third paper will, therefore, be a review of the currently proposed process of written-disclosure and the underlying mechanisms of positive health gains. Lastly there will be a unique examination of the efficacy of the written-disclosure paradigm in the recovery from conjugal bereavement. Research has shown disturbances in disclosure among insecurely attached persons. It will be argued that secure persons are less likely to benefit from the disclosure paradigm but that targeting persons with insecure attachment styles and providing attachment-style-specific disclosure instructions is likely to increase the power of the manipulation. Here it is proposed within the theoretical framework of Dual Process Model of Coping with Bereavement that the effectiveness of written-disclosure could be a function of styles of attachment. A key feature of each presentation will be the call for continued development of theoretically driven interventions and recommendations for future efficacious use of written-disclosure.

Written-disclosure: More than one way?

E. DUNCAN, Glasgow Caledonian University & Y. GIDRON, Southampton University.

There is a widely-held belief that sharing the experience of painful emotion is beneficial. Studies testing this belief via the process of written-disclosure have found health benefits but others have failed to replicate these positive findings and questions still remain about the wider application of the paradigm and the mechanisms of any health benefits. In this testing process a trend towards alteration of the original Pennebaker instructions has occurred along continuum from slight modifications inviting writers to re-visualise and really immerse themselves in their recall to quite substantive changes that foster memory reconstruction, self-regulation and future coping. This paper reviews the growing number of studies that have altered the traditional Pennebaker written-disclosure paradigm and considers the impact of such changes. The reasons given for modifications and the degree of success, in terms of positive health gain, in such studies will be discussed. Whilst these studies provide viable reasons for modifications not all provide a theoretically and empirically driven rationale. A recent theoretically and empirically driven development of the traditional instructions, called the Guided-Disclosure Protocol, will be compared to other approaches and recommendations for the applicability and scope of this new paradigm profiled.

How effective are emotional disclosure interventions? A systematic review with meta-analyses

C. MEADS, D. CARROLL, A. NOUWEN, Birmingham University & A. LYONS, Massey University.

Objectives: Emotional disclosure (ED) has been widely publicised in the psychological press as having beneficial effects on physical and psychological health. A full systematic review was undertaken with the aim of assessing the effects of the ED intervention on healthy volunteers and people with pre-existing morbidity, particularly on longer-term physical health, performance and psychological outcomes.
Methods: All available randomised controlled trials (RCTs) were obtained through searches on Medline (1966–2003), Embase (1980–2003), the Cochrane Library (2002 issue 4), Web of Science (1981–2003) and Cinahl (1982–2003) and Theses (March 2003) databases. Internet sites were searched and contacts made with relevant researchers for

unpublished RCTs. Data was extracted onto standard forms and quality assessment qualitative and by Jadad score. Meta-analysis was conducted, using Revman 4.1 software, where there were more than two RCTs reporting the same outcome.
Results: 61 RCTs were found which met the inclusion criteria. Most had physically healthy volunteers (mainly psychology students), the others involved people with pre-existing physical conditions such as rheumatoid arthritis or cancer. A wide variety of physical, physiological, immunological, performance and psychological outcomes were measured but fewer than half reported. There was no clear beneficial effect of ED compared to controls with objectively measured health clinic/physician visits and most other outcomes. Some RCTs showed statistically significant effects in opposite directions.
Discussion: The effect of ED needs to be reassessed in the light of the totality of evidence available. Discrepancies in findings between studies and previous reviews are discussed in terms of methodological, design and theoretical considerations.

Mechanisms of expressive writing: Is it biologically and theoretically plausible?

D. SHEFFIELD, Staffordshire University.

Interest in the therapeutic effects of writing has increased dramatically over the past few years in researchers, the public and clinicians. However, the mechanisms underlying any positive benefits have yet to be fully elucidated.
Early theoretical work suggested that expressive writing reduced inhibition and associated physiological activity. Supportive evidence comes from studies that have found that individuals who tend to inhibit their emotions, in particular anger, have higher blood pressure and compromised immune system functioning than those who do not. Further, individuals who completed an expressive writing exercise had reduced skin conductance suggesting reduced autonomic arousal.
However, studies relating anger expression with elevated blood pressure and a lack of a relationship between the distress of writing and later health benefits has suggested that early theories were overly simplistic. Recent theories have focused on emotion regulation and cognitive processes. For example, analysis of expressive essays has revealed that the use of insight words, causal words and words associated with cognitive activity were most strongly related to health improvements. Additional evidence for the involvement of cognitive processes comes from studies finding reductions in intrusive thoughts and increases in working memory.
This paper will discuss the evidence for each mechanism and their implications since a fuller understanding of these mechanisms will help optimise writing programmes. For example, if halting emotional inhibition is the critical element then writing about undisclosed trauma would be beneficial, whereas if coping about negative emotion is important, then any negative emotional writing should work.

On the efficacy of disclosure in bereavement: A theoretical model to explain empirical results

M.S. STROEBE, H. SCHUT & W. STROEBE, University of Utrecht.

Does disclosure of emotions facilitate recovery from conjugal bereavement? This presentation explores how expressing and sharing one's emotions about bereavement impacts on adjustment and recovery, and examines whether – or for whom – the Pennebaker paradigm may be effective among persons coming to terms with bereavement. An integrative model is proposed which may help explain unexpected findings with respect to the impact of disclosure on health among bereaved persons. Bereavement is viewed as exemplary of an attachment-related loss experience. Thus, the relationship between styles of attachment, internal representations of the self and other, and patterns of disclosure in coping are examined. It is suggested that the disclosure paradigm will be differentially effective according to styles of attachment. Evidence from research in a number of related areas is reviewed.

The identified patterns are incorporated into the Dual Process Model of Coping with Bereavement (Stroebe & Schut, 1999). Suggestions for further empirical investigation are outlined.

Theorising identity in health psychology

Convenor: H. FRITH, University of the West of England.

Purpose: A growing body of research in health psychology hints at the importance of identity in making sense of direct and indirect pathways to health outcomes. Drawing on critical approaches in health psychology (e.g. Crossley, 2000b; Murray & Chamberlain, 1999; Radley, 1997; Yardley, 1997), psychologists have looked to identity to develop more complex understandings of health-related behaviours than is offered by the predominant focus on cognitive processes and individual behaviour change. However, across health psychology as a whole identity and subjectivity are understood and researched in a multitude of different and fragmented ways. This roundtable provides an opportunity for scholars to discuss the conceptual issues underpinning health psychology's approach to theorising and researching self and identity which need to be explicated in order to develop a consistent research programme to guide the development of intervention strategies.
Objectives: To further develop theorising of identity within health psychology; to identify tensions within different approaches to identity; to consider the utility of different approaches to identity for developing health interventions.
Rationale: This roundtable discussion is timely as it follows on from a seminar series funded by the BPS entitled 'Visibility, Appearance and Embodiment: Constructing Identities at the Intersection of Health and Social Psychology'. The roundtable aims to contribute to a positive psychology by considering the possibilities for a de-pathologised approach to identity and subjectivity within health psychology.
Summary: Each contributor will give a brief presentation which outlines the key conceptual issues which underpin how health psychologists might think about identity as an explanatory device for exploring key conundrums in health psychology. These are outlined below:
Why don't objective measures of bodily difference map onto the subjective experiences of psychological distress? (Diana Harcourt)
Can social identity help us understand inequalities in health? (Bruce Bolam)
Is it better for health psychologists to study identity as an individual property or as the embedded within group memberships? (Sarah Riley
Why is there no simple relationship between body image and health behaviours? (Kate Gleeson)
How might health psychology inadvertently contribute to the pathologisation of visible differences or different embodiments? (Natty Leitner)

Why don't objective measures of bodily difference map onto the subjective experiences of psychological distress?

D. HARCOURT, University of the West of England.

This paper explores the ways in which people make sense of their appearance in relation to socio-cultural norms about what is considered to be a 'normal' or 'abnormal', or an 'attractive' or 'unattractive' appearance. In order to make sense of the apparent mis-match between objective reality, and subjective perceptions of appearance psychologists might consider the active work that people do in managing their identities. People may be aware of their place in the 'objective' hierarchy of aesthetics adopted by plastic surgeons, medics, and health practitioners, and either choose to focus on other aspects (i.e. prioritise their intellect rather than looks) or re-work their understanding of the hierarchy.
It isn't the appearance *per se* that determines the outcome but the work that people put into managing their self and the resources that they have available to them to be able to do this.

Can social identity help us understand inequalities in health?

B. BOLAM, University of Nottingham.

This paper explores the relationships between social identity, health and inequalities. Epidemiology shows us how objective social categories are influential health determinants, but this work has failed to address the subjective or experiential dimensions to these categories. How are we to understand the psychological experience of living in an inequitable society divided along the lines of 'race', gender, and class, and the implications this has for health? It is proposed that by theorising social identity as the bridge between individual experience and social structure, we can begin to unpack the role of psychological phenomena in the reproduction of health inequalities. Although primarily theoretical, the paper will exemplify this argument with reference to the author's empirical work on class identity, place identity and issues of disadvantage and social exclusion.

Is it better for health psychologists to study identity as an individual property or as the embedded within group memberships?

S. RILEY, University of Bath.

This paper argues that while health psychologists have recognised the importance of group membership and group affiliation in influencing health behaviours and health outcomes, such identities tend to be used simply as categorisation variables. Such an approach, while useful, fails to explore the construction of social identity (i.e. the ways in which identity categories are made meaningful), and the processes of identification (i.e. the processes whereby people come to identify with particular groups). By reifying such categories and using them as a basis for targeting health interventions, psychologists may miss the point by ignoring both the basis of grassroots initiatives in inclusion health provision, and the identity processes which work against health-related interventions.

Why is there no simple relationship between body image and health behaviours?

K. GLEESON, University of the West of England.

This paper argues that while simple explanatory constructs are very popular in health psychology (because they are more easily operationalised and permit explanations that attract research funding), they are only really effective when embedded in a complex network of social meaning. Although it may seem logical to reduce complex notions such as identity to their component parts in order to enable accurate research, the research processes may become ends in themselves and as a result lose explanatory power. For example, within such a reductionist approach individuals are categorised in terms of body type or subjective levels of distress in order to address the individual's experience with their body and related health behaviours. Conversely, reflecting upon our bodies, or body imaging, as only one of the tasks involved in identity production may help us to design more effective interventions.

How might health psychology inadvertently contribute to the pathologisation of visible differences or different embodiments?

N. LEITNER, North Bristol NHS Trust.

This presentation explores the pathologisation of visible differences and different embodiments by health practitioners and health psychologists, and the implications of the professional agenda for interventions into health-related behaviours. By categorising individuals into particular body types or identity categories (e.g. obese person, disfigured person, etc.) health practitioners foreclose the ways in which the behaviours of such individuals might be understood. This means that health psychologists and other health-related professionals interact with individuals as if they could be primarily defined by their illness/health category (i.e. as a smoker, dieter, alcoholic,

unhealthy eater, etc.) and thus overlook the agency of individuals to actively negotiate the meaning of their embodiments. This presentation builds on recent work within health psychology which has begun to consider the ways in which different aspects of identity might intersect to influence the uptake of healthy or unhealthy practices (e.g. Radtke & Van Mens-Verhulst, 2001).

WORKSHOPS

Developing innovative health psychology interventions

Convenor & Chair: M. HIPWELL, Queen Margaret University College, Edinburgh. Discussant: R. MILLER, Dept. of Clinical Psychology, Lothian Health.

Purpose: To identify and disseminate new interventions in health psychology and to discuss their applicability/potential applicability to other areas of health psychology practice.

Objectives:
● Present new interventions or research that have potential for development into innovative interventions.
● Discuss the potential for the applicability of existing interventions to other areas of health psychology.
● Discuss the generalisability of the findings in the context of current priorities in the NHS.

Rationale: The development of theories, the increase in research activities and in practitioner numbers has supported the development of new interventions in health psychology (Hallas & Murrell, 2002). Now that a number of academic institutions are engaged in the running or development of Stage 2 qualification for health psychologists, it is important that innovative practices are identified, disseminated and their applicability to other areas of health psychology practice explored. The Department of Health priorities for 2003–2006 include the improvement of services and outcomes in cancer, coronary heart disease, mental health and improving life chances for children. Health psychology can make a substantial contribution to these priorities and the papers selected below go some way to addressing these issues. They also exemplify some of the stages leading to the development of health psychology interventions.

Activities: Presentation by the presenters (12 minutes each) followed by a discussion with the participants (20 minutes), the presenters acting as a panel of experts.

Summary of papers:
1. Rose Evison demonstrates how new models of emotions can lead to the improvement of health psychology interventions.
2. Jennifer Guise uses discourse analysis to identify the way chronic fatigue syndrome sufferers construct their disease and the implication for interventions.
3. Vivienne Chisholm's study details the problems facing young children with poor adjustment to Type 1 diabetes and discusses the implications for interventions.
4. Malcolm McGovern and the research team at the Astley Ainslie seeks to establish the rehabilitation needs of patients with angina in a primary care setting in order to develop appropriate self-management strategies for patients.
5. Donald Sharp describes an existing model of psychosocial service provision for cancer sufferers and discusses its applicability to the future development and provision of psychosocial services.

Description of the intended participants:
This workshop is suitable for health psychologists, health psychologists in training, post-graduate students, researchers and academic health psychologists with an interest in the application of health psychology theories and research to interventions.

Maximum numbers of participants for the workshop: 30.

Classifying health behaviours

Convenor: R.J. LAWTON, University of Leeds. Contributors: R.R.C. McEACHAN, C. JACKSON & M. CONNER, University of Leeds

Purpose: A review of social cognition models points to variation in the predictive utility of constructs within the domain of health behaviours. This workshop aims to explore issues surrounding these variations with a view to informing future research and practice.

Objectives:
● To raise awareness of novel research on classifying health behaviours and to begin a forum for discussion in this area.
● To identify key health behaviours for intervention.
● To elicit salient dimensions that differentiate amongst these behaviours.

Rationale: Finding ways to change health behaviours is a key benefit that health psychologists can offer health professionals working in the field. However, fundamental differences in behaviours may mean that certain constructs of popular social cognition models are more or less appropriate at explaining certain types of behaviours than others. For example, this has been illustrated with reference to the theory of planned behaviour (Ajzen 1991), where Godin and Kok (1996) found definite variations in the predictive strength of the model depending on the behaviour under investigation. These differences in predictive strength may be due, at least in part, to the salient characteristics of the behaviour. If behaviours are conceptually grouped around a few key dimensions, then health psychologists can begin to determine which behaviour change models are more appropriate for which behaviours. This workshop will complement ongoing research by the convenors, part of which aims to gain feedback from a range of target audiences, including health psychologists and practitioners.

Activities:
● Introduction of the rationale for the workshop and research being conducted by the convenors (10 minutes).
● Brainstorming session to identify 10 to 12 key health behaviours (10 minutes + 5 minutes feedback).
● Using repertory grid technique, groups will be asked to compare triads of behaviours and to elicit key differentiating (polar) dimensions (15 minutes + 10 minutes feedback).
● With the aid of a scoring sheet, each participant will be asked to rate each of the 10 to 12 behaviours on the final set of key dimensions elicited from the groups (15 minutes).
● A reflexive discussion of the methodology and the outcome of the process (10 minutes).
● A closing discussion to establish the utility of this approach to guide future research and inform health improvement strategies (15 minutes).

This workshop is open to all, but some knowledge of social cognition models would be an advantage. The convenors envisage a workshop of around 30 to 40 participants.

The effects of exercise on cigarette cravings, tobacco withdrawal symptoms, affect and smoking-related cognitions

Convener: A. TAYLOR, University of Exeter. Contributors: M. CROPLEY, M. KATOMEIR, M. USSHER & J.Z. DANIEL.

Purpose: To reflect on research methods used to understand how exercise may aid the regulation of smoking cravings and withdrawal symptoms, drawing on specific studies, and to identify priorities for further research.

Objectives:
● To place exercise, as an aid for smoking cessation, in the broader context of smoking cessation interventions, with reference to systematic reviews.
● To highlight different methodologies employed to investigate the acute effects of exercise on cigarette cravings, smoking withdrawal symptoms, mood and affect.
● To identify the possible mechanisms involved in the acute effects of exercise in smoking cessation, and consider current evidence for such mechanisms.

- To identify the potential for further research in this field and practical applications for those involved in smoking cessation.

Rationale: Investigation of the effects of exercise on psychological well-being has become popular with recent attention turning to its use as an aid for smoking cessation (Ussher *et al.*, 2000, 2003). A growing number of studies have experimentally manipulated cigarette cravings, and are starting to examine the mechanisms for possible effects. The workshop will draw on participant's expertise to refine and develop further research in this field, which has practical utility.

Activities:
1. *(10 min. led by A. Taylor)* Introduction to the workshop. Then, participants will initially be invited to broadly consider the potential role of exercise as a smoking cessation aid?
2. *(20 min. led by M. Ussher)* Evidence from a systematic review of studies designed to assess the chronic effects of exercise will be presented. This will be followed by speaker-generated discussion on issues concerning the design of chronic studies.
3. *(20 min. led by J. Daniel)* Evidence from a systematic review of studies designed to assess the acute effects of exercise will be presented. This will be followed by speaker-generated discussion on issues concerning the design of acute studies.
4. *(15 min. led by M. Katomeri)* Will provide an example of an acute study with effects of walking (low-moderate intensity) on various measures of cravings and withdrawal symptoms, lasting up to 20 minutes post-exercise. This will be followed by speaker-generated discussion on issues concerning the design of this acute study.
5. *(15 min. led by M. Cropley)* Will provide an example of an acute study designed to identify smoking motivation as a moderator variable in examining the acute effects of exercise. This will be followed by speaker-generated discussion on issues concerning the search for mechanisms in acute studies.
6. *(20 min. with all presenters on the 'platform', chaired by A. Taylor)* Participants will be given the opportunity to propose complementary or new directions for future research relating to the topic (both chronic and acute effects of exercise), particularly for identify mechanisms.

Intended participants: This workshop would be suitable for anyone interested in smoking cessation interventions, the effects of exercise on psychological well-being, and experimental methods involving mood/affective manipulation.

INDIVIDUAL PAPERS

Defending the self in chronic fatigue syndrome: Identifying the enemy. An interpretative phenomenological analysis

J.M. BROCKI & A.J. WEARDEN, University of Manchester.

Objectives: To use qualitative research methods to carry out an in-depth examination of the beliefs that patients with chronic fatigue syndrome (CFS, also known as ME) and their spouses hold about the illness, in particular contrasting how the condition is understood through the evidence of personal experience and by others

Methods: Leventhal's self-regulatory model (Leventhal *et al.*, 1984, 1997) was used as a guide to construct semi-structured interviews which were carried out with two CFS patients and their spouses. Interview transcripts were analysed using interpretative phenomenological analysis (IPA).

Results: Four major themes were identified:
1. 'Worker not a shirker' – portrayal of the patient struggling to fight personifications of the illness; inconsistencies in identifying effective methods of management.
2. 'He felt relieved he had a label, he thought he was cracking up' – reactions to diagnosis; dealings with the medical community.
3. 'My ex-wife says it's attention seeking' – perceptions of others; legitimisation of sick role status.
4. 'Do you think people with chronic diarrhoea have diarrhoea for all their lives?' – expectations for the future.

Conclusion: The effects on self-concept in CFS/ME and perceptions of others' opinions is discussed. It is suggested that this may have implications for treatment uptake and compliance in CFS/ME. The use of IPA methodology facilitated the distinction of individuals' complex reasoning processes whilst enabling the identification of patterns across accounts.

Adolescent contraceptive behaviour: Identifying key predictors of effective contraceptive use

K.E. BROWN, K.M. HURST & M.A. ARDEN, Sheffield Hallam University.

Background: The current study aimed to identify which of 20 variables, prominent in the existing literature, achieved greatest significance in predicting effective contraceptive use amongst a sample of adolescents.

Methods: A questionnaire design was used to collect data from participants (n=291), who were pupils from four local secondary schools, a sixth form college, and first year undergraduate students, aged between 14 and 19 years. The questionnaire used a specifically designed algorithm to assess how effective participants' were at using contraception, and categorised them as belonging to one of the five stages of change for contraceptive use (TTM; Prochaska & DiClemente, 1983). It also measured 20 different Psychological variables that had either been piloted and/or presented in a standardised format (e.g. components of the theory of planned behaviour; TPB; Ajzen, 1991).

Analysis: A direct discriminant function analysis (DFA) was performed on the time 1 data, to assess which psychological variables predicted membership to the five stages of change for contraceptive use. Four discriminant functions were calculated, with a combined χ^2 (80)=252.6, p<0.001. After removal of the first function, there was still strong association between groups and predictors, χ^2 (57)=88.3, p=0.005. Examination of the structure matrix of correlations revealed that self-efficacy, attitude towards the pill, behavioural processes of change and perceived behavioural control were the best predictors for distinguishing between the stages of change for contraceptive use.

Discussion: These findings suggest that the focus of future social cognitive intervention research aimed at improving adolescent contraceptive use should be attitudes towards contraceptive methods, particularly the pill, and self-efficacy or perceived behavioural control over contraceptive behaviour.

The effect of a distressing anti-smoking message on risk perception and comparative optimism in smokers

S.L. BROWN & E.Z. SMITH, University of Central Lancashire.

There is some evidence that some people who engage in risk-taking behaviours respond defensively to emotively-presented health promotion messages. We tested the hypothesis that an emotively presented anti-smoking message would decrease personal risk perceptions and increase comparative optimism compared to a less emotively presented message. One-hundred-and-two smokers were randomly assigned to receive either an anti-smoking message presented using images designed to maximise emotional distress, or the same message presented using less distressing images. We found lower risk perception and greater comparative optimism in the distressing image message condition, which was mediated by greater negative affect generated by the message. A path analysis conducted within the distressing image condition showed that the degree of negative affect predicted risk perception and comparative optimism, both directly and through mediation by a negative evaluation of the message. The theoretical and practical significance of these findings is discussed.

A network analysis study of the causes of low back pain

C. CAMPBELL, University of Teesside & S.J. MUNCHER, University of Durham.

Background: Beliefs regarding the cause of low back pain differ between individual sufferers and health care professionals. One consequence of this is the potential acquisition of maladaptive attitudes; related pain behaviour and increases in the utilisation of primary care services. Methods that have been used to elicit the causal interpretation of social phenomena are varied yet they are unable to categorically demonstrate the different weightings or levels of importance that individuals may assign to health states. This is the first study to employ network analysis in order to determine causal attributions of low back pain.

Method: 71 individuals suffering with chronic low back pain provided completed diagrams indicating the perceived causes of their pain.

Findings: The mean number of direct causal paths was 5.61 (SD=3.25) and mean number of indirect causal links was 1.16 (SD=2.34). A significant correlation between path frequency and path strength was also found (r=0.76 p=0.001). There were four core contributory causes (disc, sciatica, lifting, and injury) and one indirect pathway between lifting and injury.

Discussion: Sufferers do not have an overtly complex view of the causative factors of low back pain. There was a clear delineation between external (biomedical) and internal (person-related) factors that were attributed to low back pain acquisition. By determining these causal attributions it is proposed that treatment packages could be tailored to address inaccuracies or biases in thinking. This may be particularly useful for those individuals who attribute their pain as a consequence of external (or biomedical) causes.

'Getting on with life': The experiences of older people using complementary health care

T.J. CARTWRIGHT, University of Westminster.

Background: Surprisingly few studies have explored the use of complementary medicine amongst older persons and existent research is typically restricted to those who can afford private treatment. The aim of the current qualitative study was, therefore, to explore experiences of older people using subsidised complementary health care.

Methods: Semi-structured interviews were conducted with 17 regular attendees of a single centre offering low-cost complementary health care to the over 60s. The sample was randomly drawn from the patient register and included patients from mixed social and ethnic backgrounds. Transcripts were analysed using interpretative phenomenological analysis (IPA).

Findings: The core theme underlying participants' accounts related to the desire to *'get on with life'* and maintain physical and social functioning within the constraints imposed by chronic conditions. Consequently, the *physiological effects* of treatment were highly valued, particularly reductions in pain and improved mobility. *Psychological effects* operated at a more subtle level, influencing perceptions of health and well-being. The empowering nature of treatment enabled participants to regain *a sense of control* over their health, which reduced anxiety and facilitated 'normal' functioning. The *whole package care* was perceived as an important source of support and reassurance in contrast to the impersonal experiences of orthodox medicine.

Discussion: Complementary health care was perceived as an important adjunct to orthodox medicine, with particular implications for the quality of life of older people with complex health needs. Results are discussed in relation to health care provision for the elderly, cost-effectiveness, and outcome evaluation.

Making sense of 'adjustment to cancer': Views of specialist palliative care nurses

S. CHESTERS, R. OWEN & S. SKEVINGTON, University of Bath and Gloucestershire Royal Hospital.

Background: This qualitative study aimed to elicit the views of specialist palliative care nurses (SPCNs) regarding how they construe 'adjustment to cancer' and to use this to inform debate about the optimal approach to supporting people with cancer and their families.

Methods: interpretative phenomenological analysis (IPA) was used to analyse semi-structured interviews with 10 SPCNs.

Findings: Five themes were identified.

In 'Adjustment Defined', a composite of the SPCNs' conceptualisation of adjustment was 'a process of incorporating the illness and its implications so that one is no longer overwhelmed and can move forward'. Secondly, 'Shattered Beliefs' supported Brennan's (2001) Social-Cognitive Transition model; cancer challenges core assumptions of life trajectory, self-worth, attachments and existential/spiritual beliefs and can also have positive outcomes such as renewed appreciation of life. In addition, people in the terminal stages of cancer may become less interested in the world around them until their focus is on their home, room and eventually their own bodies; a 'shrinking world'. Thirdly, 'Ongoing Process' outlined that each disease phase carries different challenges so continual re-adjustment is needed. Fourthly, 'Adjustment Determinants' highlighted the psychosocial/illness factors that contribute to adjustment such as social support, concurrent stresses and the 'bad news' consultation. Finally, 'Adjustment Support' outlined the importance of patient autonomy and the practicalities of adjustment support such as symptom control and multi-disciplinary team work.

Discussion: Cancer impacts upon the whole family. Adjustment to cancer involves a number of interacting psychosocial, physical and spiritual factors. The SPCNs conceptualised adjustment as a process of incorporating the illness and its implications into people's lives; involving more than the psychological. Hence the concept of adjustment is broadened to include issues such as dealing with existing stresses, adapting one's home and pain control.

In keeping with the central tenets of palliative care, it is important that people with cancer and their families receive physical, social, spiritual and psychological support throughout the illness, that communication is open/sensitive and patient individuality and autonomy is respected.

The role of psychological status and self-efficacy in influencing the outcome of a hospital-based group intervention for smoking cessation

C.C. CHRYSSANTHOPOULOU, R. PIRES, University of Bath & D. SHAH-ARMON, Hillingdon Primary Care Trust.

Background: The Specialist Smokers' Clinic at Hillingdon Hospital offers a seven-week treatment programme for individuals wishing to quit smoking based on the Withdrawal-Oriented Therapy for smokers (Hajek, 1989). The present study aimed to determine the role of motivation to quit, smoking specific self-efficacy and psychological well being in influencing attendance and the effectiveness of this intervention.

Methods: The research is based on 109 smokers invited to the programme between January and December 2003. Motivation to quit, smoking-specific self-efficacy, psychological status and socio-demographic characteristics were treated as the independent variables and were assessed prior to the first session through self-report questionnaires. The dependent variables were attendance and four-week abstinence measured via carbon monoxide levels in expired breath.

Findings: Results showed that individuals who reported lower levels of depression were more likely to attend the programme ($F=4.95$, $p<0.03$) and abstain from smoking for a month ($F=4.32$, $p<0.04$). Also, among attenders and after controlling for the effects of confounding variables, those who reported higher levels of smoking-specific self-efficacy were more likely to be successful in quitting ($F=6.25$, $p<0.02$).

Discussion: Findings underscore the strong link between psychological status and smoking maintenance and demonstrate the need for alternative interventions targeting psychologically distressed individuals. Consistent with previous research, results also highlight the important role of smoking specific self-efficacy in influencing abstinence. Targeting and aiming to alter such beliefs may prove beneficial in preventing relapse particularly during the first month of quitting.

Participation in an online Huntington's disease support network: Who participates and what do they talk about?

N.S. COULSON, A. AUBEELUCK, H. BUCHANAN, University of Derby & H. SEMPER, University of Nottingham.

Background: In recent years, the rapid expansion in internet access and computer-mediated communication has fostered new opportunities for individuals with health-related concerns to participate in supportive communication within a network of individuals dealing with similar problems that would be difficult or impossible to develop in the face-to-face world (Walther & Boyd, 2002). There were two key aims of this study. Firstly, to explore who participates in a network for individuals affected by Huntington's disease (HD) and secondly, to examine the type and nature of communication which takes place.

Methods: A total of 1314 messages posted to a computer-mediated support network bulletin board for any individuals affected by HD between 1997 and 2000 (this study period was selected due to ethical considerations) were submitted to a thematic analysis. Unique sender names were recorded as well as available background information.

Findings: A total of 793 individuals posted messages to the network during the time analysed. Participants included individuals about to be tested, awaiting test results or who had recently received their result (both positive and negative) as well as spouses, relatives, carers and friends. The thematic analysis revealed five emergent themes from the data: genetic testing, illness representation, social support, coping and consequences.

Discussion: The online network evidently functioned to provide participants with a mutually beneficial means of disease-related communication and support. The implications of this study for academics as well as health care professionals will be elaborated as well as future areas for research identified.

The gap between theory and measurement: Are operationalisations of self-efficacy and perceived behavioural control compatible with their theoretical conceptualisations?

D. DIXON & M. JOHNSTON, University of Aberdeen.

Background: The relationship between perceived behavioural control (PBC) and self-efficacy (SE) remains unclear. Data reduction techniques, applied to items used to measure SE and PBC, have revealed two factors. However, it is unclear how these operationalisations relate to the theoretical definition of each construct. This study employs an expert judgment task to examine whether commonly used PBC and SE items can be recognised as measures of these constructs.

Methods: 17 philosophy or English language academics completed a 20-item postal questionnaire. Definitions of PBC and SE were given. SE and PBC measurement items were provided; neutral items were also included. Participants judged whether each item matched either of the definitions, both definitions or neither definition. Results were analysed using binomial tests.

Findings: 41 per cent of responses to SE items and 16 per cent to PBC items were correct; PBC items were more likely to be classified incorrectly than correctly ($p=0.0001$). When a correct response was defined as either the correct definition or the 'both' response category, 89 per cent and 56 per cent of the responses to SE and PBC items, respectively, were correct; SE items were more likely to be classified correctly than incorrectly ($p=0.0001$).

Discussion: SE items are more successful ithan PBC items in measuring the construct. This may reflect either the more inclusive nature of the definition of SE or indicate that items used to measure SE accurately reflect the actual cognitive representation. The apparent lack of correspondence between PBC items and the theoretical definition may be due to inadequate definition or measurement.

Diary keeping and well-being

E. DUNCAN, Glasgow Caledonian University & D. SHEFFIELD, Staffordshire University.

Writing about upsetting and traumatic events can improve overall mood, boost immune function in healthy volunteers and improve disease status in clinical samples. However, not all people benefit. How widely applied the writing paradigm should be and the underlying mechanisms of benefit are still elements under debate. In spite of the range of studies few to date have examined expressive writing within a naturalistic setting. Elaborations of the standard of writing paradigm in the shape of journal-based interventions have afforded health benefits, but no study has examined whether those who keep diaries, and specifically personal diaries, have better health than those who don't. One-hundred-and-thirty-five participants completed a diary-keeping questionnaire, GHQ-28 and Physical Symptoms Index. It was hypothesised that those who kept a personal diary more often would report less physical symptoms and lower GHQ sub-scale scores. Ninety-four (70 per cent) students reported ever keeping a diary. Those who reported ever keeping a diary reported more somatic, anxiety and social dysfunction symptoms ($p<0.05$); there were no differences in physical symptoms. Those who kept a personal diary had more social dysfunction symptoms than those who kept organisational or travel diaries ($p<0.05$). More frequent diary entries were associated with more physical and social dysfunction symptoms. Finally, those who re-read their diaries reported more anxiety and social dysfunction symptoms. These results run contrary to studies on the benefits of expressive and personal writing. Why such results have arisen and how they can be explained in relation to writing intervention studies is presented.

'What's not broken, you don't fix': Screening for cardiovascular risk in a health population

H. EBORALL, University of Cambridge, S CUNNINGHAM-BURLEY & F.G.R. FOWKES, University of Edinburgh.

Background: This study explored public attitudes towards screening for cardiovascular risk within the context of a randomised control trial (RCT).

Methods: Participants were members of a healthy population (50 to 79 years) invited to participate in screening for asymptomatic atherosclerosis and to a subsequent RCT assessing the efficacy of aspirin in preventing cardiovascular events. In addition to trial participants, the study sample included those who were ineligible and those who had declined to participate in the trial. Semi-structured qualitative interviews and focus groups were conducted and transcribed verbatim. Transcripts were analysed using a grounded theory approach.

Findings: *Screening attendance:* Regarding barriers, prominent themes emerged in participants' accounts of their own attitudes, and those of 'known' or 'general' others: Fatalism, optimistic bias and denial/disinterest were salient; the common phrase 'what's not broken, you don't fix' further emphasised implications of low risk perception for participants' approach to preventive health for asymptomatic conditions. *Screening experience:* Mismatch between expected and actual screening results led to varying reactions: Some participants maintained prior beliefs about personal health and risk, seeking alternative explanations; others reinterpreted their pre-screening beliefs. Key influences on participants' reactions included understanding, the nurse-participant dialogue and the screening measure. Also 'risk' as defined by the novel clinical measurement was interpreted differently from standard clinical measures, and differently still from risk from lifestyle behaviours.

Discussion: Explanations of attitudes towards screening demonstrated the multitude of influences, and the underlying role of perceived risk. Health psychology and qualitative research can make valid contributions to public health regarding screening and prevention.

An examination of the applicability of self-determination theory to the exercise domain

J.K. EDMUNDS, N. TOUMANIS & J.L. DUDA, University of Birmingham.

Background: Physical inactivity levels observed in modern society carry well-documented ramifications for physical and mental health. To intervene we must understand what motivates people to initiate and maintain adaptive exercise behaviours. Self-determination theory (SDT) proposes that the fulfilment of three basic psychological needs (i.e. competence, autonomy and relatedness) elicits self-determined motivational regulations (intrinsic and identified). In turn, such regulations are hypothesised to result in more adaptive motivation-related outcomes than more controlling regulations (introjected and external). This study aims to test the tenets of SDT in the exercise domain.
Method: Cross-sectional – 369 participants completed measures of psychological need satisfaction and motivational regulations specific to exercise, and reported exercise behaviours.
Findings: Bivariate correlations indicated positive relationships between self-determined motivational regulations, psychological need satisfaction and exercise behaviour. Hierarchical multiple regressions demonstrated that introjected regulation predicted total exercise (ß=0.15, p=0.02). External (ß=−0.14, p=0.01), introjected (ß=0.21, p=0.00) and identified (ß=0.17, p=0.01) regulations, and satisfaction of the need for competence (ß=0.23, p=0.00), predicted strenuous exercise.
Discussion: The observed relationships between psychological need satisfaction and self-determined motivational regulations readily suggest intervention techniques to improve the quality of motivation guiding exercise behaviours. As evidenced in other domains (Koestner et al., 1996) however, introjected and identified regulations were more important in predicting exercise behaviour than intrinsic motivation. Before advocating their promotion, more extensive research is needed to examine the wider cognitive, behavioural and affective implications of such regulations over time.

Egoistic not altruistic motives predict blood donation

E. FERGUSON & K. FARRELL, University of Nottingham.

Background: The NHS relies on voluntary blood donation to maintain the countries blood supply. Blood donation is traditionally viewed as an altruistic (other oriented) act and this is reflected in recruitment campaigns. However, theoretically this view of blood donation is difficult to defend, especially in terms of evolutionary theories as well as being at odds with data on other pro-social voluntary behaviours. Pluralistic models of evolutionary and psychological altruism suggest that behaviours that appear altruistic may in fact be driven by egoistic (selfish) as well as or instead of altruistic motives. This study, therefore, explores if blood donation is driven primarily by either egoistic or altruistic motives or both.
Methods: A longitudinal cohort study of 957 participants (mean age=19, per cent blood donors=15 per cent) was conducted. All participants provide information on donor history (e.g. previous donations made), egoistic and altruistic motives, intentions, and perceived threat. This cohort was tracked for the next six months using the National Blood Service's data base, to identify those attending to make future donations.
Findings: Univariate analyses showed that egoistic (p=0.004) and not altruistic (p=0.210) motives predicted future attendance. This was confirmed using multivariate analysis of covariance variance controlling for past behaviour, with both intentions and threat at additional DVs (Pilias trace=0.04, p<0.0001).
Discussion: Consistent with a pluralistic account of altruistic behaviour, egoistic motives drive blood donor behaviour. Practically this indicates that recruitment, especially for younger groups, may benefit from emphasising egoistic motives.

A psychological weight loss intervention programme based on the FIT framework

B.C. FLETCHER, J. HANSON, University of Hertfordshire & F. JONES, University of Leeds.

Background: FIT is a psychological change framework which has support from cross-sectional studies for a wide variety of work/personal outcomes. In previous research we have observed relationships between Body Mass Index (BMI) and different FIT variables, most notably with FIT behavioural flexibility. This intervention study examines if enhancing FIT flexibility can act as a lever for successful weight loss.
Methods: A longitudinal design with waiting list controls was employed. Fifty-five people, aged 23 to 61, participated, most of whom had previously dieted. Many variables were measured (e.g. FIT profiler, food and exercise, expectations, self-efficacy, weight loss fantasies). The FIT Group were given with one month's training in flexibility (an initial group meeting followed by daily diary-logged brief FIT flexibility exercises). All completed daily food diaries and were remeasured monthly.
Findings: Correlations, ANOVA's and Regression Analyses showed FIT flexibility increased significantly, BMI decreased significantly, and several important dietary and exercise variables also changed. Behavioural flexibility and BMI were significantly correlated throughout (more strongly than other variables), as were the extent to which these measures changed. The effects persisted long after the FIT intervention. Regression analyses suggested the effects were not direct: FIT flexibility influenced diet and exercise and this in turn affected weight loss. There were also major benefits of FIT changes on anxiety and depression levels.
Discussion: Increasing FIT flexibility appears to facilitate weight loss without the need for group support, or focusing on food/exercise directly, but on breaking habits for which willpower alone is inadequate. FIT interventions may produce fundamental changes in the individual which have lasting effects.

People with scoliosis: A study of the relationship between coping, acceptance of scoliosis, body image, quality of life, health locus of control and pain

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Background: Scoliosis is a three-dimensional lateral curvature of the spine (the presence of which is abnormal) and primarily develops during adolescence. Maladaptive coping patterns can impact negatively upon psychosocial functioning, body image, and compliance/satisfaction with treatment. The aim of this study was to identify the patterns of coping with stress employed by people with scoliosis (PwS) and their parents.
Methods: A sample of 167 PwS and their parents from the UK completed a questionnaire that included the following scales: Functional Dimensions of Coping (to assess stressors, coping style and coping function [approach, emotional regulation, reappraisal, and avoidance]); Acceptance of Scoliosis, Body Image, Quality of Life Profile for Spine Deformities (QoLPSD), Health Locus of Control, and the McGill Pain Questionnaire.
Findings: Salient stressors were employment issues followed by health (scoliosis related) and relationship issues. The most relied upon coping styles were social support (emotional and instrumental) and emotional release. Functional coping levels between PwS and parents of PwS were not significantly correlated. Multiple regression revealed that approach (b=−0.23, R2=0.05, p<0.05), reappraisal (b=−0.30, R2=0.09, p<0.01) and emotion regulation (b=−0.31, R2=0.10, p<0.05) were negatively associated with psychosocial functioning on the QoLPSD. Avoidance was negatively associated with back pain on the QoLPSD (b=−0.25, R2=0.07, p<0.05).
Discussion: Assessment of coping patterns could be used to provide multi-disciplinary services for scoliosis that emphasise patient education, adaptive coping and shared decision making with physicians.

An experimental investigation of Karasek's Job Strain Model: Does control have a positive effect on physical health?

N. FLYNN & J.E. JAMES, National University of Ireland.

Background: The Job Strain Model (Karasek, 1979) proposes that control moderates the deleterious effects of job demand on health. It is one of the most prominent models of occupational stress, but has failed to receive consistent empirical support.
Method: In Study 1, 60 undergraduate students completed mental arithmetic problems under varying levels of task control (method, pacing, resource, and feedback control) and task demand (difficulty). In Study 2 (involving 68 undergraduate students), an attempt was made to minimise task novelty as a potential moderator of control, through the introduction of practice sessions and an increase in task duration.
Results: Mixed ANOVA analyses of Study 1 data revealed a small, significant main effect for control on SBP [F(1,55)=4.24, p=0.044], but no main effects on diastolic blood pressure [F(1, 55)=<1], or heart rate [F(1,55)=3.30, p=0.08]. Despite the strengthening of the manipulation in Study 2, control was not found to affect SBP [F(1,62)=1.38, p=0.25], DBP [F(1,62)=1.511, p=0.22], or HR [F(1,62)=<1].
Findings: It is concluded that when workload is controlled for (as was the case in the present studies), main effects do not emerge for task control on cardiovascular reactivity. It may be argued that control is beneficial only when it can be used to reduce one's workload. This suggests that demand and control are not orthogonal factors: a proposition which has implications for work stress interventions based on the Job Strain Model.

Perceptions of heart disease risk due to smoking and cholesterol or to smoking and family history

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Background: Ratings of perceptions of risks due to combinations of hazards appear to be strongly influenced by the rating scales employed: in particular, scales with few points (i.e. seven- or nine-point) tend to yield subadditive ratings (the combined risk being rated as less than the sum of the individual risks). The present study examined the sensitivity of three types of rating scale to communications about the risks due to different combinations of hazards.
Methods: A 2 x 3 between subjects design was used, with 243 adult smokers being presented with: (a) a synergistic combination of hazards, and explicitly told that the combined risk is greater than the sum of individual risks (smoking and cholesterol); or (b) an additive combination, and explicitly told that the combined risk is equal to the sum of the individual risks (smoking and family history). Ratings of the risk of heart attacks were made using one of three distinct rating scales: (a) nine-point, (b) 100-point, (c) 'unbounded'. All participants rated the risks of four people, with all possible combinations of high and low levels of smoking and the other risk factor.
Findings: Communications that explicitly describe synergistic risk had the same effect as communications that explicitly described additive risk. Patterns of interaction found depended on the rating scale used: as in previous research, rating scales with fewer scale points were more likely to yield a sub-additive pattern of risk perception.
Discussion: We are some way from imparting and adequately assessing how people understand how some hazards combine.

A grounded theory of adaptation to facial surgery in adulthood

P.J. FURNESS, University of Nottingham.

Background: The study aimed to identify psychosocial predicting factors, process and outcomes of adjusting to facial surgery.
Methods: An exploratory qualitative design based upon grounded theory methodology was used.

The purposive sample comprised 30 adults with previous facial surgery, and nine significant others. Three focus groups and 25 individual interviews were carried out. Data were analysed using grounded theory methods of coding, categorising, and theory-building. A validating member check was performed and data second-analysed for reasons of completeness and reliability.
Findings: A model of adaptation to facial surgery was developed, based around four superordinate categories of data, namely 'demands' of the situation, 'resources and influencing factors', a core phenomenon of 'responding and managing' the situation, and 'effects and outcomes' of this process. Evidence was sought for inter-relationships between categories and constituent codes, and illustrated using verbatim quotations.
Discussion: This study affords particular insight into the experience of living and coming to terms with facial surgery and is therefore of interest to health care staff and psychologists employed in this area. It is unusual because of its emphasis on the process of responding to and managing stress and life change, rather than its predictors and outcomes alone. Furthermore it incorporates both adjustment difficulties and successes and a range of experience in between, thus contributing to the study of positive health psychology and providing a more rounded picture of adaptation to facial surgery than is found elsewhere.

To vaccinate or not to vaccinate: Three predictors of parents' decisions on MMR immunisation

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Background: Addressing declining uptake rates for the MMR vaccine requires an understanding of factors leading parents to decide for and against vaccination of their children. We report the results of a pilot study that investigated factors relevant to parents and the extent to which these predicted decisions for or against vaccination.
Methods: 63 parents participated. Forty-seven (74.6 per cent) had had their child MMR vaccinated, 17 (25.4 per cent) had refused the vaccine. In a two-stage mixed method design, two rounds of Delphi technique initially elicited parents' views of relevant factors. From the responses, 29 factors were identified as relevant to participants and then incorporated into a quantitative questionnaire that assessed the degree of importance assigned to each factor on a five-point Likert scale.
Findings: 10 factors were correlated with vaccination status (p<0.05, two-tailed) and were used in a stepwise binary logistic regression model as predictors of vaccination status. In the final model, the strongest predictors of vaccination were the importance attached to GPs opinions (OR=2.81, 95 per cent CI=1.10-7.15) and to government health advice (OR=2.57, 95 per cent CI=1.01-6.56). Strongest predictor of non-vaccination was the influence of current research, with parents who rated current research as important nine times less likely than other parents to have their children vaccinated (OR=0.11, 95 per cent CI=0.02-0.63, prediction toward 'yes vaccination').
Discussion: Although coming from a small-scale study, the magnitude of these predictors indicates the strength of parental concerns on these issues. These perceptions need to be addressed to reverse the decline in uptake rates.

Illness and treatment cognitions predict depression in end-stage renal disease

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Background: Depression is a common, but under diagnosed problem in patients with end-stage renal disease. Predictors of depression have been understudied. This study investigated the effects of illness and treatment cognitions on depression in patients on different renal replacement therapies. Comparisons were undertaken between: dialysis vs. transplant; haemodialysis vs. peritoneal dialysis patients.

Methods: Transplant (n=117; mean age=50.3 yrs) and dialysis patients (n=145; mean age=50.1 yrs) completed questionnaires assessing illness perceptions (Illness Perception Questionnaire), treatment beliefs (Treatment Effects Questionnaire; Beliefs about your Medicines Questionnaire), and depression (Beck Depression Inventory).
Results: Illness and treatment beliefs did not differ between the dialysis groups. Transplant recipients were more likely to hold an acute timeline, perceived more control, less consequences, less symptoms and less illness and treatment related burden compared to dialysis (ps<0.01). BDI scores indicated mild depression for the dialysis groups and no depression for TX recipients. When all case-mix differences were adjusted, there were no significant differences in depression levels between dialysis groups and between dialysis and TX patients. Hierarchical multiple regressions indicated that illness and treatment intrusiveness, consequences and control beliefs predicted depression levels in both dialysis and transplant patients over and above the effect of sociodemographic, clinical and biochemical variables. Explained variance ranged from 41.4 per cent to 49.4 per cent, with different variables emerging as significant predictors for dialysis and transplantation.
Conclusion: These findings suggest that different treatments may induce distinct illness and treatment beliefs which appear to have a direct influence on depression.

The processes by which perceived autonomy support in physical education promotes leisure-time physical activity intentions and behaviour: A trans-contextual model

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Background: Health and educational psychologists concerned with the promotion of active lifestyles often cite schools as a useful context in which to convey health messages to young people. The present study aims to examine how the presentation of physical education lessons may affect young people's motivation towards physical activity in physical education and outside school. The trans-contextual model (TCM), a multi-theory model of social cognition, will be presented to explain the psychological processes by which young people transfer motivation during physical education into physical activity behaviour during leisure-time. The TCM proposes that young people's perceived autonomy support in physical education will affect their perceived locus of causality, intentions, and physical activity behaviour in a leisure-time context.
Method: A prospective design was employed. High school students (n=295) completed measures of perceived autonomy support and perceived locus of causality in physical education. One week later, participants' perceived locus of causality and constructs from the theory of planned behaviour were assessed in leisure-time. Leisure-time physical activity behaviour was measured five weeks later.
Findings: Perceived autonomy support in physical education affected leisure-time physical activity directly and indirectly through a motivational sequence involving internal perceived locus of causality, attitudes, perceived behavioural control and intentions. There influence of perceived autonomy support on leisure-time physical activity behaviour was mediated by the TCM constructs.
Discussion: Results support the TCM indicating that perceived autonomy support in an educational context influences motivation in a leisure-time context. These findings support previous research that has adopted multi-theoretical approaches using constructs from self-determination theory and the theory of planned behaviour to explain the motivational influences within-contexts. These results extend the literature by providing evidence for the transfer of motivation across contexts.

Mix and match: What do men want from their GP?

S.C. HALE, S. WILLOTT & S. GROGAN, Staffordshire University.

Background: Social class is known to have an influence on male mortality rates with men in social class V having almost three times that of men in social class I. This study aimed to explore the views of men of differing socio-economic status about men's health and health behaviours.
Method: Street interviews were carried out in four different sites. Two sites were in areas with predominantly social class I or II population, two sites in areas with predominantly social class IV and V population. Sixty-four interviews were carried out in total. Interviews were audiotaped, transcribed and then subjected to Interpretational Phenomenological Analysis.
Findings: There was a major difference between the sites, with individuals interviewed at low SES sites preferring a warm relationship with their GP, whereas those interviewed in high SES sites preferred a businesslike relationship with their GP. Men from low SES sites had more physical health problems than men at high SES sites and were more likely to live alone.
Results: Results suggest suggests that men who live in low SES sites, who have higher levels of physical impairment and lower levels of emotional and social support are more likely to seek a warm confiding relationship with their GP, whereas those with less ill health and greater levels of support will not. Dissatisfaction appeared to occur when those who preferred a warm relationship with their GP met with a businesslike approach.
Discussion: Dissatisfaction with male GPs may be related to an inadequate fit between the patients preferred relationship and that provided by the GP.

'Leaving it up to the wife': Men delegating the care of their health to women

S. HALE, S. GROGAN & S. WILLOTT, Staffordshire University.

Background: Women are recognised as playing a major role in family health and previous studies have shown that men often delegate the care of their health to their partners. This study both explores and evaluates the role of women in men's health.
Method: Semi-structured interviews were carried out with 115 men, women and GPs. These were audiotaped, transcribed and subjected to Interpretational Phenomenological Analysis.
Findings: While women did play a positive role in men's health by facilitating their contact with medical practitioners in a way that did not compromise their masculinity, this did have a negative effect on their partners health in a number of ways. Women often colluded with doctors to present men as childlike and incompetent and men's reduced status in health consultations then acted as a barrier to their full participation in healthcare. Findings also suggested that women encourage men and boys to live up to male stereotypes, to carry on working when ill and to depend on over-the-counter medications to treat health problems. In this way women may educate men to neglect their health.
Discussion: While this analysis suggests that men's delegation of the care of their health to women may have a negative effect on their health, this behaviour is located in a wider framework of socially accepted roles for men and women. It does however have implications for healthcare workers who aim to improve men's use of healthcare services.

Increasing women's intentions to stop smoking following an abnormal cervical smear test result: The moderating role of self-efficacy

S. HALL, A.J. BISHOP & T.M. MARTEAU, King's College London.

Background: The aim of this study is to assess self-efficacy as a moderator of the impact of leaflets informing women of the link between smoking and cervical cancer upon intentions to stop smoking in women receiving abnormal cervical smear test results.

Methods: 330 women smokers who received an abnormal smear test result were randomly allocated to one of three groups: (1) sent a leaflet about the threat of cervical cancer from smoking and the benefits to cervical health in stopping, containing a detailed explanation of how smoking harms the cervix; (2) sent the same leaflet but without the detailed explanation; and (3) no leaflet. Outcomes were assessed one month later. One-way ANOVA and independent t-tests were used to compare means. A 2 x 3 ANOVA was used to examine the potential moderating role of self-efficacy on the association between groups and intentions to stop smoking.
Findings: Women sent the leaflet with the detailed explanation had higher intentions to stop smoking in the next month compared with those not sent a leaflet. This effect was moderated by self-efficacy (confidence in stopping smoking): the leaflet only had a significant impact on intentions in women with higher self-efficacy.
Discussion: Explaining the link between smoking and cervical cancer increases intentions to stop smoking in women receiving abnormal cervical smear test results only if they have high levels of self-efficacy in stopping smoking. Further studies are needed to determine how self-efficacy can be increased and whether, in addition to the detailed leaflet, this increases rates of smoking cessation.

Effects of written emotional disclosure following residential fire: Triple blind randomised controlled trial

K. HAMILTON-WEST, University of Kent & C. BRIDLE, University of the West of England.

Background: Evidence for the effectiveness of brief early interventions promoting emotional expression following traumatic events is limited (Bisson, 2003), perhaps because they encourage rumination by failing to provide clear instructions for individuals to engage in systematic emotional expression (Ehlers & Clark, 2003). Emotional expression interventions may be more effective if they provide structured disclosure tasks, such as written emotional disclosure, in which experience is transformed into a linguistic structure (Pennebaker *et al.*, 1986, 1988, 1990). This study examined the effect on health of a structured, written emotional disclosure task after a traumatic event (fire in a hall of residence). Potential moderators of intervention effects were also examined.
Method: At Time 1 (six days after the fire) 122 participants completed measures of coping, appraisal, social-support, and health status and were randomly allocated to emotional (intervention) or neutral (control) writing conditions. Health status (GHQ) was assessed four and 14 days later. Participants, intervention providers, and the data analyst were blinded to treatment condition. Data were analysed on an intention-to-treat basis.
Findings: GHQ Scores for the control condition remained stable across the study period. GHQ scores for intervention participants increased significantly from Time 2 to Time 3 (F(1,110)=39.29, p<0.001) and, at Time 3, were significantly higher than for controls. Coping, appraisals and social-support were related to intervention effectiveness.
Discussion: Pennebaker's emotional disclosure paradigm may provide a useful brief intervention following traumatic events, particularly for individuals who tend to appraise events as highly stressful, lack adequate social-support and engage in maladaptive coping.

Self-affirmation and the defensive processing of threatening health-risk information

P.R. HARRIS & L. NAPPER, University of Sheffield.

Background: There is some evidence that people offered the opportunity to affirm an important aspect of their identity respond less defensively to threats. We report two studies that examine the impact of such self-affirmation on the processing of health-risk information. Study 1 tested whether any effects of self-affirmation are specific to the targeted risk and whether they persist (one month later). Study 2 assessed the difference self-affirmation makes to how people process threatening material.
Methods: Participants were females for whom the

risk message (on alcohol and breast cancer) was genuine and relevant. Participants (both studies) were randomly assigned to self-affirmation or control conditions before reading the message. In Study 1, low and high alcohol consumers (n=74) completed three-waves of measures of key cognitive and affective variables. Analyses involve tests of significance and mediation. In Study 2, high consumers (n=30) described their thoughts as they read the information.
Findings: Study 1: self-affirming reduced defensive processing in the higher-risk group, producing differences maintained up to one month later, including higher risk perceptions, greater acceptance that alcohol causes breast cancer and intentions to reduce alcohol consumption. The effects did not generalise to other diseases. Study 2: content analysis revealed qualitative differences in thoughts articulated by self-affirmed and non-affirmed participants.
Discussion: Study 1 showed that the effects of self-affirming are specific and durable; Study 2 that, inter alia, it affects the acceptance of the personal relevance of the message. The findings are of relevance to health psychologists interested in persuasion.

'There's something wrong with you if you don't enjoy it': Women's sexual problems and psychological well-being

S. HINCLIFF & M. GOTT, University of Sheffield.

Background: Research indicates that sexual problems affect a significant proportion of the female population of the UK. However few studies have explored women's experiences of sexual difficulties from the perspectives of women themselves. This paper will discuss the findings of a qualitative study conducted with women who experience sexual problems, focusing particularly on their impact on psychological well-being.
Method: In-depth interviews were conducted with 19 women (aged 23 to 58; mean age 41.7) recruited from a psychosexual clinic in Sheffield. Data were analysed thematically, using a material-discursive approach.
Findings: The types of sexual problems experienced varied: 11 participants described themselves as having libido-related problems, four vulval pain and four orgasm-related difficulties. Despite the diversity of problems experienced, almost all reported negative impact on their intimate relationships from not, or not often, engaging in penetrative sex with their partners. They also described how they felt 'abnormal', 'odd' or 'weird' because they could not enjoy sex as 'other women could' and for some this affected their sense of femininity.
Discussion: This study has highlighted that experiencing sexual difficulties can have a profound influence on psychological well-being and quality of life. Understanding the emotional impact of sexual problems on sense of self and intimate relationships will usefully inform lay, clinical and academic understanding, whilst also informing practice regarding the management of sexual problems.

Relatives' experiences of intensive care

F. HUGHES, I. ROBBINS & K. BRYAN, University of Surrey.

Intensive Care Units (ICUs) are possibly the most stressful units in hospitals. ICU syndrome is widely acknowledged in some patients, who have extended stays, in part caused by the stressful environment. Having a family member admitted to ICU could qualify as a traumatic enough stressor to induce post-traumatic stress symptoms in relatives. There is also evidence that stress can suppress immune functioning and increase vulnerability to illness.
The aims of this study were to explore relatives overall experiences of ICU and see if there is evidence to suggest their experiences are traumatic and to explore how staff perceived those experiences.
This study utilised qualitative methods and grounded theory methodology. Data were collected through tape-recorded, semi-structured, interviews. A convenience sample of eight relatives and five staff were recruited. Data were analysed using QSR NUD*IST.

Staff perceive quite accurately relatives' experiences when they have family member in ICU. The traumatic element for relatives seems to be the causes for intensive care as opposed to intensive care itself. General dissatisfaction emerged with the process of receiving information.
Much of what staff said indicates they were aware of best practice. It was also apparent this did not always occur, predominantly due to stretched resources and inexperienced staff. The implications for doctors and nurses are around developing a consensus with families about how best to care for relatives to encourage consistency in ways in which their needs are met. Improving consistency would reduce anxiety and facilitate healthy interactions between staff and relatives.

Testing implementation intentions in primary care

C. JACKSON, R. LAWTON, M. CONNER, P. KNAPP, C. LOWE, D.K. RAYNOR & S.J. CLOSS, University of Leeds.

Background: Evidence suggests that implementation intentions (II) are less effective in changing health behaviours with non-student populations. This research tested implementation intentions with two patient samples in primary care settings.
Methods: Two prospective studies were administered. Study 1: 120 coronary heart disease patients were asked to increase their fruit and vegetable consumption and randomly assigned to three groups (control, TPB questionnaire, TPB questionnaire + II). Participants were telephoned at seven, 28 and 90 days follow-up to record daily consumption (24-hour recall), 94 participants completed the study. Study 2: 220 patients with an antibiotics prescription were randomly assigned to four groups (control, TPB questionnaire only, TPB + formed own II, TPB + researcher formed II). Participants were telephoned at the end of the prescription to record adherence (pill count), 207 participants completed the study.
Findings: Daily fruit and vegetable consumption increased from 2.88 portions (SD=1.67) at recruitment to 4.28 portions (SD=2.25) at 90 days. A repeated measures ANOVA revealed a significant time effect (F(3,89)=15.30, p<0.001) but a non-significant time by group effect (F(6,180)=0.54, p=0.78) (Eta2=0.09). In Study 2, mean pill count was low (0.85 tablets, SD=2.07). Chi-squared analysis revealed no significant difference in adherence between groups (χ^2 (3,N=207)=0.64, p=0.89) (w=0.06).
Discussion: Impressive increases in daily fruit and vegetable consumption and high adherence to antibiotics were achieved but not improved by implementation intentions.

Making sense of illness: Stroke patients and their partners' accounts of stroke

E. JONES & V. MORRISON, University of Wales, Bangor.

Stroke patients do not recover in isolation: increasingly stroke patients are cared for by family members, most often a spouse or partner (Morrison, 2001). Studies have shown a link between the interactive style of the carer and patient dependency (Thompson *et al.*, 2002) and discrepant beliefs of patients and carers and increased distress for the carer (Knapp & Hewison, 1999, Morrison, 1999). However, little work has explored how stroke couples interact and jointly make sense of the illness and care required. There is also a tendency in the literature to ignore the presence of positive outcomes of patient-carer interactions, such as improved relationship quality. This study addresses how the carer and cared for person interact with one another in recounting their experience of illness, focusing on changes in identity and interpersonal relations.
Semi-structured interviews were conducted with 10 couples where one partner had experienced a stroke in the last two years. The interviews were transcribed and analysed using IPA (Smith, 1991). The themes of loss, control, adaptation and positive reappraisal were identified for the couples. In making sense of stroke, patients used acceptance, denial and normalisation, whereas carers used acceptance, adaptation and control. Carers attempted to buffer patients self-esteem, but only when the construction of the present needs and

desires were congruent between patient and carer did these efforts appear beneficial. Where the onset of stroke occurs in the context of a marital relationship the present findings suggest that we need to look closely at interaction and conversation.

Exercise maintenance: What differentiates persistent from lapsed exercisers?

F. JONES, M. CONNER, K. JACKSON, University of Leeds, P. HARRIS & C.J. ARMITAGE, University of Sheffield.

Background: Models of health behaviour have been successful at identifying variables which predict the initiation of physical exercise. However, less research has looked at what differentiates those who succeed in maintaining physical exercise from those who lapse. The aim of the present study is to look at the predictors of both initiation and maintenance of exercise behaviour by tracking students.
Method: Students (n=407) completed questionnaires shortly after starting university. Measures included variables derived from the theory of planned behaviour, measures of previous exercise behaviour, anticipated regret, exercise identity, risk/optimism and exercise motivation. They were followed up after six months and one year. On the basis of data collected across time, they were classified as consistent exercisers (n=30), consistent low/non-exercisers (n=40), exercise improvers (who increased over time, n=30) and lapsers (n=25)
Findings: Analyses indicate that while the TPB variables measured at time 1 differentiate between consistent exercisers and non-exercisers, there was little to differentiate those who exercised consistently from those who exercised at one time point but subsequently lapsed. However, those in the latter group did score significantly lower on a measure of moral norms and scored lower on a measure of exercise identity.
Discussion: TPB variables have been shown to be relevant to exercise initiation but other variables may be more relevant to maintenance. This study suggests a focus on variables relevant to building a strong identity as an exerciser may be useful.

Attachment style and symptom reporting: Examining the mediating effects of anger and social support in chronic heart failure and cardiac transplant patients

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Background: Attachment style has been related to symptom reporting. The aim of this research was to examine whether social support and anger mediate this relationship in a sample of chronic heart failure (CHF) patients and cardiac transplant patients.
Method: 28 CHF and 28 Transplanted patients completed questionnaires examining attachment style (Collins & Read, 1990) anger (Spielberger, 1999), perceived social support (Blumenthal, Burg, Barefoot, Williams, Haney & Zimet, 1987), and symptom reporting (measured using the General Health Questionnaire (Goldberg, 1978), HADS (Snaith & Zigmond, 1994), and Functional Limitations Profile (Charlton, Patrick, & Peach, 1983)).
Findings: Significant differences were found between attachment groups on social dysfunction (GHQ), depressive symptoms (GHQ and HADS), state anger, and perceived social support (p<0.05). Post-hoc analysis showed differences between fearful and all other attachment styles on social dysfunction, between secure and fearful styles on depressed symptoms (GHQ and HADS), secure and dismissive and secure and fearful on perceived social support, and between secure and fearful, and preoccupied and fearful styles on state anger outcomes (p<0.05). ANCOVA revealed that there were no differences between attachment styles and any of the symptom scales when perceived social support and state anger were entered as co-variates.
Discussion: Results indicate that the insecure attachment style of fearful is associated with increased symptom reporting in CHF and transplanted patients. Social support and anger mediated the relationship between attachment style and symptom reporting.

Linking self and illness representations: A phenomenological study of patients' experiences of Cushing's disease

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Background: Cushing's disease (CD) is a rare, insidious and elusive neuro-endocrine disorder of cortisol secretion that disrupts multiple physical and psychological systems. This research drew on Leventhal's Self-Regulation model and the concept of Multiple Selves by Markus and Nurius to explore patients' views of their illness throughout its course. Beyond rich descriptive data that supports the utility of these concepts, this research suggests novel ways to link *Self* and *Illness* representations at a theoretical level, which will be the primary focus of this presentation.
Methods: In-depth qualitative interviews were held with 15 participants with CD recruited from Endocrinology and Neurosurgery clinics. Data was analysed within the IPA framework.
Findings: Two major themes emerged: the *Evolving Understanding* of the illness, composed of distinct clusters of understanding which patients developed through the course of their illness; and the *Transmutation of* Self, which refers to the experienced changes in oneself brought on by CD. The moderating role of social influences was marked throughout both themes.
Discussion: Leventhal's recent revisions of the Self-Regulation model posits links between representations of Self and representations of Illness. However, these suggested links have not subsequently been illustrated or formulated more specifically. The qualitative data elicited in this study suggests that patients' range of Self representations (*Ideal* Selves, *Feared* Selves, etc.) serves to delimit the range of illness representations they develop to understand their illness. Material from the interviews is used to illustrate these points, and further hypotheses are proposed.

Impact on quality of life in parents with severely food allergic children: An assessment of support group members

R.C. KNIBB & H.M. SEMPER, University of Derby.

Background: Children with severe food allergy have to contend with psychosocial and physical constraints due to the life-threatening nature of their condition (Avery *et al.*, 2003). Previous research has found impaired quality of life in families where members suffer from food allergy (Sicherer *et al.*, 2001; Primeau *et al.*, 2000) However, little research has focused specifically upon the impact on the parents of a severely food allergic child. This study aims to examine the impact upon quality of life in parents with severely food allergic children and impact upon the wellbeing of the family.
Methods: 400 questionnaires were distributed to a random sample of parents who were members of the Anaphylaxis Campaign, of which 157 were completed (39.3 per cent response rate). Questionnaires comprised of general demographic and specific allergy questions, the COM-QOL A-5, and the Impact on Family Scale (FIS). Data were analysed using chi square, t-tests and ANOVA.
Findings: Irrespective of the number and type of food and type of symptom suffered by the children, parents rated their subjective quality of life as significantly less impaired than indicated by an objective measure of quality of life (p<0.001). However, scores on the FIS illustrated that there was a significant impact on personal strain, familial, social and financial aspects of their family life as numbers of food types their children were allergic to increased (p>0.001).
Discussion: Parents of children with severe food allergies do not perceive that their quality of life is greatly impaired, however, objective measures reveal a more significant impact. The affect of food allergy also extends to the wider family and has both psychological and social consequences. How these results apply to non-support group members merits investigation.

Adherence in asthma: The importance of perceived necessity of preventer medication in the absence of symptoms

J. MAIN, J. WEINMAN, University of London & R. HORNE, University of Brighton.

Background/Objective: The success of preventer medication has been limited by the fact that many patients do not adhere to the recommendation to use it on a daily basis. A problem for patients may arise from the fact that their asthma symptoms are cyclical in nature. Thus the purpose of this study was to explore whether asthma patients' perceived need for preventer medication in the absence of asthma symptoms influenced their adherence.
Methods: From a national postal survey on preventer treatment adherence, 2103 primary care asthma patients (aged 18 to 55) returned a questionnaire. Measures were, Beliefs about Medication Questionnaire, the Revised Illness Perception Questionnaire, demographic and illness variables. Adherence was assessed by self-report and prescription redemption rates.
Findings: The belief in necessity for medication in the absence of symptoms was a strong predictor of self-reported adherence (r=0.65, p<0.0001). Beliefs about preventer medication were related to perceptions of asthma in a logically consistent way, as predicated by self-regulatory theory. Perceived need in the absence of symptoms was correlated with the belief that one had a clear understanding of asthma (Illness coherence/r=0.17, p<0.0001), and a perception of asthma as a chronic condition (Illness timeline/r=0.37, p<0.0001).
Discussion: These results could inform an intervention to communicate the need for asthma preventer even in the absence of symptoms by helping patients develop a coherent model of their asthma and an appreciation of the ongoing nature of asthma.

The role of past behaviour and a subcomponent theory of planned behaviour in predicting physical activity

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Background: Previous research has shown the theory of planned behaviour (TPB – Ajzen, 1991) does not mediate the effect of past behaviour in predicting physical activity, possibly due to 'unconscious habit'. Additionally, there is growing interest in whether the distal TPB variables might be better represented as instrumental attitude, affective attitude, injunctive norms, descriptive norms, perceived difficulty and perceived control rather than the traditional general factors. This study aimed to test the optimal configuration of the TPB, and explored the role of past behaviour in predicting physical activity.
Methods: Postgraduate students at a London University completed both rounds of an e-mail-based two-week prospective survey (n=397). The questionnaire measured the traditional TPB components and past behaviour. Confirmatory factor analyses (CFA) were employed to test the configuration of the TPB, and hierarchical multiple regressions were used to explore the role of past behaviour.
Findings: The CFA indicated that the TPB components were better represented by their subcomponents. The subcomponent TPB accounted for 33 per cent variance in behaviour and 45 per cent in intentions. Past behaviour added 23 per cent variance to the prediction of behaviour, 4 per cent to the prediction of intentions and moderated intention-behaviour relations such that the intention-behaviour link was stronger when levels of past behaviour were higher.
Discussion: Perceived difficulty was the strongest predictor of both intention and behaviour suggesting this would be an ideal component to target in interventions. The fact that past behaviour influenced both intentions and behaviour suggests that it may not be a function of habit, but may reflect intention stability.

Smoking behaviour and associative mood: Monitoring, models and moderators.

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Background: Smoking is the most prevalent preventable cause of death in the UK, but our understanding of why people smoke remains under-developed. Although mood regulation has been implicated in smoking behaviour, it is unclear as to what mood conditions might trigger smoking and whether smoking modifies affective state. Understanding of these relationships could facilitate development of more effective interventions by health psychologists. Three models of drug motivation yield distinct predictions regarding mood changes associated with cues to smoke and effects of ingestion: the associative-withdrawal model, the appetitive-incentive model, and the incentive-sensitisation model. The main goal of the present study was to test the specified models using diary-based techniques.
Methods: 44 participants monitored their smoking behaviour over 48 hours using an event-contingent self-report diary – eliciting reports of mood state immediately prior to, and after, each cigarette smoked. The data was analysed using multilevel modelling techniques.
Findings: Unconditional modelling suggested that mood (specifically, hedonic-tone) improved significantly (p<0.001) from baseline to pre-smoking, and additionally (p<0.05) from pre- to post-smoking – supporting the appetitive-incentive model. However, further analyses (modelling person-level moderation of mood changes) revealed significant individual variability in mood-change patterns.
Discussion: The mood-smoking relationship and its moderation by individual differences will be discussed in terms of practical implications for health psychologists working within smoking cessation programmes: a need for the personalisation of interventions, and the potential utility of diary-based monitoring techniques across stages of assessment and treatment.

Assessing communication strategies in routine consultations between health professionals and patients with Type I and Type II diabetes

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Background: A focus on lifestyle change and improving self-management is an important aspect of diabetes treatment. This study describes the degree to which practitioners employ motivational, patient-centred approaches to affect behaviour change in routine consultations.
Methods: Cross-sectional design – 45 routine consultations were tape-recorded; patient questionnaires assessed consultation objectives, intention to self-manage, satisfaction with consultation. Practitioner behaviour was coded for use of motivational, behaviour change techniques using the Behaviour Change Counselling Index (BECCI) (Lane et al., in press). Patient-centeredness and other verbal communication variables were coded with modified version of Street et al.'s (1993, 2001) patient-provider interaction coding scheme.
Findings: Lifestyle issues were raised in 43 per cent of consultations but few motivational strategies were employed; 10 per cent of professionals' consultation was patient-centred. Association found between practitioner use of patient-centred strategies and patients expressing views (r=0.44, p<0.05). Higher patient satisfaction with consultation was related to practitioner partnership-building (χ^2=0.42, p=0.02) and patients asking less questions (χ^2=−0.33, p=0.04). Patient intended self-management scores were lower when practitioners used more recommendations and directives (χ^2=−0.39, p=0.04).
Discussion: Effective communication and behaviour change strategies are not used routinely in diabetes consultations in the clinic studied. More patient-centred approaches were associated with higher indicators of behaviour change. Professionals require training in behaviour change techniques if they are to be integrated into routine care.

The effects of written emotional disclosure on heart rate and blood pressure in response to psychological stress

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Objectives: Writing about stressful or traumatic events has been found to have beneficial effects on health and psychological well-being (cf., Pennebaker, 1988, 1997). Recent evidence has suggested written emotional disclosure may influence immune function indices, although less work has investigated its impact on cardiovascular parameters (e.g. heart rate and blood pressure).
Methods: 56 healthy men and women were randomised into either a written emotional expression group or a control group. The emotional expression group was instructed to write about the most stressful or upsetting experience of their life, for 15 minutes over three consecutive days. The control group wrote about non-emotional, non-stressful experiences over the same period. Two weeks later, heart rate and blood pressure measures were taken in response to laboratory-based psychological stressors (e.g. delivering a presentation). Positive and negative mood and psychological distress levels were measured at baseline and two weeks later. Cynical hostility and trait alexithymia were assessed at baseline.
Results: Preliminary analyses revealed that participants in the written emotional expression group had significantly lower absolute heart rate levels in response to laboratory-based psychological stressors, compared to the control group. No significant differences were observed for systolic or diastolic blood pressure levels or for the measures of psychological well-being.
Conclusions: These preliminary results indicate that written emotional expression interventions may have short-term salutary effects on heart rate levels in response to laboratory stressors. Moreover, the longer-term effects of emotional writing interventions on cardiovascular health require further investigation. The implications of these findings will be integrated into the wider stress and coping literature.

Buffering cardiovascular stress: Is psychometrically-assessed social support as effective as a laboratory analogue?

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Background: This study examined the effects of quantity of perceived day-to-day social support and availability of laboratory social support on cardiovascular reactivity to acute stress. The intent was to compare psychometric assessments of social support with laboratory analogues of social support in exploring the relationship between support and stress.
Methods: 220 female college students were screened for high and low quantity of day-to-day social support using the Social Support Questionnaire (SSQ6-N – Sarason & Sarason, 1983). Those participants scoring highest and lowest on the SSQ6-N conducted a reading task in either a 'support available', 'no support available' or control (support not mentioned) condition. Measures of systolic blood pressure (SBP), diastolic blood pressure (DBP) and heart rate (HR) were taken at one-minute intervals during the reading task and during a five-minute resting baseline period.
Results: A series of three-way mixed analyses of variance was conducted (between-group factors were day-to-day social support and condition; the within-groups factor was time). The reading stressor successfully increased SBP, DBP and HR. A significant time/day-to-day social support interaction was found such that participants with high SSQ6-N scores demonstrated higher DBP reactivity than participants who had low SSQ6-N scores. There were no main effects for condition or day-to-day social support.
Discussion: These findings indicate that having potential access to social support was not sufficient to attenuate reactivity. However, psychometric assessment of day-to-day support succeeded in revealing an intricate relationship between support and stress. Conceptual implications for the study of social support will be discussed.

Moderators of the relationship between intentions to exercise and subsequent behaviour: A daily diary investigation into the role of work and non-work-related factors

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Background: The present study aimed to identify whether stress influenced the implementation of exercise intentions at the volitional stage of the theory of planned behaviour (TPB). Daily measures were used to shed light on the gap between intentions and behaviour, which has been highlighted by studies based on the TPB.
Methods: A questionnaire was completed by 42 employees each day for two weeks. The questionnaire measured intentions to exercise the following day and PBC over exercise. The following evening, frequency of exercise, job demands, work and non work-related anxiety and depression, and the use of exercise as coping were measured.
Findings: On work days people were less likely to implement their exercise intentions than on non work days. However, work-related anxiety and depression and job demands were not implicated. Instead, on days with higher levels of non work-related anxiety and depression and lower levels of exercise as coping people were less likely to implement their intentions to exercise. These effects occurred over and above the effects of PBC.
Discussion: The context of peoples' lives have an impact on health behaviour not fully accounted for by the TPB. Negative affect relating to life outside work was clearly shown to disrupt intentions to exercise and there also appears to be something about work that disrupts exercise but further research is needed to elucidate this.

Virtual social support and its impact on cardiovascular reactivity

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Background: Research suggests that the provision of social support reduces participants' cardiovascular responses to stress, which has important psychosomatic implications in light of the reactivity hypothesis. In previous research, however, interpretive difficulties emerge regarding the social interaction between supportive confederates and participants. Moreover, certain personality styles (such as repression) have been associated with exaggerated physiological reactivity to several stressors.
Methods: 60 female participants were led to believe that while they performed a computerised stressor task, their performances would be observed by a confederate in a different room via a two-way video-conference link. However, rather than installing such a link, during the task the experimenters instead played a pre-recorded videotape of an actor portraying a confederate. The use of 'virtual' social support was intended to eliminate problematic variations in confederate behaviour seen in previous research studies. Participants were randomly allocated to either a supportive or non-supportive confederate. Psychometric evaluations of related psychological variables were taken.
Findings: Results suggest that participants were unable to detect that the confederates they were exposed to were actually pre-recorded. Three-way Ancovas demonstrated clear differences in the impact of positive and negative virtual support on systolic (p=0.004) and diastolic (p<0.001) blood pressure, which were unrelated to personality variables.
Discussion: The implications of this illusion's convincingness for the understanding and delivery of social support interventions will be discussed. In addition, consideration of the impact on cardiovascular reactivity elucidates the mechanisms by which associated risk for physical diseases, in particular heart disease, is conferred.

An interpretative phenomenological analysis (IPA) of contraception and sexual risk behaviour in young heterosexual men and women

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Background: To gain understanding of the factors influencing contraceptive use and sexual risk behaviour in young adult men and women, a group understudied in sexual health psychology.
Method: Semi-structured interviews were conducted with four female and four males (aged between 22 and 31 years). Transcripts were analysed using IPA.
Findings: Main themes were; Negative Aspects of Condom Use, Situational Barriers to Condom Use, Assumptions of Safety, Female and Male Pill, STI Testing and Responsibility for Contraception and Pregnancy.
Results: Revealed a number of barriers to sexual health. Several dislikes about condoms led participants to desire an alternative contraceptive. Situational constraints to condom use emerged, e.g. not having one available. Participants made several assumptions about safety from STI's. Whilst condoms were deemed necessary for short-term encounters, the pill was typically used in long-term relationships, being symbolic of trust and commitment to the relationship. Judgements about partners' STI status were often based on potentially unreliable methods, e.g. enquiring about sexual history and checking for symptoms. STI clinics were associated with stigma; testing could be embarrassing, with the potential to invoke negative judgement from others. Participants expressed mixed feelings about the female pill and proposed male pill. It was felt responsibility for contraception and pregnancy should be shared in a relationship, but was an individual responsibility for casual sex.
Discussion: Results revealed a number of factors which could be targeted by health professionals to improve sexual health, for example reducing barriers to attending sexual health clinics so these services are more accessible.

Prosthesis representation prior to knee and hip replacement: A qualitative and phenomenological study

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This study explored through semi-structured interviews how 24 patients (age m=60.52, σ=11.26) talked about their future prosthesis, one month prior to surgery. Through qualitative and phenomenological analysis, representative categories describing the prosthesis and its integration to the body were extracted. First, the prosthesis was often described as a shapeless object. Patients were aware of its material, but descriptors used were mostly negative. Secondly, many reported their need for physical contact with the prosthesis, and that photographs did not fill their needs, because they did not reveal the essence of the prosthesis. This gave way to phantasms, mostly based on former patients reports. Women reported the prosthesis as having an activity on its own, and talked about its being invasive, of a disproportionate size. Function also played a major role: prosthesis remained a foreign object, but nevertheless was expected to work. It was described as a potentially limiting factor for specific movements, and believed to be instrumental in constraining the body to change. Consequently, incorporation was described as depending on mutual habituation and discovery. Although, from an intellectual perspective, prosthesis was considered to increase quality of life, and ultimately relieve pain, it also conveyed emotional and irrational reactions, such as a potential feeling of loss of control over the body, which interfered with pragmatic and medical knowledge. Our results illustrate the psychological incorporation mechanisms induced by physical modification of the body through arthroplasty.

The acceptability of smoking adolescents' attitudes and experience

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Background: Prime targets of health promotion are to effect changes in smoking behaviour and concomitantly in the perceived acceptability of smoking. The aim of this study was to examine the perceived acceptability of smoking in adolescents in relation to individual smoking behaviour, parental smoking status, and parental acceptance of smoking
Methods:
Design: Analytical survey.
Participants: Adolescents, 11 to 18 years (n=567) recruited from two comprehensive schools.
Measures/Analyses: Smoking Acceptability Scale (SAS), a reliable and valid measurement (Sanders, Marshall & Robinson, 2001).
Analysis: Non-parametric (Kruskall-Wallis/Mann Whitney, Spearman's).
Findings: SAS scores were significantly affected by individual smoking status (p<0.001), parental smoking status (p<0.05) and parental acceptance of smoking in the house (p<0.001). For non-smokers only, there was a significant positive correlation between tolerance and age (p<0.001). There was a significant difference in SAS scores between those who did and those who did not anticipate smoking in the future (p<0.001), for both smokers and non-smokers.
Discussion: That higher levels of acceptance were associated with future intentions of smoking even amongst non-smokers indicates that the acceptability of smoking may be an early warning sign for future behaviour. Acceptability may be a mediating variable between parental views and adolescents' behaviour. This could enable a focussed intervention programme in schools targeted at those at risk of starting. This has implications for health policy formation.

Being a good mother: An interpretative phenomenological analysis of mothers' food choices for their children

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Background: Many healthy eating initiatives aim to raise mothers' awareness of the diet-health relationship with the expectation that a healthy diet in childhood will lead to better long-term health in the population. This study examined the psychosocial influences that guide the food choices that mothers make for their children, and addressed the following research questions: (1) what are mothers' key views about healthy eating in relation to child feeding?; (2) to what extent do mothers' perceptions of their children's food preferences and their own interests influence the food choices they make for their children?; and (3) in what ways are mothers' food choices influenced by social aspects beyond the family context?
Methods: Semi-structured interviews were conducted with nine mothers of children aged four to 12 years. Participants were the principal food providers within their households. Interpretative phenomenological analysis was used to identify participants' beliefs and attitudes relating to the food choices made.
Findings: Participants emphasised the importance of healthy eating for their children while also taking food preferences into account. They identify with the role of being a 'good' mother in this regard. 'Good mothering' is, however, viewed as a process of negotiating food choices for children within an often conflicting and complex social context of food and eating behaviours.
Discussion: These findings suggest that the effectiveness of future initiatives promoting healthy eating within the population requires an understanding both of individual influences and of the wider social context relating to eating behaviours.

Patients' symptom interpretation and help-seeking behaviour following the development of oral cancer: A qualitative study

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Background: Numerous reports suggest that a significant proportion of patients delay seeking the advice of a health care professional (HCP) after self-discovery of symptom(s) of oral cancer. However, reasons for this patient delay are poorly understood. The aim of the present study was to explore patients' initial experiences and reactions to developing symptoms of oral cancer, and to identify factors influencing the decision to consult a HCP.
Methods: In-depth semi-structured interviews were conducted with 17 consecutive patients who had received a diagnosis of squamous cell carcinoma of the oral cavity, but had yet to start treatment. Participants were asked about their symptoms, beliefs about those symptoms over the course of the disease and their help-seeking behaviour. The tape-recorded interviews were transcribed verbatim and analysed using 'framework analysis' to identify dominant and recurring themes.
Findings: Oral symptoms were rarely attributed to cancer and were frequently interpreted as minor oral conditions. As a result of these cognitions, patients tended to postpone seeking help or fail to be concerned over their symptoms. Patients spoke of how initial symptom interpretations were re-appraised when coping strategies failed to be effective or when symptoms changed, were persistent or had no explanation.
Discussion: The results of this exploratory study reflect key constructs of the self-regulatory model of illness behaviour (Leventhal, 1970). This study has documented that an individual's interpretation of oral cancer symptoms may be misguided and this can adversely affect subsequent help-seeking behaviour. The potential for encouraging early presentation of oral cancer is discussed.

Patterns of healthy eating over a 10-year period

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Background: Most people show changes in behaviours such as healthy eating over a long period of time. This study aimed to examine the pattern of changes in healthy eating behaviour over a 10-year period and determine the social cognitive variables associated with these patterns.
Method: 68 adults completed questionnaires measuring social cognitive variables and healthy eating behaviour when initially recruited, six years later and 10 years later.
Findings: Two separate sets of analyses were carried out. The first analysis classified participants as maintainers, inconsistent healthy eaters and unhealthy eaters. The difference between the groups in intention, attitude and perceived behavioural control measured at time 1 and time 2 were examined. This revealed that maintainers had a stronger intention to eat healthily at time 2 when compared to unhealthy eaters. To determine differences in variables at time 3, participants were reclassified as maintainers, initiators, inconsistent healthy eaters and unhealthy eaters. Those initiating a healthy diet were found to have the highest scores on variables such as intention, attitude, PBC, social support, self-identity and autonomous motivation. They could be successfully differentiated from unhealthy eaters on all these variables. While maintainers had the next highest score on all these variables, they were distinguished from initiators by a much lower score on controlled motivation.
Discussion: The results suggest the value of self-determination variables, self-identity and social support in addition to intention for initiation and maintenance of behaviour. In particular, lower scores on controlled motivation appear to be an important feature of maintained behaviour but not necessarily initiation.

Psychological well-being in cancer patients: Relationship with health-related quality of life

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Background: The field of health-related quality of life research has been dominated by the study of negative aspects of functioning. More and more it is acknowledged that such aspects not merely, and perhaps not most importantly, determine quality of life. Aim of our study was to assess the association between health-related quality of life (HRQL) and psychological well-being in cancer patients.

Methods: 115 colorectal and 89 breast cancer patients filled out Ryff's psychological well-being scales, the EORTC Quality of Life Questionnaire, the Hospital Anxiety and Depression Scale, a Visual Analog Scale for HRQL, and the COPE-brief. Correlations between well-being and HRQL were assessed. Differences between patient groups were assessed by means of t-tests.
Results: Patients were 62 (s.d.=12) years, 68 per cent were female. The only well-being scale that correlated with all HRQL items was environmental mastery (r=0.30–0.35 for HRQL items, –0.34 for anxiety, –0.53 for depression). Depression was inversely related to positive relations with others (r=–0.28) and self-acceptance (r=–0.29), anxiety to self-acceptance (r=–0.27). Patients who had undergone chemotherapy scored lower on positive relations with others and purpose in life.
Conclusions: HRQL is not strongly related to aspects of psychological well-being in cancer patients. Correlations between well-being and depression in cancer patients seem less strong than in healthy populations. We will further analyse the impact of coping as a mediating factor.

Impact of a computerised clinical guidance tree on adherence to treatment for benign prostatic hyperplasia and hypertension

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Background: There is an increasing focus on patient involvement in medical treatment decisions. Outcomes include improved patients' quality of care, increased cost-effectiveness, increased adherence to treatment choices and greater satisfaction with treatment.
A computerised clinical guidance tree was developed to assist patients with decision making, and evaluated for two different types of treatment decision, for patients with hypertension or BPH. This randomised controlled trial aimed to assess use of the tree by patients with different information seeking styles, including those classified as monitors or blunters according to Miller *et al.*'s (1996) typology. The study hypothesised that patients using the guidance tree would have increased adherence to their chosen treatment, less decision conflict and improved quality of life.
Methods: 110 patients were approached to take part in the study, of whom 75 consented to take part. Thirty-six patients were randomised to the experimental group (who received the CGT) and 29 into the control group (usual treatment). Patients were followed up at one month and six months post-intervention.
Results: Responses were received from 56 (75 per cent) of patients at one month and 58 (77 per cent) of patients at six months post-intervention. Analysis indicated that using the CGT had no effect on adherence to treatment or decision conflict over this time period. However, the way the computer programme was used varied significantly according to patients' monitoring or blunting coping styles.
Conclusions: Decision aids such as the CGT are not appropriate for all patients, but are useful in providing knowledge for individuals with certain personality and illness characteristics.

Preconscious priming of an acute pain response: Implications for intervention

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Background: Our objective was to investigate the influence of negative subliminal images on pain report in an experimental model of acute pain.
Methods: 30 participants were randomly allocated to one of three groups to view a five-minute video clip containing either none or five (40ms duration) neutral or negative subliminal images (International Affective Picture System). Tests of State-Trait Anxiety Inventory (STAI), Galvanic Skin Response (GSR), Heart Rate (HR), Pressure Pain Threshold (PPT) as measured by an algometer, and pain intensity as measured by a (100mm) Visual Analogue Scale (VAS) were carried out pre- and post-video. Differences between groups and time of testing were assessed using MANOVA models and appropriate pairwise comparison tests.
Findings: Participants reported being naïve to the purpose of the experiment but following debriefing correctly identified membership to either the negative or non-negative groups, suggesting a level of preconscious processing. There were no significant changes in trait anxiety, GSR or VAS measures of pain report. However, there was a significant decrease in PPT scores (-21.2 per cent, p<0.05) and an increase in state anxiety (16.7 per cent, p<0.01) and HR (6.8 per cent, p<0.05) scores following the negative video.
Discussion: Using negative subliminal images it is possible to prime a pain response in the report of lower pain pressure thresholds and increased anxiety and arousal scores. It is suggested that in the clinical context images that have the potential to be negatively appraised be removed from areas where acute painful procedures are to be carried out.

After a heart attack: Good and bad changes

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Background: Reports of positive and negative changes following myocardial infarction (MI) were investigated for patients and partners. Validation of reports was sought using partners to corroborate each other's experience. Links between causal attributions and positive and negative changes were also examined in the context of Taylor's (1983) theory of cognitive adaptation to illness.
Methods: Between 10 and 32 months post-MI, 38 first-time MI patients and their partners completed interviews and questionnaires assessing causal attributions and beliefs about positive and negative changes resulting from the MI. Both patients and partners completed measures regarding their own and their partner's experience. Questionnaire data was analysed using the intra-class correlation, Wilcoxon signed rank test and Spearman correlations. Interview data was analysed using qualitative techniques.
Findings: Both patients and partners reported benefits post-MI, including lifestyle changes, better mood, and appreciation of life. Patients reported more benefits than partners (p=0.006). Patients and partners could not corroborate each other's experiences at levels better than chance. For patients but not partners, attributing the MI to internal controllable causes (personal behaviour) was associated with greater post-traumatic growth (p=0.026), whilst attributing it to external uncontrollable causes was associated with negative changes in outlook (stress: p=0.016; fate: p=0.046; other people: p=0.013).
Discussion: Some benefits were reported by 94 per cent of patients and by almost three-quarters of partners. Initial results suggest an association between causal attributions and psychological outcome for patients. These findings may help inform therapeutic intervention with patients who find it more difficult to cope post-MI.

The appearance-related concerns of adolescents who have undergone treatment for cancer

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Background: Typically, adolescence is marked by cognitive and physical developments, impacting on the self-esteem, independence and sexual awareness of the adolescent, often resulting in a growing awareness of appearance and increased body dissatisfaction. An adolescent with cancer has the added burden of dealing with their illness, its treatments and consequent physical changes, e.g. hair loss, weight gain/loss, scarring and compromised fertility. Body image change is a psychosocial consequence of adolescent cancer largely ignored. Where it has been examined, it has tended to be researched quantitatively. This study, therefore, aimed to explore in more depth, the appearance-related concerns of adolescents who have had cancer, and ascertain how these concerns may have affected cognition, emotion and behaviour.
Methods: Semi-structured interviews were conducted with 10 participants between 10 and 20 years of age, who had completed cancer treatment within the last two years. At least one parent of each participant was interviewed separately as well. The interviews were analysed using IPA.
Findings: Appearance concerns were found to play an important role in the illness experience of the adolescents. Themes emerging included the avoidance of situations where the altered body part would be exposed or using camouflage to reduce exposure; reluctance to explain reasons for appearance changes, thereby labelling oneself as ill and different; and increased efforts to remain 'normal' in the eyes of friends. Parents recognised the impact of appearance changes on their children, and themes emerging included feeling and behaving more protectively and recognising a decrease of self-esteem in their children.
Discussion: The results of this study suggest that appearance changes resulting from cancer treatment may contribute in hindering aspects of adolescent psychological development, including that of self-esteem. Although adolescents used similar behavioural strategies to cope with changes, the emotional and cognitive meaning of these changes varied enormously. Longitudinal research is required to establish the long-term impact of differing responses.

Symptom reporting in the workplace: Individual differences vs. job control

J. WARD, E. FERGUSON & H. CASSADAY, University of Nottingham.
Background: Non-specific symptoms (NSS) represent a significant proportion of presenting symptoms to the NHS, and accounts for much of workplace absenteeism. NSS thus represent a costly problem to individuals, organisations and the nation. It is important, therefore, to understand what predicts NSS reporting, in order to develop effective health interventions to improve well-being and reduce costs associated with absenteeism. With respect to the prediction of NSS, health psychology has focused on individual differences (e.g. neuroticism), with occupational psychology attending to work characteristics (e.g. job control). This research examined the relative importance of these competing traditions by comparing the influence of both individual differences and job characteristics upon workplace symptom reporting.
Methods: The research comprised cross-sectional (survey) and longitudinal (eight-day, twice-daily diary study) components, conducted across five public and private sector organisations, with total samples of 711 for the survey and 51 for the diary study. The data was analysed using LISREL modelling and hierarchical multivariate linear modelling (HMLM).
Findings: The results indicated that individual differences were the primary drivers of NSS reporting. Neuroticism and health anxiety were negatively associated with symptom reporting both in the cross-sectional SEM (CFI=0.98), and longitudinally in the HMLM (neuroticism χ^2=0.23, p<0.01; health anxiety χ^2=0.13, p<0.01). Job control was unrelated to NSS in HMLM.
Discussion: These findings indicate that variability in symptom reporting occurs primarily at the individual level, suggesting that interventions to improve workplace well-being should aim at individuals if they are to be effective.

The psychological well-being, perceived self-efficacy levels and satisfaction with life of carers of children with Friedrich's Ataxia

H.L. WILLIAMS, L.A. CULLEN & J.H. BARLOW, Coventry University.
Background: Previous research in both Europe and the USA has shown that carers of children with disabilities are at greater risk of psychosocial distress compared with mothers of non-disabled children. Furthermore, studies have shown that parents of disabled or chronically ill children often have lower levels of self-efficacy than parents of non-disabled children. Despite this, no research has been conducted with carers of children with Friedrich's Ataxia and the aim of this study was to explore the psychological well-being and self-efficacy levels in this group.
Methods: The participants in this study were all the main carers of children with Friedrich's Ataxia. Data were collected by self-report questionnaire comprised of the Hospital Anxiety and Depression Scale (HADS), Generalised Self-Efficacy Scale (GSES), Parent's Self-Efficacy Scale (PSES) and Satisfaction with Life Scale (SWLS). Data was analysed using Pearson product moment correlation.
Findings: Of the participants, 20 per cent were male

and 80 per cent female. Mean anxiety and depression scores were 11.16 (SD=3.98) and 7.63 (SD=4.06) respectively. 80 per cent of the sample was found to be at risk of clinical anxiety and 50 per cent at risk of clinically depressed mood. Mean general self-efficacy and parental self-efficacy scores were 27.53 (SD=4.74) and 32.32 (SD=7.49). Mean satisfaction with life score was 17.89 (SD=6.45). A strong positive correlation was found between anxiety and depression (p<0.01) and there was also a strong negative correlation between general self-efficacy and depression scores (p<0.01). Negative correlations were also found between satisfaction with life and anxiety scores (p<0.05) and satisfaction with life and depression scores (p<0.05). **Discussion:** These findings are consistent with previous studies and demonstrate that carers of children with Friedrich's Ataxia are at risk of psychological distress and also have low levels of self-efficacy. It is proposed that carers of children with Friedrich's Ataxia could benefit from an intervention to increase self-efficacy, which may then, in turn, lower their risk of psychological distress.

Dysfunctional constructions of illness: A discourse analysis

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The prevalence of chronic illness is increasing and represents an important research area for health psychology. This study explored the way that chronically ill individuals construct chronic illness and identity through their discourse. Foucauldian discourse analysis guided the research. The data presented are based on semi-structured interviews with six chronically ill women. The women constructed illness using a discourse of dysfunction. Prevailing Western ideologies construct life in dichotomous terms of functional/dysfunctional, productive/non-productive and healthy/ill. Such dichotomies generate an implicit imperative of can within society, which is pervasive and allows contrasts between 'can' and 'can not ' to be magnified. Chronically ill people were positioned within this discourse as dysfunctional and passive, and as such they were positioned as being on the outside of existing social roles (e.g. mother, worker) which had consequences for their self-concept. The limited availability of other discourses meant that alternative subject positions were not available. It is argued that a substantial cultural and discursive shift would be required to challenge predominant illness discourses, such as dysfunction, and to change the experience of the chronically ill continuing to be one of stigmatisation and devaluation.

A systematic review of psychosocial variables which may influence womens' attendance for cervical smear test

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Background: There is extensive literature available that examines factors influencing women's participation in the UK National Health Service Cervical Screening Programme (NHSCSP). However, applying the study findings to the current NHSCSP setting is often not possible because either studies were conducted: (a) in countries where there is no systematic screening programme; or (b) in the early years of the NHSCSP. Since then many changes have taken place and it is unclear how accurately the findings of the research reflect the present situation in the UK.
Method: Four search strategies (electronic databases [1985–2002], hand-searching journals, inspection of reference lists and of unpublished literature) were employed. All eligible articles (11) had to fulfil the inclusion criteria.
Findings: Low esteem, fear of becoming a burden on the family, embarrassment, indignity, fear of results and lack of adequate information were the main barriers for non-attendance. A positive attitude towards having a cervical smear was a predictor of women's intention for cervical screening. Many studies incorrectly classified women as 'non-attenders'.
Discussion: The review highlights a number of psychological variables that should be taken account of by the NHSCSP.

The effect of mindful-meditation on measures of sense of coherence, perceived stress and mental health

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Aims: To assess the effect of mindfulness and length and frequency of practice of mindful-meditation on sense of coherence, stress and mental health.
Methodology: 80 participants (20 undergraduate students and 60 practicing Buddhists) completed the Mindfulness Awareness Scale, the Orientation to Life Questionnaire, the Perceived Stress Scale and the General Health Questionnaire. The participants were separated into four groups, a control group of non-meditators, and three groups of meditators.
Results: Length of practice has a significant effect on all measures as shown by the Wilks lambda (9,177.81)=8.148, p<0.5. Mindfulness was also found to have a significant effect on all measures, Wilks Lambda (3,73)=6.010, p<0.05. Frequency of mindful-meditation also had a significant effect on all measures, Wilks Lambda (6,150)=11.102, p<0.05. On further investigation using a Bonferoni post hoc comparison, it was found that length of practice of mindful-meditation was the best predictor of outcome measures.
Discussion: In this cross-sectional study, long-term practice of Mindful-meditation is shown to have a positive effect on Sense of Coherence, and a negative effect on perceive stress and psychological distress. These results, discussed in the context of Lazarus's transactional model of stress, suggest that mindful-meditation may be of use in the prevention and treatment of stress and mental health problems

South Asian women and HRT: Determining intentions of utilisation using the theory of planned behaviour

S ALI & J.D. WILLIAMS, Coventry University.

Background: The HRT decision is one of the most difficult decisions menopausal women face. Understanding factors influencing this process may lead to improved decision-making and prolong the quality and duration of a woman's life. In the UK, women of South Asian origin are less likely to use HRT (Harris *et al.*, 1997). Research concerning women's decision-making has largely neglected the views of these women. This study explored factors that influence their intention to take HRT using the theory of planned behaviour (TPB – Ajzen ,1991).
Methods: A cross-sectional survey based on an extended version of the TPB was administered to 100 South Asian women recruited via opportunity and snowball sampling. The questionnaire-items were based on an initial pilot study involving a series of focus groups with a self-selected sample of 37 women.
Findings: Simultaneous multiple regression concluded that the TPB variables; Perceived Behavioural Control (PBC) and Attitude, but not Subjective Norm explained the variance in women's intentions to adopt HRT at menopause. Adjusted R²=0.304, F(5,94)=9.628 p<0.01. A one-way between groups ANOVA showed that compared to women with a weak intention, women with a neutral or strong intention to adopt alternatives to HRT expressed lower intentions to utilise HRT at menopause, p<0.05.
Discussion: This study provides evidence for components of Ajzen's TPB in predicting intentions to adopt HRT and interventions aimed at promoting HRT could target these. The study also highlights the importance for doctors to be aware of women's intentions to use alternatives and how it can effect their decision-making.

The effects of emotional labour on cabin crew

A.M. AL-SERKAL, F. JONES & P.H. GARDNER, University of Leeds.

Background: Since the study of Hochschild (1983), scant research has been conducted on cabin crew with regards to emotional labour and stress. This study examined the impact of emotional labour (EL) and organisational variables on job satisfaction, physical symptoms (PS) and stress on a multicultural airline cabin crew population (n=68).
Methods: A questionnaire included measures of emotional labour, organisational factors, the experience of PS, the GHQ and the seven personality factors. The sample was divided into two groups; approximately half had been employed for less than 18 months.
Findings: The results indicated that crew were often required to display positive emotions, sometimes they experienced having to control emotions, and crew rarely displayed negative emotions or experienced emotional dissonance (ED). Participants were moderately satisfied with their job. It was found that half the participants experienced headaches and even larger proportions experienced trouble sleeping, and tiredness or fatigue. Participants who had been in their present job for more than 18 months suffered significantly more PS, as well as experiencing more psychological morbidity than those employed for a shorter time. Using regression analyses, it was found that the display of neutral emotions, controlling emotions, role conflict and decision-making predicted job dissatisfaction, while experiencing ED was a predictor for PS. With this sample, personality did not yield any significant results.
Discussion: The results indicate that ED may be associated with employee strain over a period of time. The implications of the study is that organizations may need to train individuals or select individuals who will be able to cope with EL in their profession.

The involvement of young people in sport and exercise and their satisfaction with life: There's any relationship?

J.R. ALVES, N.J. CORTE-REAL, R. CORREDEIRA, University of Porto, R. BRUSTAD, University of Northern Colorado, I. BALAGUER, University of Valencia & A.M. FONSECA, University of Porto.

In the last few years, several scholars under the leadership of Martin Seligman started a positive psychology movement devoted to increase the scope of psychology research and practice helping people to enhance their lives, for example, by experiencing greater satisfaction with life. Despite that, until this moment few studies examined the relationship between sport and exercise and satisfaction with life, especially with young people. Therefore, the main purpose of the present study was to analyse the relationship between the involvement of young people in sport and exercise and their satisfaction with life. The study sample consisted of 5203 male and female students aged 13 to 20 years from several schools located along the centre and the north of Portugal. The participants were asked to indicate their involvement in sport and exercise activities (e.g. type of activity, frequency and duration of usual practice) as well as to indicate their satisfaction with life, measured by a translated and adapted version of the Satisfaction with Life Scale (Diener *et al.*, 1985). Data analysis showed that students who exercise or who practice sport moderately were more satisfied with life than students who do not exercise. Moreover, students who exercise or who practice sport moderately were less satisfied with life than students who exercise or who practice sport more intensively and regularly. There is also evident some statistical differences between males and females, with males reported higher levels of satisfaction with life.

Psychometric properties and factorial invariance across gender of the Portuguese version of the Satisfaction with Life Scale (SWLSp)

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The Satisfaction with Life Scale (SWLS) is a five-item scale developed in the USA by Diener *et al.* (1985) to serve as a measure of the cognitive component of the subjective well-being. The unidimensionality of the scale has been shown at

exploratory and confirmatory level in countries like the USA, France, Germany, Czechoslovakia, England and Spain. Also in Portugal, some investigations have been published supporting the validity of this scale but only at an exploratory level. In fact, until this moment no one has examined the psychometric properties of the Portuguese version of SWLS using confirmatory factor analysis procedures. Therefore, the first purpose of the present study consisted on analysing the psychometric properties and the factor validity of the unidimensional model of the Portuguese version of the SWLS. Moreover, the factorial invariance and latent mean structure were examined for the five-item, unidimensional model to the SWLS across men and women. Participated in this study 2000 male and female students, aged 13 to 20 years, from several secondary schools located in the Centre and North of Portugal. Confirmatory factor analysis (CFA) was used to indicate that the unidimensional model to the five-item SWLS demonstrated invariance of the variance-covariance matrices, factor structure, and factor loadings across male and female samples. Therefore, it was concluded that researchers can confidently use the Portuguese version of SWLS to evaluate satisfaction with life among teenagers and young adults.

Evaluation of the 'Living Well Programme' developed by Derry Well Woman 2000–2003

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Background: The primary objective was to evaluate the 'Living Well Programme' developed by Derry Well Woman in 2000–2003. The main aims were to set the programme into a global context, to evaluate the effectiveness of such an approach for supporting people coping with a cancer diagnosis and to make recommendations for future development.
Methods: 33 women participated in this evaluation. Both quantitative and qualitative methods were used. Regarding qualitative methods a pre/post-test design was used involving a pre/post-programme questionnaire measuring physical and emotional vitality. The Wilcoxin matched-pairs signed-ranks test was used for analysis. This design was complemented through the use of qualitative methods including a Grounded Theory Analysis on open-ended evaluations and the phenomenological analysis of a drama script created by participants to reflect their experiences.
Findings: Quantitative data analysis established a statistically significant improvement in both physical and emotional vitality at post-test (p<0.005). From the Grounded Theory Analysis five main themes emerged relating to the programme including positivity, importance of support, health-related changes, transformed personal qualities and programme critique. The phenomenological analysis also revealed a number of themes relevant to experiences of cancer and of the programme including body image, sense of belonging and integration.
Discussion: This evaluation was an initial step in addressing the distinct lack of evaluative studies on holistic programmes for women living with cancer. Quantitative results demonstrated that participation in the programme had a significant effect on both physical and emotional well-being. All themes emerging from the qualitative data related to living and coping with cancer and gave insight into the ways in which such a holistic programme may contribute to both physical and emotional well-being. Such programmes could be considered as a valuable adjunct to the approaches of health psychology for individuals living and coping with a cancer diagnosis.

A phenomenological study exploring how young adults live with cystic fibrosis and the impact this has on their adherence to treatment

K. BADLAN, R. MEANS, T. MITCHEL & M. MORRIS, University of the West of England.

Non-adherence in chronic illness has been investigated objectively from a quantitative

perspective, to identify factors which might predict or modify the behaviour, (Lask,1994; Walters, 2001) The aim of this subjective study was to achieve a greater understanding of life with cystic fibrosis and how adults manage their demanding treatment regimen. Thirty-one adults participated in semi-structured interviews which were transcribed and the data collected analysed using interpretative phenomenology, (Heidegger, 1997). Emerging themes indicated that managing a life with a chronic illness as demanding as cystic fibrosis is complex. Factors considered as 'within Self' that appear to impact on adherence included: the need to integrate into society, aspirations to be 'normal', establishing internal control and self-responsibility and developing coping strategies that enabled positive adaptation. 'External to Self' factors included the attitudes of one's peer group, parents or significant others; attitudes of the healthcare professionals; difficulties encountered with employment and financial restraints imposed by the illness.
The findings of this study suggest that complete adherence is rare and is affected by a multitude of factors, set within the context of each individual's unique life experience. Healthcare professionals, particularly those working in the field of chronic illness need to understand, not just the objective medical condition in delivering care, but also the need to develop an insight into the subjective experience of living with cystic fibrosis. Only then can their clinical practice evolve to one that truly empowers those for whom they care to determine how best to live their lives.

A qualitative study to investigate South Asian womens' understanding of healthy eating and diabetes

S. BAKHSHI & J. OGDEN, King's College London.

Background: Previous research has shown that South Asians living in the UK have a higher prevalence of Type 2 diabetes compared to Caucasians, and ethnic variations in eating and cooking can lead to increases in diabetes. This study aimed to explore what first generation South Asian women understood by the terms healthy eating, weight and diabetes when used in a Western culture and to what extent their beliefs about these issues had changed since they migrated to the UK. Any barriers that may have been preventing people from adopting Western styles of healthy eating and methods of cooking also needed to be identified.
Method: 15 South Asian women aged between 35 and 60 years were recruited via a snowball sampling Method: In-depth, semi-structured, face-to-face interviews were conducted and tape-recorded. The data was analysed manually using the principles of Interpretative Phenomenological Analysis. Three main themes emerged from the data: Influences on Health, Diet and Weight; Awareness, Knowledge and Understanding; and Food and Culture.
Findings & Discussion: The influences on health, diet and weight, included: family/friends, culture/society, lack of time, lifestyle, choice, weather and stress and these were due to both the host environment and cultural factors. Although women were aware of healthy eating messages, most of the them lacked knowledge and understanding about diabetes and this may be one reason for diabetes being so high within the Asian population. The final theme showed that although some adjustment in methods of cooking and eating has taken place, many women continue to cook and eat the same as they did back home, because they want to retain at least one aspect of their culture. Women have become more aware since migrating to the UK, but further awareness is needed to prevent the prevalence of diabetes increasing within this population. This study has demonstrated that there may be a struggle between the traditional Indian culture and the new modern culture.

Parkinson's disease and employment - are they compatible?

P. BANKS & M. LAWRENCE, University of Glasgow.

Background: Although the incidence of Parkinson's disease increases with age it also affects younger

people who may have worries associated with young families and employment. The disabling effects of Parkinson's disease can be reduced with drug therapy. However, it is usually necessary to increase the dose over time in order to maintain the improvement, which has implications for younger people. This study was designed to explore the effects of Parkinson's disease on labour market participation paying particular attention to decisions relating to drug therapy.
Method: Data were collected in two phases: (i) a postal survey (n=327); and (ii) one-to-one interviews using the Lifegrid (n=24). Ethical approval was granted by the MREC for Scotland.
Findings: 310 respondents (94.8 per cent) were using drug therapy to cope with their symptoms, 81 (25.1 per cent) reported that their decisions relating to drug treatment had been influenced by how they thought it would affect their ability to work. Nevertheless, only three out of 10 respondents, 31.2 per cent, were in employment compared to 81.3 per cent of non-disabled people in the UK.
Discussion: Parkinson's disease is a progressive disorder and at certain stages paid employment may not be a viable option. The social interaction and the feelings of worth and identity frequently associated with employment are vital for the well-being and quality of life. This paper presents information relating to participants' experiences of leaving the labour market and some of the difficulties they experienced in making decisions while facing an uncertain future. These findings will be of use to health professionals providing support to younger people with chronic illness.

Communicating information about medicines: Effects of including benefit and rationale statements

E. BERSELLINI & D.C. BERRY, University of Reading.

Background: Social cognition models suggest that perceived risk and benefit are key factors in determining health behaviours. Previous research has shown that provision of information about medication side effects can have detrimental effects on people's perceptions and intended health behaviours. The present study examines the effects of providing written information about: (a) a medication's benefits; and (b) a rationale for its action and whether they offset the negative effects of side effect information, in the context of acute (Experiment 1) and recurrent (Experiment 2) illness.
Methods:
Design: Two factor between participants designs were used in both experiments: With/without benefit statement, With/without rationale statement.
Participants & Procedure: Adult participants (n^1=252, n^2=248) received a written hypothetical scenario about being diagnosed with an infection (E^1=acute, E^2=recurrent) and prescribed a medication, which included the benefit and/or rationale statement.
Measures & Analyses: Six-point Likert scales of satisfaction, effectiveness and appropriateness of the medicine, perceived benefit, perceived risk, and intention to take the medicine, analyses of variance were used.
Findings: Both experiments showed that inclusion of either a benefit or rationale statements increased satisfaction, effectiveness, appropriateness, perception of benefit and intention to take the medicine, although did not affect risk perception Both statements were valid but did not have an additive effect.
Discussion: Providing information about a medicine's benefits, and/or a rationale for its action, offsets the negative effects of side effect information. This effect applies to both acute and recurrent conditions.

Why do people use complementary medicine? Associations with treatment and illness beliefs in an online questionnaire study

F.L. BISHOP, L. YARDLEY & G.T. LEWITH, University of Southampton.

Background: People who use complementary and alternative medicine (CAM) have been shown to hold certain beliefs about treatment, including

beliefs in holistic health, natural treatments and participation in treatment. This study aimed to identify the relative importance of treatment beliefs and illness perceptions in the use of different forms of CAM.
Methods: A cross-sectional web-based questionnaire study was conducted. Two-hundred-and-forty-seven participants completed the IPQR, the BMQ, the CAMBI, and measures of CAM use. CAM forms were classified as alternative medical systems, mind body interventions, biologically based therapies, manipulative and body-based methods and energy therapies. The relationships between treatment and illness beliefs and CAM use were tested using logistic regression analyses.
Findings: Holistic health beliefs predict current use of alternative medical systems (OR=1.13), mind body interventions (OR=1.29), biologically based therapies (OR=1.11) and energy therapies (OR=1.33). Treatment and illness beliefs were not associated with use of manipulative and body-based methods. Different treatment and illness beliefs were associated with the use of different types of CAM.
Discussion: Beliefs about holistic health are more important than attitudes to orthodox medicine in explaining CAM use. Future research needs to explore the beliefs of people who use specific forms of CAM, and to investigate the development of these beliefs.

Theoretically derived perceived control measures predict individual-specific walking recovery following stroke

D. BONETTI & M. JOHNSTON, University of Aberdeen.

Background: In previous studies, control cognitions – conceptualised and operationalised in different ways – have predicted disability. This study extends this work by using measures of perceived control (PC) derived from the theory of planned behaviour (perceived behavioural control: PBC), social cognitive theory (self-efficacy: SE), and social learning theory (locus of control: LOC) to predict a specific Activity Limitation (Walking: WAL) defined at an individual level.
Methods:
Design: Longitudinal predictive study of a geographical cohort. Measures assessed two weeks after hospital discharge (Baseline) predicted activity limitation and recovery after six months.
Participants: 203 stroke patients (124M, 79F) mean age=68.88 years (s.d.=12.31).
Measures: WAL=UK SIP (FLP) Ambulation subscale; PBC, SE and LOC items were individually-tailored to assess PC over the easiest FLP walking task the individual could not perform at baseline.
Findings:
1. WAL was predicted by PBC (r=−0.36, p<0.001) and SE (r=−0.30, p<0.001) but not LOC (r=−0.07, n.s)
2. WRecovery (WAL allowing for Baseline levels) was predicted by PBC (r=0.26, p<0.01) and SE (r=0.22, p<0.01), but not LOC (r=0.07, n.s.)
3. In stepwise regression analyses predicting WAL, with all demographic, clinical and PC measures, only PBC entered: Adj. R^2=0.19, F(1,94)=22.85, p<0.001.
4. In stepwise regression analyses predicting WRecovery, with all demographic, clinical and PC measures, only PBC entered: Adj. R^2=0.11, F(1,94)=12.83, p<0.001.
Discussion: This study replicates and extends earlier findings by demonstrating that control beliefs can predict activity limitations and recovery of a specific activity defined at an individual level.

Perceptions of chronic fatigue syndrome (CFS/ME) in a student population

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Objectives: Chronic fatigue syndrome (CFS, also known as ME) is considered a controversial illness and patients sometimes feel that their condition is not recognised or understood by the general public. This study investigated how a sample of undergraduates perceived CFS/ME, in particular contrasting how the condition is perceived depending upon level of prior experience of the illness through various sources.
Methods: An amended version of the revised Illness Perception Questionnaire (IPQ-R) (Moss-Morris *et*

al., 2002) and a questionnaire designed for the purposes of this study, asking participants about their prior experience of CFS/ME (through personal experience, media or other sources) was given to 85 undergraduates, aged between 18 and 26.
Results: Participants viewed CFS/ME as an illness with serious consequences and a long timeline. There were generally no significant differences in perceptions of CFS/ME between those who had prior experience of CFS through either media sources or personal experience and those who had not. The only exception to this was that those participants who had personal experience of CFS/ME perceived the condition as less controllable than did those with no personal experience. The pattern of participants' illness perceptions was similar to that reported from a sample of CFS/ME patients (Moss-Morris & Chalder, 2003).
Conclusion: Amongst this group of non-sufferers with varying levels of awareness and experience of the illness, there was a fairly uniform set of perceptions of CFS/ME and prior experience of the condition was not associated with a different set of perceptions. Participants believed CFS/ME to be a serious condition with a chronic timeline.

What are the factors associated with delayed help-seeking with breast cancer symptoms among older women?

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Background: Women who delay presenting with breast cancer symptoms by ≥three months have significantly poorer survival. A study of women of all ages identified risk factors for delayed presentation: non-lump symptoms, not disclosing symptom discovery to someone close, being prompted by someone else to seek help and presenting indirectly with a non-breast symptom (Burgess *et al.*, BJC,1998). Older women, who have a higher risk of developing breast cancer, are also more likely to delay help-seeking than younger women. The aim of the current study was to replicate the findings for women of all ages in older women and to understand them within a theoretical framework.
Methods: Risk factors for delay ≥three months were assessed for 69 women ≥65 years with breast cancer using a semi-structured interview developed for the earlier study. Additional items were assessed: breast cancer risk perception and attitudes towards help-seeking.
Findings: 42 per cent of participants delayed ≥three months The logistic regression model from the 1998 study was applied to the new data. It and showed good predictive value (area under ROC curve=0.9). Delay was also associated with having reservations about attending the GP (p=0.02) and fear of the consequences of help-seeking (p=0.04).
Discussion: Delay can be understood within a theoretical framework using elements of self-regulation theory, theory of planned behaviour and implementation intentions. This should inform the development of theoretically-based interventions to reduce delayed presentation in older women.

A post-discharge quality of life outcome measure for lower limb amputees: Test-retest reliability and construct validity

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Background: The objective was to adapt the Patient Generated Index (PGI) quality of life measure for use with lower limb amputees and to conduct a test-retest reliability and construct validity study on the adapted measure.
Methods: The design involved two repeat questionnaire interviews with a four-week interval conducted in the participants homes and administered by trained peers. Participants comprised 42 lower limb unilateral transfemoral amputees, 16 years of age or older and fluent in English, fitted with a prosthesis and discharged into the community for at least one year following post-operative rehabilitation therapy.
Findings: An intra-class correlation coefficient (ICC) of 0.48 (p<0.001) was achieved for the index reliability analyses. The seven most commonly mentioned areas of life affected by the amputation

and its treatment were hobbies/interests, social life, mobility/access, health, independence, work/finance and family. ICC values for these ranged from 0.41 to 0.92. Comparing the PGI with the SF-12 Health Survey (physical and mental component summaries) gave Pearson's correlation coefficients of 0.12 (p<0.5) and 0.56 (p<0.001) respectively. Multiple linear regression analysis showed the SF-12 physical and mental component scores explained 31.5 per cent of the variance in PGI scores, however, the mental component scores alone explained 31.2 per cent.
Discussion: In conclusion, the PGI was adapted and found to be moderately reliable in terms of repeatability during successive follow-up interviews. Testing its construct validity supported a stronger relationship between mental health and quality of life than between physical health and quality of life in transfemoral lower limb amputees.

Constructing adherence: Perspectives from living with insulin-dependent diabetes

K. CHAMBERLAIN, Massey University.

Insulin-dependent diabetes (IDDM) provides a significant arena in which to examine the complexities of adherence. People with IDDM need to artificially regulate their blood sugar levels, achieved by regular blood glucose monitoring and balancing a complex regime of insulin injection and the regulation of dietary intake and exercise. The importance of 'tight' control of blood sugar levels is continually stressed to people with IDDM by health professionals. The consequences of loss of control are immediate and life-threatening, and the consequences of poor control are long-term and life-limiting. This paper discusses issues relating to adherence from the lifeworld perspectives of people with IDDM, from an analysis of interview texts. While health professionals tend to have a future orientation to control in order to avoid complications, people with IDDM take a more present orientation to control in order to manage on-going everyday life. Although glycaemic control is important, people with IDDM offer differing accounts of how and when they take up or give up control, depending on their constructions of the self, the body and the social world. Regimes of control are adopted or resisted according to constructions of the self as diabetic, and the disclosure of the disorder to others. The paper concludes with a consideration of the need for a more critical approach to adherence on the part of health psychologists.

Benefits of caring for a child with cerebral palsy

A. CHESHIRE, J. BARLOW & L. CULLEN, Coventry University.

Background: Caring for a child with disabilities can have a significant impact on the family, in particular the primary care giver. For example, research has shown carers of children with cerebral palsy (CP) may be at risk from stress and poor psychosocial well-being. However, a small but growing amount of literature has documented benefits individuals have gained from health problems, including caring for a child with disabilities/health problems.
However, the benefits parents feel they have gained from caring for a child with CP has not been investigated. The aim of this study was to investigate the positive impact caring for a child with CP may have on parents' lives.
Methods: Semi-structured interviews were conducted with six parents of children with CP. Interviews were transcribed and transcripts were analysed using interpretative phenomenological analysis/thematic analysis.
Findings: Parents identified the following positive changes as a result of having a child with CP:
Closer family relationships;
More positive outlook on life;
More interest in helping others;
Grateful things aren't worse/value things they do have;
Improved communication with their other children;
Change in life's priorities;
Value money less;
Value time spent with family more.
Discussion: Parents feel they have gained a number of benefits from caring for a child with CP.

Further work is now needed to assess the adaptive significance of finding benefits from the situation.

The psychosocial well-being of carers of children with cerebral palsy

A. CHESHIRE, J. BARLOW & L. CULLEN, Coventry University.

Background: Many studies suggest that caring for a child with disabilities has a significant impact on the family, particularly the primary care giver. More specifically, research has shown carers of children with cerebral palsy (CP) may be at risk from stress and poor psychosocial well-being. This abstract reports the initial findings of an ongoing study that aims to examine carers' psychosocial well-being and needs in more depth.
Methods: Data were collected via postal questionnaires mailed to carers. Questionnaires comprised standard instruments measuring quality of life and psychosocial well-being.
Findings: 41 participants returned completed questionnaires, 36 female and five male (mean age=40 years, SD=8). Mean scores (Standard Deviation) were anxious mood 11.12 (SD=4.68), depressed mood 7.20 (SD=4.02), self-efficacy 29.24 (SD=5.43), Satisfaction with life 16.54 (SD=6.54) and Positive Reinterpretation 11.92 (SD=3.22). Using recommended cut-off points, 71 per cent were at risk of clinically anxious mood and 39 per cent were at risk of clinically depressed mood. Anxiety was significantly negatively correlated with self-efficacy and satisfaction with life. Depression was significantly negatively correlated with self-efficacy, satisfaction with life and positive reinterpretation.
Discussion: A number of carers of children with CP in this sample of are at risk from clinically anxious and depressed mood. Interventions that enhance self-efficacy, satisfaction with life and positive reinterpretation may help to improve psychological well-being and for these carers.

Adjustment to breast surgery for breast cancer of women in Scotland and Greece: A preliminary study on the role of health beliefs and coping – with – illness information – styles

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Background: The present study aimed to compare levels of adjustment to and factors of breast cancer surgery in Scotland and Greece. Factors examined included mastectomy – related health beliefs, coping – with – illness – information styles (monitoring versus blunting) and perceived social support.
Methods: The sample comprised of 19 British and 27 Greek women who had undergone breast surgery for breast cancer/mastectomy. Participants were assessed by completing a questionnaire at hospital during follow-up appointments. Measures included the Mastectomy Health Belief Questionnaire, the Overall Adjustment to Mastectomy Scale and a shortened version of the Miller Behavioral Style Scale (MBSS). Demographical and health history data were collected from medical files. Differences between the two cultural groups in demographics and health history were examined by using χ^2 analysis. Between group differences in adjustment were examined using one-way analysis of variance (ANOVA).
Findings: British and Greek patients did not differ significantly in their overall adjustment to their breast surgery. However, Greek patients scored significantly less on sexual adjustment than the British. It was also found that perceived social support was negatively associated with emotional adjustment in the Greek patients.
Discussion: Present findings provided preliminary information on the importance of health beliefs and coping with illness – related information style for the overall and domain – specific adjustment to breast cancer. Also adjustment to breast cancer surgery appeared as partly culture-specific, as levels of adjustment in specific domain and factors of adjustment differed across cultural groups.

A discursive analysis of alcohol education resources

D. CLARKE, R. INGHAM & L. YARDLEY, University of Southampton.

Background: This study aimed to explore the range of meanings used to construct alcohol use amongst young people in a variety of alcohol education resources. It aimed to generate insights that would help explain why such resources, as part of more generic alcohol education programmes, have been largely unsuccessful in reducing some of the harm caused by alcohol misuse.
Method: 14 leaflets/pamphlets and four resource packs aimed at young people aged between 11 and 16 were sampled according to criteria of prevalence of use, and strength of recommendation (as derived from surveys of PSHE consultants, teachers, etc.). These were then analysed according to the principles of discourse analysis outlined by Edley (2001).
Findings: Alcohol use amongst young people could be seen as being constructed around several, potentially contradictory, notions of self and identity. Foremost amongst these were constructions of the self as agentic, as vulnerable, and also as rational. These constructions underpinned a wider, and unresolved, discursive dilemma evident in the texts, that of alcohol use as being either a means of losing inhibitions and breaking free of social restraints (by getting drunk), and/or as an activity that needs to be practiced safely with restraint (by not getting drunk).
Discussion: The mixed, often contradictory, messages arising as a result of this dilemma may explain why educational resources have been largely unsuccessful in meeting their stated aims. Both sides of the dilemma appear to be underpinned by notions of the self that are fundamental to western understanding, thus rendering the dilemma very difficult to resolve. The design, content and even the purpose of educational resources may, therefore, need to be addressed and carefully reconsidered in the light of these findings.

The experience of obesity and its management: A qualitative study

C. CLEMENTI & J. OGDEN, King's College London.

Background: Obesity is a common chronic illness characterised by a complex etiology. Despite a wide range of available behavioural and medical treatments long-term results show poor success.
Objective: To explore the experience of obesity and its management.
Methods: Qualitative in-depth interviews were carried out with 30 patients from the obesity clinic at a London hospital. Some were waiting for surgery (n=7), some had had surgery (n=15) and some were receiving behavioural and/or medical management (n=8).
Results: Participants described their experiences of obesity in terms of three broad areas: the experience of weight, their relationship to food and their attempts at weight loss. Their experiences of weight were described in terms of stigma, self esteem and body image, their quality of life and the objectification of their body. The relationship with food was described in terms of issues of control, the role of food in their lives, external and binge eating and hunger. Finally, participants described a wide range of weight loss methods in terms of their failures and successes, guilt, learned helplessness, the need for immediate results and a desire to hand over control.
Conclusion: Obese patients feel that they are held responsible for both the cause and solution of their problem, yet their attempts at self management repeatedly fail. They feel that it is time that responsibility was shifted back to medicine or towards society as a whole.

Social support and cardiovascular reactivity and recovery in psychosocial stress

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Although it is generally accepted that laboratory manipulations of social support can moderate psychosocial stress-induced cardiovascular

reactivity (CVR), the precise mechanisms of influence remain to be fully elucidated. The present investigation used thoracic impedance cardiography (TIC) to assess parasympathetic activation and examine whether social support buffers stress reactivity, or prevents prolonged activation following a stressor. Sixty female undergraduates completed an anger recall task with either a neutral or supportive experimenter. In the support conditions, the experimenter made supportive comments either prior to or immediately after the speech task. Participants rated perceptions of support from the experimenter in all three conditions and completed individual difference questionnaires. Physiological measurements were taken during baseline, preparation, speech, and recovery periods. MANOVA was used to examine differences in reactivity and recovery between support conditions and regression analysis examined relationships between perceived support, CVR and individual differences. Results indicated that differences in perceived support between support conditions were small and there were few significant differences in CVR between conditions. However, perceptions of support were strongly correlated with indices of reactivity, especially PEP/LVET, an indicator of beta-adrenergic influences on the heart (p<0.05). This suggests that individual differences may influence participants' perception of support to a greater extent than the support manipulation itself, highlighting a potential weakness in the experimental support-reactivity paradigm. In addition, TIC may provide a more sensitive measure of reactivity than standard blood pressure measurement alone.

The effectiveness of aromatherapy for enhancing the quality of life of people with multiple sclerosis

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Background: Multiple sclerosis is a chronic neurological condition of unknown cause and cure with limited treatment options. Previous research has identified three psychological variables affecting the quality of life of people with multiple sclerosis (PwMS): anxiety, (Foley, 1987; McIvor et al., 1984; Stevens, 1974); (ii) depression (Van Oosten et al., 1997; Cleeland, 1971); and (iii) fatigue (Campion, 1997; Stuifbergen & Rogers, 1997; Schwartz et al., 1996). There is growing evidence for the effectiveness of aromatherapy on chronic illness. The aim of this study was to establish the effectiveness of aromatherapy on the quality of life (QoL) in PwMS.
Methods: A single-case experimental longitudinal design was used with 54 days of data collection pre-treatment, 42 days during treatment and 14 days post-treatment. T-tests were used to compare levels of quality of life on six variables, including anxiety, depression and fatigue, between periods.
Findings: From pre-treatment to treatment the occurrence of negative QoL constructs significantly reduced, t(39)=−2.688, p=0.001, d=−1.34, and that of positive constructs significantly increased, t(39)=3.625, p<0.05, d=0.88. From treatment to post-treatment period neither the occurrence of positive constructs, t(29)=−1.280, p>0.05, d=−0.26, nor that of negative constructs, t(29)=1.550, p>0.05, d=0.32, changed significantly. The occurrence of negative constructs was significantly greater before treatment than that of positive constructs, t(16)=3.779, p<0.005, but was significantly smaller during treatment, t(23)=−2.331, p<0.05, and no difference existed post-treatment, -1<t<0.
Discussion: Aromatherapy increased the level of positive experiences (vitality, happiness and peace) and decreased the level of negative experiences (fatigue, depression and anxiety).

Maternal anxiety following newborn hearing screening: The moderating role of knowledge

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Background: While it is assumed that good knowledge about screening tests will prevent anxiety in those recalled, little research evidence supports this.

Aim: To describe the impact of screening recall, and examine the possible moderating role of knowledge, on maternal anxiety following newborn hearing screening.
Methods: Questionnaires assessing maternal state anxiety, worry and certainty about the babies' hearing, and knowledge about the screen, were sent to four groups of mothers three weeks post screen: Group 1: mothers whose babies received clear responses on a first or second screening test; Group 2: mothers whose babies received clear responses on the final screening test; Group 3: mothers whose babies did not receive clear responses in one ear at the final screening test and were referred for audiological assessment; Group 4: mothers referred because no clear responses were received in either ear at the final screening test.
Findings: Analyses based on 357 mothers show that, although state anxiety levels across the sample were in the normal range, those referred were more worried and less certain about their babies' hearing. In Group 4, there was an association between greater knowledge and higher certainty about the baby's hearing: mothers who knew that an unclear response was unlikely to mean that their babies had a hearing loss were more certain, less worried and less anxious.
Discussion: These findings suggest knowledge may moderate the adverse effects of recall in screening programmes. Prospective and experimental studies are needed to establish the causal nature of the observed association.

Attitudes and screening: The moderating role of ambivalence

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Aim: To examine the extent to which ambivalence moderates the relationship between attitudes and behaviour in the context of screening and how this may undermine the making of informed choices.
Design: Prospective descriptive study.
Setting: NHS Trust offering pregnant women an antenatal screening test for Down's syndrome.
Participants: 982 pregnant women offered Down's syndrome screening.
Measures: (a) Attitude towards undergoing the test (six items, scale range 0–36); (b) uptake of the test (from medical records); and (c) ambivalence calculated using the Griffin Index, range 0–8.
Results: 44 per cent of women underwent screening. Women who underwent screening held more positive attitudes than those who did not (29.2 vs 16.5; p=<0.001) and were less ambivalent about having the screening test (1.9 vs 2.8; p<0.001). Logistic regression analyses revealed that there was a significant interaction between attitudes and ambivalence (OR 0.043, 95 per cent CI 0.038, 0.29). These results are consistent with ambivalence moderating the relationship between attitude and uptake.

Psychiatrists judgement policies when assessing suicide risk in psychiatric inpatients

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Background: The aim of this study was to investigate medical and nursing staff judgements regarding whether or not an individual is at risk of suicide, in an acute psychiatric inpatient setting. This paper will discuss the results from the analysis of consultant psychiatrist judgements.
Method: The study used judgement analysis to examine the judgement policies of medical and nursing staff when making suicide risk predictions for patients in an acute psychiatric inpatient setting. A set of 145 patient case histories were constructed, varying information content for 13 variables identified by the literature as being possible predictors of suicidal behaviour. These vignettes were distributed to staff from four health boards across Scotland, who were asked to read each case history and then make an assessment of the risk they perceived the patient to be (from 0 – no risk to 100 – very high risk). Individual judgement policies were analysed using stepwise linear regression.

Findings: To date seven consultant psychiatrists have returned completed case histories. The policies represented by linear regression vary between individual psychiatrists. The most common information variables used as predictors of suicide risk are previous suicide attempts and suicidal ideation, although not all psychiatrists use these variables as part of their judgement policy.
Discussion: Comparisons of the individual judgement policies between consultants highlights considerable variation in the way variables are used as predictors for suicide risk in acute psychiatric inpatients. Social judgement analysis is a useful approach for exploring how information is utilised when making such risk judgements.

Scoring of the SF-12: Are the SF-36 scoring principles a more reliable choice?

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Background: The Short Form-12 Health Survey (Ware *et al.*, 1996) is a self-administered tool designed to measure health status; the 12 items are a subset of the Short Form-36 items, and assess physical and mental functioning. This study aimed to assess the reliability of the SF-12 scoring principles against those of the SF-36, as applied to the SF-12. The SF-12 usually requires a dedicated software package or a complicated scoring process (including weighting of items and aggregation of data) whereas the SF-36 method can be scored easily within SPSS.
Method: The SF-12 is used as one of the outcome measures for the Gloucestershire Cardiac Rehabilitation programme; patients complete the survey before they start the seven-week programme, as well as eight weeks and eight months after completing it. All patients attending the programme complete the SF-12 as part of a standard health-outcomes questionnaire. A sample of 590 patients who completed the questionnaire at all three time points were included in the analysis.
Results: The scoring principles of both the SF-12 and SF-36 were used to assess the internal reliability of the SF-12. The results of analysis showed that when using the SF-12 scoring system the internal consistencies using Cronbach's alpha were lower for the physical (ranging from 0.47 to 0.51) and mental (ranging between 0.62 and 0.68) component. However, when using the SF-36 the alphas increased to between 0.78 and 0.85 for the physical component and 0.71 and 0.78 (mental).
Discussion & Implications: The SF-12 is a preferable measure for practical reasons, however, it is recommended that the SF-36 scoring principles are used for the SF-12 as they yield a higher level of reliability.

An examination of the relationship between psychological need satisfaction, self-determined motivation, and exercise-related cognitions and affect in female exercise group participants

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Background: The literature suggests that involvement in exercise supports physical and psychological well-being. To further understand the exercise-health relationship, this study extends the work of Sheldon and Bettencourt (2002) and examines the utility of two contemporary psychological needs theories in explaining cognitive and affective responses to group exercise. Optimal distinctiveness theory (ODT – Brewer, 1991, 1993) proposes three psychological needs relevant to understanding well-being within groups, group inclusion, group distinctiveness, and personal distinctiveness. Self-determination theory (SDT – Deci & Ryan, 1985) also presents self-orientated and socially-orientated needs, i.e. autonomy and relatedness, and suggests that the degree of need satisfaction yields differential motivational regulations, which lie on a continuum of low to high self-determination (i.e. external, introjected, identified, integrated and intrinsic), and lead to differential behavioural, cognitive, and affective outcomes.
Method: Cross-sectional. Considering a specific exercise group, 260 females completed measures of

need satisfaction, motivational regulations, positive affect, subjective vitality, commitment and behavioural intention to continue exercising.
Findings: With psychological needs and motivational regulations as independent variables, separate hierarchical multiple regression analysis revealed that positive affect was predicted by intrinsic motivation (ß=0.46, p=0.00). Subjective vitality was predicted by intrinsic motivation (ß=0.22, p=0.01) and integrated regulation (ß=0.40, p=0.0), as was commitment (ß=0.23, p=0.00; ß=0.38, p=0.00, respectively). Behavioural intention was predicted by identified regulation (ß=0.22, p=0.04).
Discussion: Collectively, our findings advocate the role of self-determined motivational regulations in fostering cognitive and affective well-being and reported investment in physical activity among female exercise group participants, and thus further endorse the applicability of the theoretical tenets of SDT within the exercise domain.

How does possessing a repressive coping style influence pain perception? A systematic review

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Background: It is 25 years since Weinberger, Schwartz and Davidson (1979) identified a group of individuals who possess a repressive coping style. 'Repressors' are identified by their low scores on defensiveness. Numerous studies have found that repressors dissociate their somatic reactions from their perceptions of distress, with repressors in potentially stressful stressful situations reporting low levels of distress but exhibiting high levels of physiological activity. Some studies have suggested that repressors have impaired pain perception. This possible link is explored in a systematic review of the literature.
Methods: Four search strategies (electronic databases [1981–2004], hand-searching journals, inspection of reference lists and of unpublished literature) were employed. All eligible articles (six) had to fulfil the inclusion criteria.
Findings: These six studies employed a diversity of methods to investigate repressive coping and pain perception. However, repressive coping influenced perception of both chronic and acute pain in all of these very different studies, with repressors reporting low psychological distress, but high pain severity and disability. All studies were cross-sectional.
Discussion: The systematic review confirmed that repressive coping influences pain perception. However, the cross-sectional study designs did not clarify the way repressive coping influences pain perception, i.e. repressive coping may be a result of suffering from pain, not vice versa. Therefore, longitudinal studies need to be undertaken to establish causality.

Knowing or not knowing before birth: Parents' experiences of having a baby with a cleft malformation

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The aim of this qualitative study was to investigate the experiences of parents who had a baby with a cleft malformation and how these may have been influenced by a prenatal diagnosis. Past research concentrated on the psychosocial effects on parents and babies of an unexpected at birth cleft malformation. However, few studies have explored the impact of a prenatal diagnosis. The study employed semi-structured interviews to access the thoughts and feelings of 10 parents: five who had received a prenatal diagnosis and five where the cleft malformation was unexpected.
Analysis using interpretative phenomenological analysis (Smith, 1995) revealed five main themes: coping with a crisis; nurturing; the need for information; interaction with others; and knowing/not knowing. These were found to intimately connect and overlap. The themes were placed within a theory of coping with crisis (Taylor, 1983.) Having a prenatal diagnosis contributed to a positive parental experience, allowing them time to prepare and adjust psychologically to the emotional impact, away from the time of birth.
The preparation and education, especially about the special feeding needs of babies with a cleft

malformation, reduced parental anxiety allowing them to bond quickly with their child. However a disadvantage of the prenatal diagnosis was found to be a perceived increase in stress during pregnancy, due to the limitations of the ultrasonography to accurately predict the severity of the malformation. The role of the health care practitioners in the delivery of accurate and timely information and its impact on the parents is discussed.

The Training and Support Programme – a case study. Exploring new avenues

M. FOTIADOU, L. CULLEN & J. BARLOW, Coventry University.

Background: Teaching parents therapeutic massage can have positive results on children with disabilities or chronic conditions, and their family. The aim of this case study were to gain a better understanding of the experience of attending the Training and Support Programme (TSP) for parents of children with disabilities and chronic conditions.
Methods: The TSP comprises eight weekly one-hour sessions in which caregivers are instructed in gentle massage. The study was a qualitative case study. The participant was 45-years-old, white/European, married, fully employed and a mother of a child with a disability. Data were collected through home record sheets of the massage therapy sessions and an interview a year after the family finished the therapy training. Data were analysed by thematic content analyses.
Findings: The categories identified referred to the benefits of the TSP on mother and child's experience of the TSP and any benefits that they might gain from the programme. The subcategories included items referring to child's anger, parent's increased confidence to help the child, positive outcomes on mother's psychological well-being and relationship with the child, and parent's positive outcomes in involvement in child's health treatment.
The main reason of using the therapy at home was to prevent her son's condition from deteriorating and make him relax. The child showed improvements in both his condition and his temper. The mother reported that after the programme she felt more positive, confident and relaxed in helping her son feel calmer. She still uses massage one year after completing the TSP.
Conclusion: Learning simple massage techniques in a supportive environment may assert parents caring for children with disabilities in a number of ways, such as feeling more confident and more positive. In addition, children may benefit from feeling more relaxed.

The psychological well-being and perceived stress among parents of children with disabilities

M. FOTIADOU, L. CULLEN & J. BARLOW, Coventry University.

Background: Caring for a child with a disability can be stressful and may impact on psychological well-being. The aim of the study was to investigate carers' psychological well-being and perceived stress.
Methods: The sample comprised 90 parents of children with a range of disabilities. Data were collected via self-administered questionnaires posted to carers. Areas investigated were anxious and depressed mood (measured by the HADS), satisfaction with life, generalised and parental self-efficacy and perceived stress.
Findings: Participants had a mean age of 37.41 (SD=7.31). 88.5 per cent were women.
Mean scores (standard deviations) on study variables were: parental self-efficacy (M=37.46, SD=13.84) perceived stress (M=31.13, SD=4.56), anxious mood 9.85 (SD=4.67), and depressed mood 7.70 (SD=4.35), satisfaction with life 19.19 (SD=7.37) and generalised self-efficacy 29.56 (SD=5.28). Sixty-eight per cent of the carers were found to be at risk of clinically anxious mood and 45 per cent at risk of clinically depressed mood. Pearson correlations showed that, anxious and depressed mood were positively correlated with perceived stress and negatively correlated with satisfaction with life and generalised self-efficacy.
Conclusion: Consistent with previous research, carers of children with disabilities experience high levels of stress and are at risk of clinical anxious and depressed mood. Health interventions are necessary to improve carers' psychological well-being and quality of life.

Individual differences in the effects of writing on health and cognitive functioning

D. GALBRAITH & D. SHEFFIELD, Staffordshire University.

Background: This study investigated whether individual differences in self-monitoring and in emotional expressivity are associated with differences in the effects of writing about past traumatic events on health and working memory capacity (Lepore & Smyth, 2002).
Methods: Having completed Gross and John's (1998) emotional expressivity scale, 31 undergraduates, classified as either low (n=15) or high self-monitors (n=16), were randomly assigned to an expressive writing intervention or a factual writing control condition. Measures of working memory capacity, general health and blood pressure were taken immediately before the writing sessions, immediately afterwards, and two months later.
Findings: There was no main effect of writing on any measure (p>0.10). However, the time by writing condition by self-monitoring interaction effect was significant for two measures: working memory capacity and somatic symptoms. High, but not the low, self-monitors experienced a significant increase in working memory capacity in the treatment condition (p<0.05) but not in the control condition (p>0.10). In contrast, low, but not high, self-monitors experienced fewer somatic symptoms in the treatment condition compared to the control condition (p<0.05). There were also correlations within the treatment, but not the control, condition between increased working memory capacity and expressive confidence (p<0.05) and negative expressivity (p=0.06). There were no significant correlations for the health or blood pressure measurements.
Discussion: These results may be attributed to differences between low and high self-monitors in the cognitive processes involved in writing, or to the motivational effects of disclosure on participants unaccustomed to expressing negative emotions.

Effects of an exercise intervention on the determinants of intention to exercise in older people with heart failure

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Background: Congestive heart failure (CHF) has a poor prognosis and its incidence and prevalence are increasing. Exercise has been recognised as a treatment modality for CHF in younger patients. The theory of planned behaviour (TPB) has been applied successfully to predict exercise intention in a variety of situations, but has not been used in patients with CHF. Further, little is known about the effects of relevant interventions on the determinants of Intention.
Research Question: Does an exercise intervention alter the determinants of intention to exercise?
Methods: 82 CHF patients (NYHA Class II-III), aged ≥70 years were recruited for a Randomised Controlled Trial of exercise. A 12-item TPB questionnaire assessing attitude, subjective norms (SN), perceived behavioural control (PBC) and intention to 'take gentle exercise for your heart condition' was administered before randomisation and again 12 weeks later. A mixed ANOVA was used for assessing the changes of the determinants of the intention between the two groups at two time points.
Findings: Attitude and PBC increased after the exercise trial in the intervention group: F(1,76)=7.58, p<0.0005, F(1,76)=9.26, p<0.0005, respectively and decreased or did not change in the control group. SN did not differ reliably between the conditions. Intention did not change in either group.
Discussion: The failure of Intention to change in accord with systematic change in its hypothesised determinants is problematic for the TPB. However Intention was very high prior to the intervention and this may have reduced the power of this test of aspects of the TPB.

'Oh my goodness, it doesn't fit': Testing the 'goodness of fit hypothesis' of coping

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Background: The 'goodness of fit hypothesis' states that matching type of coping to degree of control in a given situation is predictive of better adaptation. However, most previous studies did not directly assess such matching. We developed a questionnaire directly assessing matching of coping, and preliminarily tested its validity.
Method: 68 Israeli male fire-fighters were assessed for types of coping in five uncontrollable (e.g. caught in a traffic jam) and five controllable (e.g. receiving a task at work) hypothetical situations. Responses included planning and problem solving, reflecting problem focused coping (PFC) and accepting the situation, reflecting emotion focused coping (EFC). Participants also completed measures of sense of coherence (SOC; to provide construct validity) and measures of burnout and PTSD (to provide criterion validity).
Results: Participants' mean age was 41.5 years. PFC in controllable situations was positively correlated with SOC (r=0.42, p<0.001) and inversely correlated with PTSD-symptoms (r=–0.36, p<0.005) and with burnout (r=–0.21, p=0.05). However, EFC in uncontrollable situations was unrelated to SOC, PTSD or burnout. SOC mediated the relations between PFC in controllable situations and PTSD and burnout.
Discussion: This study provided preliminary construct and criterion validity to a direct measure of matching coping strategies to controllability of situations. However, the data do not support the goodness of fit hypothesis: Only PFC in controllable situations was associated with better adaptation, while EFC in uncontrollable situations was unrelated to adaptation. Methodological and theoretical issues will be discussed.

Retrospective evidence of symptom ameliorating behaviour from expert patients with rheumatic disease

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Disabling fatigue, discomfort and pain are prominent in rheumatic diseases. The aim was to start specifying activities thought by the patients to reduce severity of symptoms.
Sufferers from rheumatoid arthritis (n=50), systemic lupus erythematosus (n=38) or primary Sjögren's syndrome (n=90) stated the direction of effect, if any, of different categories of everyday behaviour on four aspects of somatic fatigue, two aspects of mental fatigue, and discomfort/pain/aching. There was a significant association between behaviour categories and symptom aspects, $\chi^2 (72)=456$, p<0.001. The most commonly reported amelioration of fatigue was from a (good) night's sleep (36 to 63 per cent) for the aspects Need to Rest, Poor Starting, Low Stamina, Weak Muscles, Poor Concentration and Poor Memory. For discomfort/pain/aching, however, the most frequent combat was warmth, stated by 60 per cent of the participants, whereas only 34 per cent reported benefit from sleep. Lying or sitting down reduced fatigue and discomfort less often (19 to 36 per cent) but across all aspects. Exercise (not vigorous or overdoing it) moderated discomfort and improved motivational energy for some (10 to 17 per cent), as did eating (10 to 12 per cent).
A few claimed amelioration of symptoms by stressful activities and events but these were usually reported to exacerbate fatigue and discomfort.
These results show that different categories of everyday behaviour ameliorate rheumatic symptoms to varying degrees. Expert patients are a useful source of hypotheses for more systematic research. Their consensus from experience already has some objectivity on the effectiveness of different aspects of self-care and compliance with treatment.

The mental health of hospital consultants: Understanding the risk factors

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Background: Poor mental health in doctors is associated with poor quality patient care. We have estimated the changes over eight years in the prevalence psychiatric morbidity and burnout among hospital consultants, and examined associated demographic and occupational risk factors.
Method:
Design: Two cross-sectional national postal surveys, in 1994 and 2002.
Participants: 1133 (in 1994) and 1794 (in 2002) hospital consultants from five specialties (gastroenterology, radiology, surgical, clinical and medical oncology).
Measures: Psychiatric morbidity (GHQ-12), burnout (MBI), job stress and satisfaction (Ramirez et al., *Lancet*, 1996), adequacy of training in communication skills, mentoring, demographic and job characteristics.
Findings: Response rates were 78 per cent (1994) and 73 per cent (2002). The estimated prevalence of psychiatric morbidity has risen between 1994 and 2002 from 27 per cent to 32 per cent (p<0.01). Job stress has increased considerably (p<0.001) and job satisfaction moderately (p<0.01). A model explaining the relationship of occupational and socio-demographic risk factors to burnout and psychiatric morbidity (Graham *et al.*, *Lancet*, 2002) was successfully reproduced and refined with the 2002 data. Predictors of poor mental health (including gender and specialty) were explained by the combination of job stress (particularly from overload) with job satisfaction (particularly from having professional status and esteem) and this relationship was subsequently mediated by burnout. Adequate training in communication skills and having a mentor when first a consultant are also important in protecting consultants' mental health.
Discussion: The model is discussed within the framework of Karasek's job strain theory (1979) and Siegrist's effort-reward imbalance model (1996) and has practical implications for improving poor mental health in doctors, including increasing job satisfaction, and promoting communication skills training and mentoring schemes for new consultants.

Driven to distraction: The effect of prostate symptoms on driving behaviour

S.C. HALE, S. WILLOTT & S. GROGAN, Staffordshire University.

Background: Evidence suggests that older adults have a higher road traffic accident rate per mile driven than any other age group, and this has mainly been attributed to visual and cognitive impairments. Other medical conditions, however, may also influence driving behaviour and this study reports findings that suggest that men with prostate problems may find that these have a detrimental effect on their driving behaviour.
Method: Semi-structured interviews were carried out with 20 men recently referred to a local urology clinic in an attempt to explore the effects of prostate symptoms on their life. Interviews were audiotaped and subjected to Interpretational Phenomenological Analysis.
Findings: Two of the main symptoms of prostatic hypertrophy are urinary frequency and urgency. These are often a source of embarrassment interfering with both leisure and work activities. Symptoms were commonly reported to be a problem whilst driving, with several men reporting that they had driven dangerously on occasions to get to a lavatory. Many men work in situations where the problems produced by prostate symptoms have the potential to endanger not only their lives but also those of others.
Discussion: As the population ages the percentage of elderly drivers will increase. If, as this study suggests, prostate problems can influence driving behaviour then this represents a risk to older men (and other road users) that should be addressed by doctors and public health promotions.

A study to evaluate the effectiveness of a new multidisciplinary intervention for breathlessness in Chronic Obstructive Pulmonary Disease

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Background: This 12-month study evaluated the effectiveness of a new multidisciplinary intervention for breathlessness on emotions and quality of life in Chronic Obstructive Pulmonary Disease (COPD) patients.
Method: Individuals with end-stage COPD and their carers were invited to take part in a two-hour group clinic over a four-week period. The intervention consisted of addressing anxiety and panic attacks, teaching breathing control and relaxation techniques, teaching planning and pacing of activities and goal-setting. Participants completed the Hospital Anxiety and Depression Scale (HADS) and the St. George's Respiratory Questionnaire (SGRQ) six weeks before the clinic, at the start of the clinic and at the end of the clinic and six weeks post-clinic.
Findings: Levels of anxiety decreased from clinical levels before the intervention to borderline levels post intervention and depression was reduced from borderline levels before the intervention to normal levels post intervention. Total scores on the SGRQ were significantly reduced after the intervention.
Implications: The results provide evidence for the value of a multidisciplinary breathlessness intervention for end-stage COPD patients. A health psychology input is important in helping individuals manage anxiety and panic attacks and gain effective coping skills in order to improve quality of life. The results have implications for improving all aspects of health care. Furthermore, this service could be applied to other disease groups such as heart failure.

Health behaviours: The published evidence base for professional advice

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Background: Studies of health behaviours (physical activity, diet, smoking and drinking alcohol) further our understanding of predicting, changing and consequences of behaviours that can affect morbidity and mortality. The aim of the current review is to investigate the extent and nature of the health psychology evidence base relating to advice given about health behaviours.
Methods: Three health psychology journals (*Health Psychology, Psychology and Health*, and the *British Journal of Health Psychology*) and two behavioural medicine journals (*International Journal of Behavioral Medicine* and *Annals of Behavioral Medicine*) were handsearched from 2000 to 2003.
Inclusion Criteria: Any type of study of the four health behaviours named above, study population healthy adults. Details about articles that fitted the criteria were entered into a proforma, and relevant details entered into an SPSS database for analysis.
Findings: 95 articles that fitted the search criteria were retrieved (45 about physical activity, 23 diet, 32 smoking and eight drinking alcohol). Sixty-one per cent were carried out in the US, 17 per cent in the UK. Thirty-seven per cent of the studies used a theoretical framework, of these 40 per cent used the theory of planned behaviour and 23 per cent the transtheoretical model of change. Twenty-two per cent were cross-sectional, 24 per cent longitudinal and 34 per cent had an intervention (of these, 14 per cent were randomised controlled trials).
Discussion: In the health psychology literature, recent evidence focuses on physical activity and smoking with less on diet and few on alcohol. The majority of studies do not use an explicit theoretical framework. The relationship between interventions and theories needs further development to enhance the evidence base for professional practice.

Does humour predict fewer flu-like symptoms in elderly? Positive psychology for half the population

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Background: Previous studies demonstrated that adverse psychological factors predict risk of the upper respiratory infections. This study examined the prospective relation between types of humour and influenza-like symptoms (ILS) in elderly people, and whether humour buffers the adverse effects of hostility, previously shown in this population.
Method: 63 Israeli elderly people residing in a sheltered home were assessed for humour-appreciation and humour-creation, for hostile humour and self-entertaining humour and for trait hostility. Two months later, medical files were examined for number of ILS-symptoms and days without ILS (DWILS).
Results: Residents mean age was 85, and their mean DWILS were 54.5/62 follow-up days. In the full sample, none of the humour subscales predicted ILS or DWILS. However, in men, humour-appreciation tended to predict less ILS (r=−0.30, p=0.10) and was significantly positively correlated with DWILS (r=0.63, p<0.005). The latter association remained significant even after controlling for age, having had the flu-vaccine and number of illnesses (r=0.58, p<0.01). Finally, humour-appreciation interacted with hostility: Among residents with little humour-appreciation, those with high hostility had significantly more ILS (and fewer DWILS) than those with low hostility, while among residents with high humour-appreciation, high and low hostility did not predict ILS (or DWILS). No relations were found between humour-type and outcomes among women.
Discussion: Humour-appreciation may reduce the risk of ILS and may moderate the effects of hostility on ILS in elderly men only. Limitations, theoretical and clinical implications will be discussed.

Triple measles, mumps and rubella vaccine: Investigating parental intentions to immunise within an expanded theory of planned behaviour framework

A.E. HIPWELL & C.A. PATTISON, Coventry University.

The objective was to predict parents' intentions to take their child to be immunised with the triple measles, mumps and rubella (MMR) vaccine. The design was a cross-sectional survey of 153 parents with a pre-school age child, who had not had both doses of the triple MMR vaccine. The 43-item questionnaire measured *theory of planned behaviour* (TPB) constructs, parents' *risk perceptions* (of the three diseases and the vaccine), *trust in the media* and *attitudes to doctors and medicine* (Marteau, 1990).
Standard Multiple Regression ('enter' method) and path analysis found parents' *attitudes to the triple MMR vaccine, subjective norm, perceived behavioural control* and *risk perceptions* of the diseases, directly predicted 70.8 per cent of the variance in their 'Intentions' to immunise scores. Parents' *risk perceptions* of the triple vaccine and *positive attitudes to doctors and medicine* indirectly predicted their *intentions* by predicting 58.1 per cent of the variance in their *attitudes towards the vaccine* scores. Parents' levels of *trust in the media* and beliefs that the *media exaggerate* the vaccine's risks, also indirectly predicted their 'Intentions' by predicting 33 per cent of the variance in their *subjective norm* scores.
Although further research is required on the *media* constructs, this model indicates that parents are indirectly influenced by these and directly influenced by their *risk perceptions* of the diseases. Future health communications could, therefore, focus on the risks of the three diseases rather than the ongoing autism debate. This may lead to more parents taking their child to be immunised with the triple MMR vaccine, increasing its uptake.

A qualitative study investigating the biopsychosocial influences on cancer-related pain: Comparing the perceptions of chronic cancer pain sufferers and their health care providers

C.J. HO, H. BUCHANAN & N.S. COULSON, University of Derby.

Background: Pain is a common and distressing symptom of cancer (Beck & Falkson, 2001) with explanations being mostly biomedical. This study aimed to investigate: (1) the perceptions of cancer pain sufferers and their health carers as to what biopsychosocial (BPS) factors influence cancer-relate pain; (2) the level of agreement between these two groups; and (3) the appropriateness of applying the BPS model to our understanding of cancer-related pain.

Methods: Eight cancer health care professionals took part in focus groups (four per group), and semi-structured interviews were conducted with three cancer pain patients. To facilitate discussion, all participants first completed a free-response open-ended questionnaire which mirrored the focus group/interview schedule. All data were subjected to thematic analysis.

Findings: Considerable agreement was found between the two groups. A number of factors (consistent with previous findings regarding non-cancer pain) were identified by sufferers and carers as influencing cancer pain (e.g. analgesia, attentional focus, anxiety, and spousal relationships), and these reflected all three components of the BPS. However, the psychosocial impact of having cancer was perceived to have a unique influence on pain. Also, rather than having a direct and singular influence, BPS variables were perceived to affect pain through complex interactions.

Conclusions: While the biopsychosocial model offers a more comprehensive framework for understanding cancer-related pain than biomedicine, it remains too dualistic and simplistic to fully explain cancer-related pain. Further research must investigate the complex ways in which the knowledge about having cancer uniquely influences issues of pain for the sufferer.

An analysis of information available to relatives in intensive care

F. HUGHES, I. ROBBINS & K. BRYAN, University of Surrey.

Guidelines published by the Department of Health (DoH) in 2000 acknowledge that patients belong to family units and critical illness has an extended impact. It outlines information that should be provided to relatives and suggests implementation within three to five years.

The aim of this study was to gauge a view of information provisions available across general Intensive Care Units in England for relatives, by conducting an analysis of leaflets and unit policies, and to examine the extent that guidelines are met. Two-hundred-and-ten units were approached for copies of policy documents and leaflets. Responses were received from 118 units (56 per cent). Gunning's Fog Index was administered on 20 per cent of leaflets to measure readability. All leaflets measured above the recommended level.

Sixteen per cent of units have no leaflet, thus are not complying with DoH recommendations. Only nine per cent of units had official policies on caring for relatives.

The most commonly included information in leaflets was practical information such as, visiting hours, direct telephone number and facilities available to relatives, e.g. location of toilets and restaurants. Emotional information was given a much lower priority. The main themes of the policies were communication, visiting and bereavement, described in varying degrees of detail.

This indicates that the approach to relatives between units is variable and inconsistent and therefore is unlikely to meet their needs. Relatives are often highly emotionally aroused under stressful circumstances. It is accepted that appropriate information can reduce anxiety. These results could be used to bring leaflets into line with existing policies.

Raising awareness: The psychosocial impact of corrective surgery in strabismic adults

S, JACKSON, N. RUMSEY, University of the West of England, R.A. HARRAD, Bristol Eye Hospital & M. MORRIS, University of the West of England.

Only three research studies have sought to address the psychological impact of corrective surgery for strabismus in adults. Carried out in the main by eye clinicians, the existing studies have serious methodological shortcomings. While asking the right questions, there seems to be a lack of knowledge regarding which research tools and methods to apply to answer the questions asked. This study employed validated measures to examine pre and post-operative satisfaction and adjustment. A repeated measures design, 32 participants were seen at six-week pre-operative and three-month post-operative appointments. Completed questionnaires included the Derriford Appearance Scale (DAS-24) and the Hospital Anxiety and Depression Scale.

One-tailed Wilcoxon tests indicate that for all patients the surgery significantly improves their perception of the severity of their squint (W=39, n=32, p<0.005). Where surgery achieved the desired outcome for both patient and surgeon results indicating statistically significant benefit were obtained in 11 of 12 psychological measures, for example social anxiety and avoidance – DAS-24 – (W=2.5, n=22, p<0.001).

We found no correlation pre- or post-operatively between the measured eye deviation, and scores on the psychological measures. In this respect strabismus adults seem to be similar to other adults with facial disfigurement ie the extent of the measured eye deviation is no indicator of the degree of psychosocial impact pre- or post-operatively. However, post-operatively those adults for whom surgery achieved 'normal' eye alignment yet had continuing diplopic problems failed to demonstrate the psychological benefits experienced by the other participants.

Using health psychology models in predicting evidence-based practice: Use of x-rays by doctors and dentists (The PR1ME Project)

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Background: PR1ME aims to develop a scientific rationale for the choice of interventions to translate evidence-based findings into clinical behaviour. This poster presents data on the prediction of behavioural intention from two theories included in the project: the theory of planned behaviour (TPB) and the self-regulation model (SRM). The first addresses cognitions about the clinical behaviour; the second addresses cognitions about the clinical condition.

Methods: Two postal surveys assessed TPB and SRM cognitions about requesting x-rays: (1) 285 UK doctors: lumbar spine x-rays for low back pain (EB suggests fewer should be done); (2) 219 Scottish dentists: dental radiographs for caries (EB suggests more should be done).

Results: 285 GMPs in England and Scotland and 219 GDPs completed questionnaires. For the TPB, attitudes predict intention for dentists (r=0.34**) whereas perceived behavioural control predicts intention for the doctors (r=–0.35**). For the SRM, identity was the best predictor of dentists intention (r=0.18**) but cure/control was best for the doctors (r=–0.29**).

Conclusions: To date, research on the implementation of evidence-based practice has not been informed by a theoretical framework. The empirical work reported here contributes to the selection of an appropriate framework. Further analyses will explore if these constructs also predict clinical behaviour.

Young adults perceptions of stroke and caring for a stroke patient

E. JONES & V. MORRISON, University of Wales, Bangor.

The objectives of this study were: (1) to investigate young adults illness representations regarding stroke and caring for a stroke patient; and (2) to examine the factors that influence these representations.

Questionnaires were administered including a modified Illness Perceptions Questionnaire for stroke (IPQ) and a Caring Impact Appraisal Scale (Orbell et al., 1993). Demographics, prior illness and caring history were also measured.

Eighty-three young adults participated: 70 females and 13 males with mean age 22 years. Participants perceived stroke to be a serious illness of chronic duration, with males perceiving consequences to be more severe than females. There was uncertainty regarding the treatment and control of the illness with participants perceiving patients to have low personal control over recovery. Caring was perceived to involve high amounts of strain but also high amounts of satisfaction. Participants who had previously been carers (in a range of illness situations) rated carer satisfaction as significantly lower than participants without prior experience. Whilst stroke symptoms and causes were accurately perceived by this young sample, 12.6 per cent confused stroke with an MI. These findings raise issues for health education.

Variations in Effort-Reward Imbalance relate to situational reports of anger over a nursing shift and this is moderated by habitual effort reward imbalance

M.C. JONES, University of Dundee, D.W. JOHNSTON, University of Aberdeen & A. BEEDIE, University of Oxford.

Background: Effort-Reward Imbalance (ERI – Siegrist, 1996) is a risk factor for heart disease through largely unidentified mechanisms. Anger, a risk factor for myocardial infarction (Moeller et al,, 1999) is one candidate mechanism. We sought to determine using computerised ecological momentary assessment if variations in ERI within an individual across a work period co-varied with anger and if this was moderated by habitual ERI.

Methods: 36 nurses completed individual computerised behavioural diaries measuring effort/demand, reward and anger every 90 minutes over a single shift. Diary questions were based on the Diary of Ambulatory Behavioural States (Kamarck et al., 1998). Participants completed a standard retrospective questionnaire evaluating ERI. Results were analysed using multilevel modelling, (HLM 5) and assuming fixed effects.

Findings: Over a shift variations in ERI were related to anger and habitual ERI moderated this. At low levels of field ERI, those who habitually report themselves as expending more effort than they get reward were more angry, this suggests chronic anger. However, participants who normally report favourable ERI report markedly more anger when the ERI balance was currently not in their favour, i.e. they displayed acute increases in anger.

Discussion: These results may suggests that a habitually unfavourable ERI is associated with chronic anger, a possible risk factor for coronary artery disease, and short-term unfavourable changes in ERI with acute anger, a trigger for MI.

The psychosocial impact of concern about appearance in visibly different adults: A preliminary study

E.C. JØRSTAD, University of Warwick & D. CLARK-CARTER, Staffordshire University.

Background: Previous studies on the psychosocial impact of visible differences on affected individuals have focussed on the severity or visibility of the difference. The current study considered the influence of appearance-related concern upon psychological adjustment.

Methods: 74 adults between the ages of 18 and 65 born with cleft lip or cleft lip and palate were recruited from two regional NHS cleft services. Forty-two participants comprised the final sample size. The independent variable had two levels: concerned or unconcerned, measured by a single-

item question. The dependent variables were social anxiety, self-esteem, appearance-related schemas and appearance-related shame measured by the Brief Fear of Negative Evaluation Questionnaire, Coopersmith Self-esteem Inventory Adult Form, revised Appearance Schemas Inventory and Derriford Appearance Scale, respectively. A series of independent-samples t-tests not assuming equal variances were run where cases with missing values were excluded casewise.

Findings: 32 were concerned and 10 were unconcerned. Independent sample t-tests demonstrated that the groups differed significantly in their levels of appearance-related schemas (t(20)=3.696, p<0.001, d=1.18), appearance-related shame (t(26)=3.412, p<0.01, d=1.02) and self-esteem (t(24)=−3.039, p<0.01, d=−0.94). The groups were not significantly different in their social anxiety levels (t(14)=1.566, p=0.139, d=0.59).

Discussions: Those unconcerned about their appearance tend to have higher self-esteem, be less ashamed and have lower levels of maladaptive appearance-related schemas than those reporting concern. No significant difference was found in levels of social anxiety.

Psychological impact of falling in older people: A systematic review of measures and constructs

E.C. JØRSTAD, University of Warwick, K. HAUER, C. BECKER, Robert-Bosch Hospital, Stuttgart & S.E. LAMB, University of Warwick.

Background: A systematic review was conducted to identify fall-related psychological outcome measures and to undertake a systematic quality assessment of their measurement properties.

Methods: A Cochrane review of interventions for preventing falls in the elderly was used to identify fall-related psychological outcome measures. Databases including PubMed by MEDLINE, CINAHL and PsychINFO were systematically searched. Further measures were identified in searches and by contacting researchers. Reference lists of relevant articles and review articles were searched for additional literature. Two reviewers undertook quality extraction relating to content, population, reliability, validity, responsiveness and acceptability. A third independent reviewer adjudicated any discrepancies.

Findings: 20 relevant papers were identified. Twenty-one outcome measures met the inclusion criteria: five single-item questions, Falls Efficacy Scale (FES), revised FES, modified FES, FES-UK, Activities-specific Balance and Confidence Scale (ABC), ABC-UK, Confidence in maintaining Balance Scale, Mobility Efficacy Scale, adapted FES, Survey of Activities and Fear of Falling in the Elderly (SAFFE), University of Illinois at Chicago Fear of Falling Measure, Concern about Falling Scale, Falls Handicap Inventory, modified SAFFE, Consequences of Falling Scale and Concern about the Consequences of Falling Scale. Many of the measures demonstrated acceptable reliability and validity. There is less evidence with regard to the instruments' responsiveness and acceptability.

Discussion: The SAFFE is recommended for measuring fear of falling and the modified FES is recommended for measuring fall-related self-efficacy. Researchers should ensure that the construct measured by the instrument corresponds to the construct being researched. Further research is needed to establish and compare the instruments' measurement properties.

Self-esteem, appearance-related schemas and appearance-related shame as predictors of social anxiety in visibly different adults: A preliminary study

E.C. JØRSTAD, University of Warwick & D. CLARK-CARTER, Staffordshire University.

Background: There is a shortage of research regarding the psychosocial adjustment of visibly different adults. One recent narrative review suggested that self-esteem, appearance schemas and shame are likely to be related to social anxiety in those who are visibly different.

Methods: 74 adults between the ages of 18 and 65 born with cleft lip or cleft lip and palate were recruited from two regional NHS cleft services. The final sample comprised 33 participants. The Brief Fear of Negative Evaluation Questionnaire,

Coopersmith Self-esteem Inventory Adult Form, revised Appearance Schemas Inventory and Derriford Appearance Scale were used to measure social anxiety, self-esteem, appearance-related schemas and appearance-related shame, respectively. A series of multiple regression analyses were run to analyse the data set due to the initial analysis revealing difficulties with multicollinearity seemingly caused by appearance-related schemas or appearance-related shame.

Findings: Self-esteem and appearance-related schemas produced the best fit with an association of R=0.802 (F(2,32)=28.796, p<0.001, R2=0.643). Higher social anxiety was associated with lower self-esteem (B=−0.257, Beta=−0.662, t=−5.279, p<0.001). Higher appearance-related schemas produced a trend toward being related to higher social anxiety (B=2.391, Beta=0.219, t=1.745, p=0.091).

Discussion: Self-esteem was a significant predictor of social anxiety. Appearance-related schemas may also be a predictor. Appearance-related shame did not fit the model as a predictor of social anxiety in visibly different adults. However, the results should be interpreted with caution due to the small sample size.

'MMR immunisation causes autism and Crohn's disease': Understanding parents' attitudes

B. KAUR, V. SWANSON & K. POWER, University of Stirling.

Background: Researchers suggest that the causal link proposed between MMR (measles, mumps and rubella) immunisation and autism/Crohn's disease has resulted in declining uptake rates for the immunisation and subsequently measles outbreak across the UK. However, uptake rates were decreasing prior to this controversial link. It is, therefore, important to understand why parents opt for or refuse the immunisation for their children.

Methods: A cross-sectional design was used. Four-hundred-and-twenty-three parents with children born from 1999–2000 in Dundee completed questionnaires – Protection Motivation Theory was used as a framework. Immunising (IPs) and non-immunising parents (NIPs) were compared using t-tests and ANOVAs.

Findings: All parents perceived the MMR vaccine to be effective, but NIPs believed there was a stronger link with autism. In comparison with IPs, NIPs believed measles (p<0.05), mumps (p<0.05) and rubella (p<0.001) were less serious diseases (although they would be worried if their child developed them), perceived their own children to be more vulnerable to these diseases. They also believed immunised children to be at great risk of autism/Crohn's disease, whereas IPs believed this risk was low for both immunised and non-immunised children. NIPs regarded their GP, media and internet as important sources of information, whereas immunisers regarded information from their GP and health visitor as most important.

Discussion: The findings suggest that media coverage of the MMR-autism link/Crohn's disease has disproportionately affected NIPs. For effective health promotion: improved knowledge of measles, mumps and rubella and their consequences need to be given to parents, and more positive and accurate media coverage on the benefits and costs of MMR vaccine is needed.

Children's coping with hospital admission

J. KENARDY, M. HO, S. ROBINSON & S. SPENCE, University of Queensland.

Background: Whilst there is a literature on the adjustment of adults to hospital admission, there is far less information available about how children cope with this significant stressor in their lives. The aims of this study were to assess the range and degree of distress experienced in children admitted to hospital for non-trauma-related admissions, and to test a model in which coping efficacy mediates the impact of coping style on distress.

Methods: This was a cross-sectional study in which 100 children and their parents were assessed following admission to hospital for non-trauma-related reasons, such as asthma, diabetes, gastro-intestinal illness. Assessment instruments included the Child Behavior Checklist (CBCL), Spence Child

Anxiety Scale (SCAS), Child Coping Strategies Checklist (CCSC), and the How I Cope Under Pressure Scale (HICUPS), a measure of coping efficacy.

Findings: Significant levels of distress were found in the children following admission. A series of regression analyses tested the mediation model. Overall avoidance coping on the CCSC predicted distress on both the SCAS and the CBCL. However, Coping Efficacy was a clear mediator for this relationship for most subscales of the SCAS and the CBCL.

Discussion: The findings provide significant support for the role of coping efficacy in children's distress following hospital admission. This has implication for intervention with distressed children admitted for non-traumatic reasons. More information is required on the sources of distress in these children.

A randomised controlled trial of the effectiveness of bibliotherapy-based vestibular rehabilitation for members of the Ménière's Society

S.E. KIRBY, L. YARDLEY, University of Southampton & A. M. BRONSTEIN, Imperial College London.

Ménière's disease is a chronic incurable disease of the inner-ear characterised by vertigo, tinnitus, aural fullness, and hearing loss. This study aimed to determine whether vestibular rehabilitation (VR; a form of physical therapy used to improve balance and reduce dizziness), or stress reduction (SR) might reduce symptoms or relieve psychosocial effects in members of the Ménière's Society. Three-hundred-and-twenty-nine volunteers from the Ménière's Society were randomised to receive the VR booklet, SR booklet, or no booklet. Assessment was by validated self-report questionnaires at baseline and three months after having the booklet, using the Vertigo Symptom Scale (short form), the Dizziness Handicap Inventory, the Hospital Anxiety and Depression Scale, the Positive Well-being Scale, the Patient Enablement Instrument, and a single item assessing whether they felt worse or better than at baseline. Results were analysed using MANOVA. Thirty-eight per cent of the VR group, 34.3 per cent of the SR group but only 19 per cent of controls reported feeling better at follow-up than at baseline (p=0.004); odds ratios for improvement relative to controls were 2.6 for VR and 2.3 for SR. Both booklet groups had significantly higher enablement scores than the controls (p<0.001) and lower levels of anxiety (p=0.01). The groups did not differ in terms of symptoms, handicap or well-being. Although their level of symptoms was not changed by therapy, participants felt less anxious and more able to cope. A six-month follow-up is now being carried out, together with analyses to determine predictors of benefit, including psychological characteristics at baseline and levels of adherence.

Women's lay views on safer sex practice: A qualitative and quantitative study

M.S. LANGTREE, Leicester Warwick Medical Schools, S BONAS, University of Leicester & J. DHAR, Leicester Royal Infirmary UHL Trust.

Sexually transmitted infections are increasing at an alarming rate, especially amongst young women, which poses a serious challenge to health promotion services. This study investigates influences of risky sexual behaviour in young women. Data from in-depth interviews with 37 women were analysed in the first phase of this study using a constant comparison method in order to identify themes that could be predictors of risky sexual behaviour. Phase 2 of the study used these themes in order to inform the design of a questionnaire. This questionnaire was trialled with 226 women attendees at a GUM clinic aged 18 to 24. The following variables had a significant influence on risky sexual behaviour (p<0.05): knowledge of sexually transmitted infections, perception of risk of getting sexually transmitted infections, trust between partners, communication between partners, obstacles to condom use, negative attitudes to condoms and self-esteem Multivariate logistic analysis was conducted with all of the variables that significantly predicted risky sexual behaviour during the bivariate analysis.

The model explained an estimate of 48.6 per cent of variance in risky sexual behaviour. The perceived risk of getting sexually transmitted infections was the strongest individual predictor of risky sexual behaviour and little difference was found between the perceived risk from HIV and the more traditional sexually transmitted infections. Trust between sexual partners emerged as a predictor of risky sexual behaviour that has not generally been measured in previous quantitative research. Possible implications of the results and suggestions for future public health interventions are made.

Maternal perceptions of obesity and eating disorders

M LIPTON, A. JAIN & J. WARDLE, University College London.

Background: Anecdotal evidence suggests parents may fear creating eating disorders in their daughters and, as a result, avoid discussing weight management with them. Using qualitative methods, we explored maternal perceptions about both obesity and eating disorders. We sought to understand how mothers' views about both obesity and eating disorders influence their feeding practices.
Methods: We conducted semi-structured interviews with 10 mothers who had daughters aged five to 10 years. Mothers described their beliefs about eating and body weight in society, about their own daughter's eating and weight, and about the prevention and treatment of both obesity and eating disorders. Transcipts of the interviews were analysed by thematic analysis loosely based on interpretative phenomenological analysis (IPA).
Findings: Mothers admitted a general reluctance to address weight issues with their daughters. Reasons given were that they thought girls of this age were invulnerable to serious weight issues; mothers did not want to draw unwarranted attention to mature matters such as dieting and body image. Also, mothers seemed to fear the occurrence of eating disorders more than obesity, which also discouraged them from delving into discussions about eating and weight.
Discussion: Mothers need to be educated about the high prevalence of obesity and the importance of obesity prevention. Further research is needed to find out how mothers can communicate effectively with their daughters about weight issues without worrying about causing harm.

Representations of smoking in UK and Greek smokers and non-smokers

P. LOUKA, M. MAGUIRE & P. EVANS, University of Westminster.

Background: Anti-smoking measures are reliably associated with reductions in smoking prevalence. The mechanisms underlying this association are unclear but evidence suggests that public belief systems and norms around smoking are affected. This study compared the social representations of smoking held by smokers and non-smokers who are habitually exposed to different levels of smoking restrictions. We focused on Greece and the UK, as these are two European countries that differ both in smoking rates and the anti-smoking measures enforced.
Method: A sample of 263 British (117 smokers and 146 non-smokers) and 280 Greek (157 smokers and 123 non-smokers) completed a questionnaire that assessed social representations of smoking.
Findings: Discriminant analysis revealed two functions that discriminated between the participants. A negative psychological representation of smoking discriminated between smokers and non-smokers with non-smokers endorsing it and smokers rejecting it. A negative psychosocial representation discriminated on the basis of nationality with UK participants tending to endorse it and Greek participants tending to reject it.
Discussion: The findings demonstrated that diverse social representations of smoking are held and that there was an effect of smoking status and country on these. These results support the hypothesis that exposure to smoking restrictions is an important socio-cultural influence on social representations of smoking and help to clarify the observed relationship between anti-smoking measures and smoking behaviour by suggesting that changes in behaviour may be mediated through social representations.

Perception and communication of information about herbal medicines

N.S.E. LYNCH & D.C. BERRY, University of Reading.

Background: Perceived risks and benefits are key factors determining health behaviours according to social cognition models. Herbal medicines are commonly believed to offer a low-risk alternative to orthodox medicine, although they can result in serious side effects. The present study examines why herbal medicines are perceived as being safe (Experiment 1), and the effects of providing additional information about active ingredients and possible side effects (Experiment 2).
Methods:
Design: Experiment 1 used a within participants design, comparing prescription, over-the-counter (OTC) and herbal medicines. Experiment 2 used a two factor between participants design, where scenarios referred to herbal or OTC medicines, and included additional information or not.
Participants & Procedure: Participants (n^1=77, n^2=179) were given hypothetical scenarios about experiencing shoulder pain (Experiment 1) or insomnia (Experiment 2), and being recommended a medicine.
Measures & Analyses: Six-point Likert rating scales of satisfaction, perceived risk, perceived benefit and intention to comply, and ANOVAs were used.
Findings: Experiment 1: Herbal medicines were perceived as having the least risk (likelihood of side effects, dependency, drug interactions) but were also seen as being the least effective. OTC medicines fell between herbal and prescribed medicines on most measures.
Experiment 2: providing additional information increased satisfaction, and perceptions of risk for herbal and OTC medicine, but had no effect on likelihood of purchasing the medicine.
Discussion: Herbal medicines are seen as being a safer alternative to both traditional prescription and OTC medicines. Providing more information about active ingredients and side effects should increase awareness of potential risks.

Emotional experience as identified by tutors of a self-management programme

L.A. McFARLAND, J.H. BARLOW & A.P. TURNER, Coventry University.

Background: Self-management (SM) of a chronic illness requires the monitoring and managing of symptoms, the maintenance of treatments, and regulation of lifestyle, and moderates the impact of the illness on daily activities, emotions, and social situations. Most SM interventions are group-based and provide an environment for people with chronic conditions to share their experiences and feelings. This study considers the observed and psychologically identifiable nature of emotional experience portrayed by participants on an expert patient programme (EPP). The opportunities for disclosure as derived from the experience of tutors are identified.
Method: Face-to-face semi-structured interviews with 10 EPP course tutors were transcribed, providing the data for analysis. Interpretive phenomenological analysis was used to analyse the data.
Findings: The analytical technique revealed several underlying themes and suggests that discussing feelings is a precursor to breaking the emotional cycle of anger, fear, and frustration that is fundamental to self-management. Particular areas of the course precipitate emotional reaction. Being with other people with a chronic condition facilitates emotional catharsis often unachievable with family and friends.
Discussion: This study suggests that emotions serve as adaptive mechanisms in the service of SM for people with long-term health conditions. Tutors seek to empower participants to SM, which can be achieved after the cathartic release of emotion has created a state of calm. Facilitation of emotional calm as a critical precursor to SM warrants further investigation.

The impact of exam stress on diet: The moderating role of social support, personality and eating style

B. McMILLAN, D.O'CONNOR, F. JONES & M. CONNER, University of Leeds.

Background: The link between diet and health is well established. Stress may lead to the adoption of unhealthy eating practices, but conflicting findings exist regarding the relationship between stress and diet (c.f. Wardle et al., 2000). This study considers moderating variables which enhance our understanding of the stress-diet relationship.
Method: Undergraduate students (n=105) completed questionnaires measuring eating style, personality factors, and a Food Frequency Questionnaire. Two one-week daily diaries assessed diet, daily hassles, control, pressure, and mood. Participants completed one diary during a non-exam week (low stress) and the second diary during an exam week (high stress).
Findings: A comparison of stress measures confirmed that the exam week was more stressful than the non-exam week. Fibre intake was significantly lower in the high-stress week and consumption of snacks was significantly higher in the high-stress week. Within subjects correlations revealed significant differences in the way that individuals react to stress, and also several moderator effects. For example, individuals who snack more under stress had significantly lower levels of support from their significant other, and those who snack more when they feel less in control had significantly lower levels of social support. Moderator effects were also found for various eating style and personality measures.
Discussion: The findings cast further light on the relationship between eating and work related stress. Interventions advising individuals on ways to cope with stress could point to alternate methods of coping (such as seeking support) which do not entail unhealthy dietary changes.

Quality of life and treatment satisfaction in patients with hypothyroidism

C.V. McMILLAN, C. BRADLEY, University of London, S. RAZVI, Queen Elizabeth Hospital, Gateshead & J.U. WEAVER, University of Newcastle-upon-Tyne.

Background: Hypothyroidism, a life-long chronic disease that slows the metabolism, is particularly prevalent in women and the elderly. Treatment satisfaction and the impact of the condition on quality of life (QoL) were investigated.
Methods: Semi-structured interviews were conducted with 38 patients with hypothyroidism (30 women and eight men, mean age 51.9 (29 to 79) years, 37 treated with thyroxine) at three UK centres. The prime purpose of the interviews was to determine item selection for two new condition-specific questionnaires measuring QoL and treatment satisfaction. Open questions concerned the effects of underactive thyroid and its treatment on QoL, with interviewees being asked to imagine life without the disorder, (to elicit life domains impacted by hypothyroidism), and to comment aloud whilst completing draft questionnaires. Interview data were analysed for content.
Findings: Patients described the negative impact of underactive thyroid on a number of life domains, particularly on energy, weight, physical appearance, physical capabilities, and motivation. The great majority reported on-going negative impact on some aspects of life despite thyroxine treatment. Several patients (24 per cent) expressed concerns about receiving sub-optimal thyroxine replacement that did not relieve lingering symptoms, and there was much dissatisfaction with lack of information provided by healthcare professionals about the condition and its treatment, particularly at diagnosis.
Discussion: Multiple aversive symptoms remain despite thyroxine treatment, causing considerable dissatisfaction and marked impairment of QoL in many patients. Condition-specific measures of QoL and treatment satisfaction were designed for use in evaluating and improving treatment for people with hypothyroidism and are now under development.

Health graffiti: The efficacy of providing breast self-examination information in public toilet cubicles

K.E. McPHERSON & C. WEIR, Queen Margaret University College.

Background: More than 3000 Scottish women are diagnosed with breast cancer each year (Scottish Executive, 2001) and being 'breast aware', through breast self examination (BSE), remains the primary message for young women. However, the provision of information relating to BSE is problematic; it is unlikely that women stop and read information pertaining to breast manipulation in public spaces. Therefore, the main aim of this study was to consider whether the provision of health information describing BSE, which is usually displayed in public areas, would have a positive effect on health cognitions if displayed in a private space within a public area – a public toilet cubicle.

Methods: 33 young women (mean age 22 years) took part in this repeated measures study. The theory of planned behaviour (TPB) variables – attitude, subjective norm, perceived behavioral control and behavioural intention – were measured before and after a BSE poster was placed on the back of the toilet cubicle doors in the women's place of work.

Findings: There was a significant increase (p<0.01) in all of the TPB variable scores apart from subjective norm (p>0.05). Participants also reported a significant increase (p<0.05) in BSE between the data collection periods.

Discussion: The results of this study suggest that the private space provided by the cubical walls in a public toilet is an ideal place to provide information pertaining to sensitive health topics, e.g. BSE. Furthermore, information presented in this private/public space seems to be effectual in encouraging positive health cognitions.

Using the Demand-Control Model of Job Strain to predict caregiver strain in the informal caregivers of congestive heart failure patients

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Background & Purpose: Few studies have examined the consequences of caring for individuals who have congestive heart failure (CHF) for the family and friends who provide care in the community, despite its rapidly increasing prevalence and incidence in older adults. In this paper we use Karasek's Demand-Control Model of Job Strain to examine caregiver strain in the informal caregivers of CHF patients. We predicted that higher caregiving Demand and lower Control over caregiving would be associated with greater caregiver strain.

Methods: 60 patient/caregiver dyads were recruited from outpatient CHF clinics. Caregivers were asked to complete measures of caregiver strain and control over caregiving. Both objective patient performance (the six-minute walk test) and self-report measures of CHF patient disability and behaviour problem measures were used to develop a measure of Caregiver Demand. Main effects and interactions for Demand and Control on caregiver strain were tested for using multiple regression.

Results: The overall model was statistically significant. The predicted main effects for Demand and Control were found, however the interaction between Demand and Control was not. As predicted higher caregiving Demand and lower Control over caregiving was associated with higher caregiver strain.

Conclusion: Caregiving for a family member with CHF has the potential to cause negative physical and psychological outcomes for informal caregivers. Models of job strain may provide a valuable framework for future studies aiming to predict and reduce negative caregiver outcomes in CHF and other clinical conditions.

Satisfaction with information amongst individuals with prostate cancer

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Background: To determine satisfaction with information about prostate cancer and its treatment options.

Methods: A questionnaire sent retrospectively to 282 individuals who were currently being treated for prostate cancer

Findings: Questionnaires were returned by 197 individuals (70 per cent). Over 75 per cent were satisfied or very satisfied with information provided at diagnosis and with information about treatment options. Satisfaction with information and support provided by a specialist nurse was comparable with that provided by urologists or oncologists. Seventy-eight per cent of patients believed that they should be involved in deciding which treatment to take, with over 63 per cent considering that a video on treatment options would have been useful to them. Those who were not offered a choice of treatments were less satisfied with information provided.

Discussion: Most individuals with prostate cancer expect to be involved in deciding their treatment options. Even in cases where only one option is viable, individuals still wish to be kept informed as to what the other options are and why they aren't suitable. Although levels of satisfaction with information and support were quite high, there remains room for improvement with nearly one-in-four patients either neutral or unsatisfied. Matching the level and format of information and support to the needs and expectations of individual patients may further enhance patient satisfaction.

The impact of Type 1 diabetes on the self and others: Emergent themes in an analysis of focus group data

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In a series of 10 focus groups 60 people with Type 1 diabetes were asked to express their views, opinions and experiences of living with diabetes. These were tape-recorded, transcribed and analysed using inductive thematic analysis.

The themes that have been identified are: mastery, control, deprivation, stigma, support, lifespan, health professionals and health care provision. The overarching theme: 'mastery', and how it relates to the emotional impact diabetes has on the individual and family and others, will now be considered. Individuals with a chronic condition do not live in a social vacuum, therefore this theme is integral to our understanding of how these people manage their diabetes within the context of the demands of everyday life and social relationships both of which often challenge or inhibit the process.

Reflexive validation of this data has been carried out through feedback sessions with participants. This has enhanced and authenticated the team's interpretation of the focus group conversations. Their views have informed aspects of a structured programme of education and support: managing others, through assertiveness and problem solving skills. This research emphasises the importance and value of face to face qualitative research with people with diabetes, and their families.

Coping strategies and psychosocial adjustment among patients on haemodialysis

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Background: The primary objective of this study was to examine the relationship between psychosocial adjustment and the types of coping strategies used by an End Stage Renal Failure (ESRF) sample who were undergoing haemodialysis treatment.

Design: A 2 x 2 repeated measures design was used.

Methods: A total of 44 haemodialysis patients participated. Coping was measured via the Ways of Coping Questionnaire (WAYS – Folkman & Lazarus,

1988). Psychosocial adjustment was assessed via the Psychosocial Adjustment to Illness Scale – Self Report (PAIS-SR – Derogatis & Derogatis 1990). Data was analysed through the use of ANOVAs, t-tests, correlations and non-parametric statistical tests.

Results: The main results indicated that emotion focused coping strategies (M=1.13, SD=0.61) were used significantly more within the current sample than were problem focused coping strategies (M=0.95, SD=0.50; t(43)=–2.77, p=0.008). Additionally the results demonstrate that the sample experienced poor levels of psychosocial adjustment, and 40 per cent of these patients were clinically maladjusted to ESRF.

Discussion: The results suggest a link between the use of emotion focused coping strategies and poor levels of psychosocial adjustment to ESRF. It appears that patients who predominantly use emotion focused coping strategies may be less effective at managing the psychosocial aspects of ESRF. This has implications for health psychologists as it may be necessary to design interventions to teach these patients more effective ways to cope with their illness and this could have a positive impact on their psychosocial well-being.

Children's understanding of illness: A comparison of teaching methods to improve knowledge

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Background: Children have been shown to hold misconceptions about illness (Solomon & Cassimatis, 1999) and previous work has indicated that collaborative group learning may be more effective than individual learning at promoting health understanding (Williams & Binnie, 2002). This study aims to investigate this further by comparing the efficacy of three different intervention types.

Methods: The participants were 96 children aged seven to eight years or 11 to 12 years. The study used a pre-test – intervention – post-test design. During the pre-test the children were asked open-ended questions about common childhood illnesses as well as general questions on contagion. Responses were coded using content analysis. For the intervention phase there were three intervention conditions: individual task, group task and group task plus factual information. The interventions were focused on contagious illnesses (cold and chicken pox) and the main processes were emphasised. A post-test was conducted at a delay of six weeks.

Findings: Results from the pre-test show that the older children have more sophisticated understanding of illness than the younger children. Mean pre- to post-test change was calculated and the intervention conditions were compared using a two-way (age group x intervention condition) ANOVA. Analyses reveal that there is greater pre- to post-test change in the group discussion conditions than the individual condition, and the provision of relevant facts is also facilitative.

Discussion: These results add to the literature on the development of children's understanding of contagion and specific illnesses. The findings also contribute towards discussions on the best approach to health education and highlight the possible benefits of a collaborative learning approach to improving children's health perceptions.

Dental self-care behaviour in individuals who possess a repressive coping style

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Background: Possessing a repressive coping style has been linked with poor physical health (Myers, 2000). However, recently it has been suggested that 'repressors' may be better than non-repressors at adhering to behaviours where personal control is needed. The current study investigates this possibility in the domain of dental behaviour.

Methods: Adults (n=239) completed a questionnaire about care of their teeth, going to the dentist and dental control. Repressors (n=43) were identified by their low scores on a measure of anxiety (the Dental Anxiety Scale – Humphris, 1995)

and high scores on denial (The Denial Scale; Pilowsky & Spence, 1981). In addition, three control groups were identified.

Findings: Overall, 68 per cent of participants forgot to brush and of those 72 per cent forgot at least once a week. Repressors compared to non-repressor groups (ANOVA, using SNK for post hoc tests, p<0.05) reported: (a) brushing their teeth significantly more times a day; (b) brushing their teeth for significantly longer each time and they were; (c) significantly less likely to forget to brush. However, (d) repressors reported going to their dentist significantly less often; and (e) reported wanting significantly more control in the dental surgery.

Discussion: Overall, participants were fairly poor at dental hygiene. However, as hypothesised, repressors were significantly better than non-repressors for this health-care behaviour. Repressors' going to the dentist less frequently may reflect their desire for more control in the dental surgery. These findings are consistent with the view that repressors are better at self-care behaviours that they perceive under their control.

Social support and implicit and explicit loneliness as predictors of quality of life

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Background: Previous research has identified many psychosocial correlates of quality of life (QoL), an important outcome in health psychology. This study focused on two such correlates, social support and loneliness, the latter assessed by both explicit and implicit measures. We also employed a QoL measure that allowed respondents to nominate those areas of life most important to them.

Method: 50 students completed, in fixed order: (a) an Implicit Association Test (IAT) assessing the construct of loneliness implicitly; (b) the Arizona Social Support Interview Schedule (ASSIS); and (c) the University of California Loneliness Scale (UCLS), assessing the construct of loneliness explicitly. They then completed a computerised version of the Self-Evaluated Individualised QoL (SEIQoL).

Results: QoL correlated positively with social network utilisation (r=0.28, p<0.05) and satisfaction with social support (r=0.47, p<0.01). QOL also correlated negatively with the need for social support (r=−0.26, p<0.05) assessed by an ASSIS subscale. QoL correlated negatively with explicit loneliness (r=−0.35, p<0.01) but not with implicit loneliness. In a multiple regression, all significant correlates together explained 40 per cent of the variance in QoL, with the satisfaction and need indices remaining the only independently significant correlates of QoL.

Discussion: Social support explains much of the variance in QOL. Only explicit measures of social support derived from an interview-based measure (ASSIS) uniquely correlated with QoL. Nonetheless, the predictive validity of the various measures used here will be re-tested in a study on colorectal cancer progression.

Developing the theory of planned behaviour to predict intentions of sunscreen use on the beach in New Zealand and Britain

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Background: Increasing the use of sunscreen is promoted as a sun protective behaviour to avoid skin cancers. The theory of planned behaviour (TPB) has been successful in predicting intentions to engage in such behaviours, and additional constructs are suggested to increase the predictive power of the model. This study tested attitudes, subjective norms and perceived behavioural control, as well as implementation plans, anticipated regret, past behaviour, self-esteem and conscientiousness in relation to intentions to use sunscreen at the beach.

Methods: In a cross-sectional study, beach-goers in New Zealand (n=148) and the UK (n=280) were surveyed by questionnaire as they sunbathed on the beach at Tauranga or Brighton. Multiple

regression analysis tested intentions to use sunscreen as the criterion variable.

Findings: The TPB constructs, attitudes, subjective norms and perceived behavioural control explained 54.8 per cent (NZ) and 39.5 per cent (UK) of the variance in intentions. Implementation plans, past behaviour and anticipated regret significantly explained additional variance in intentions. Implementation plans also partially mediated the relationship between TPB constructs and intentions. Interaction effects were found between past behaviour and perceived behavioural control in the larger UK sample.

Discussion: The results for New Zealand and the UK were very similar, despite cultural and climatic differences. The demonstrated role of implementation plans and past behaviour in explaining the strong relationship of the TPB constructs with intentions to use sunscreen, supports recent findings. The contribution of anticipated regret to the prediction of intentions has implications for health promotion, and suggests further investigation to be undertaken with this construct.

Expectant vs. surgical management of incomplete miscarriage: Clinical and psychological predictors of treatment choice and success

M. NELSON & J. OGDEN, King's College, London.

Background: Over the last decade the management of miscarriage has changed from a mainly surgical approach to an expectant one. We investigated whether clinical and psychological factors at the time of diagnosis predict treatment choice, or successful outcome of expectant management.

Methods: This prospective study took place in London over 32 months from June 2001. Demographic data, medical history, and clinical findings were collected on a standardised database. Patients were included if the foetus and gestation sac were absent but gestational products remained following the loss of a first trimester pregnancy. A cohort of these women also completed a further questionnaire on psychological factors.

Findings: The majority of women opted for expectant management. Those who chose surgery were more likely to have had a previous ectopic pregnancy, had a significantly larger size of products remaining and a thicker endometrium., reported more general health somatic symptoms, more depression, and expressed more symptomatic pain. The size of gestational products and endometrial thickness were the only differences at diagnosis between those who were successful with their expectant management to those who weren't.

Discussion: Scan findings, mood, and symptoms gave the most significant indication of both the choice for surgery and need for it after commencing expectant management. However, there was no absolute cut-off point for successful expectant treatment. It is a popular management with women and clinicians and before we start advising women who want expectant treatment to have surgery instead, we must establish whether there are significant clinical or psychological consequences of expectant management failing.

Tackling resistance to role change in community nurses' public health practice

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Background: Department of Health policies dictate that all existing professionals will need to develop new roles in order to integrate health improvement into the local delivery of health care (Agenda for Change, 2003; Liberating the Talents, 2001). The challenge to community health service staff is laid out in The NHS Plan (2000) and the Wanless Report (2004). This study aimed to map job skills to identify the focus of resistance to change (Pettigrew, 1987) and to develop a training intervention to challenge attitudinal barriers (Garside, 2001).

Method: A cross-sectional survey design was used to evaluate the skills and training needs of practice and district nurses working within the North Tyneside PCT. Related t-tests were performed to

compare ratings of competence and value (importance to job and priority for training) in clinical and public health skills.

Findings: 25 practice nurses and 31 district nurses completed and returned questionnaires.
Competence – Reported competence in clinical skills was significantly higher than in public health skills (t=−6.414, df=71, p<0.00025). Of nurses who reported good to high competence in undertaking health screening interventions within a broader health promotion/public health strategy, 43.8 per cent did not know the PCTs key areas of responsibility, 45.5 per cent did not know the PCTs top 10 priorities and 43.1 per cent did not know the priorities of saving lives.
Value – Public health skills were rated as less important to role than clinical skills (t=−4.993, df=71, p<0.00025) but there was no difference in priority for training and development (t=1.117, df=71, p=0.268).

Discussion: The study suggests that resistance may partly arise from low competence and low value of the new public health roles. A five-day training programme has been designed to tackle both attitudes to the value of the new skills as well as to build self-efficacy and competence.

An exploration of which factors predict who will seek help with their weight

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Background: Those with a BMI >30 are documented as suffering psychological and physiological symptoms and concomitant co-morbidities. There is a societal assumption and a medical expectation that this population should therefore want to lose weight. However, many people in this category do not attempt to lose weight, nor do they seek help even when unsuccessful with their self-directed efforts.

Objectives: The aim of this study is to identify and predict help-seeking behaviours with a focus on beliefs about obesity psychological and physical symptoms and beliefs about help seeking.

Methods: 228 completed questionnaires concerning help-seeking behaviour were received from patients registered from one SE London Primary Care Practice.

Findings: The results showed that although about half of the patients had tried self-help methods of weight loss such as their own diet and diet books the majority had not tried other more formal approaches such as peer support or professional intervention of medical help. In terms of differences between help-seekers and non-help-seekers, those who had tried to lose weight were heavier, reported poorer body image, lower mood and self esteem, more physical symptoms such as those relating to diabetes, bulk, mobility or thyroid dysfunction and more felt and enacted stigma. The non-help-seekers reported that they had received more pressure from health professionals to lose weight but the two groups were matched in age and sex.

Discussion: Although health professionals believe that weight loss is an important goal, the majority of obese patients in this study were not trying to change their weight. If health professionals wish to encourage the obese to manage their own weight then they will need to encourage help-seeking even in the absence of any psychological or physical symptoms.

Evaluating quality of life – a comparison of questionnaire vs. individualised assessment in liver transplant patients

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Background: There is increasing emphasis on measuring quality of life (QoL) as a primary outcome following radical interventions such as liver transplantation.

Method: A cross-sectional analysis was conducted on 120 patients who had undergone a recent liver transplant at the Scottish Liver Transplant Unit (SLTU). We compared the results of two different instruments for the assessment of Quality of Life. Participants completed the WHOQOL-BREF self-

report questionnaire (Harper & Power, 1998) and the interview-based Schedule for the Evaluation of Individual Quality of Life – SEIQoL (Hickey *et al.*, 1996), together with the HAD measure of anxiety and depression. Correlational analysis was performed on the association between participants' SEIQoL index score and each of WHOQOL-BREF's four domain scores (physical capacity, psychological, social relations, environment).
Findings: The analysis revealed significant but modest correlations between the SEIQoL index and the WHOQOL domain scores (r=0.28 to 0.38), with stronger correlations observed between the individual WHOQOL domains (r=0.3 to 0.6).
Discussion: These data suggest that individualised and questionnaire QoL measures may be assessing different phenomena.

Positive future thinking, optimism, stress and perfectionism: A case of self-regulation

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Background: There is a growing body of evidence to suggest that a negative view of the future characterised by impaired positive future thinking is associated with physical and psychological ill-health. Within a self-regulatory framework (Carver & Scheier, 1998), this paper aims to investigate one such pathway (i.e. future thinking–hopelessness) more closely, to determine whether positive future cognitions moderate the relations between relatively stable personality dimensions, stress and distress.
Methods: Data from three studies are reported. Two of the studies are cross-sectional whereas the third reports a 10-week follow-up. All participants completed the future thinking test and indices of psychological distress and depending on the aims of each study, measures of stress, optimism and perfectionism.
Findings: Studies 1 and 2 demonstrated, for the first time, that positive future thinking moderates the relationship between stress and hopelessness. The findings of Study 2 support the notion that perfectionism is best understood as a multidimensional construct and that its relationship with future thinking is not straightforward. Study 3 demonstrated that positive future thinking moderates the relationship between optimism and hopelessness prospectively.
Discussion: These findings point to the fruits of integrating personality, cognitive and social processes, to better understand the impact of stress on health and well-being. These studies support Carver and Scheier's (1998) self-regulatory model and suggest that positive and negative cognitions are mediated by different motivational systems. The implications for health promotion intervention programmes are considered. Indeed, understanding hopelessness as a consequence of physical ill-health requires urgent attention.

When psychological solutions aren't always the best: The example of obesity surgery

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Background: Obesity is on the increase and is now recognised as a serious risk to health. Psychological factors such as diet and exercise are considered the main causes of this problem and most treatment approaches attempt to change these factors. However, the effectiveness of this psychological approach to management remains poor. As a result surgery is increasingly being offered. This study aimed to examine the impact of surgery on weight loss and to explore associated changes in beliefs and behaviour.
Methods: Questionnaires were completed by 60 patients from the obesity clinic who either had had surgery (n=20), were waiting for surgery (n=20) or were receiving standard dietary and medical care (n=20). In addition in-depth interviews were carried out with 15 surgery patients.
Findings: The quantitative results showed dramatic weight losses in the surgical patients. In addition, this group reported shifts in their beliefs about food and weight and changes in their food intake. Further, improvements in their body esteem were reported. The interview data indicated that the

surgery had resulted in a reconceptualisation of food and weight and paradoxically, by taking away some control from the patient had enabled the patients to feel more in control of their eating behaviour.
Discussion: Psychological treatments for obesity seldom work. However, surgery seems not only to create the desired change in weight but also to bring about some shifts in the individual's psychological state.

Predictors of change in self-rated health in a 'healthy worker' group: A longitudinal study

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Background: Self-rated health (SRH) has attracted research attention both as a predictor of mortality and health impairment, and as a variable influenced by social/biomedical factors and health behaviours. The present study sought to extend existing findings relating to community/clinical samples by assessing predictors of SRH change over a five-year period in a 'healthy worker' group.
Method: Longitudinal data were obtained from 283 male offshore personnel (mean age 40.1 ±8.1 years at 1995 baseline). A five-point SRH measure was used at each time point. Job activity levels were based on consensus ratings; other data were self-reported. Demographic factors, job activity level, smoking, body mass index (BMI), and negative affectivity were used to predict SRH change. Hypothesised linear and curvilinear/interactive relationships were tested.
Findings: Overall SRH decreased (p<0.005) and BMI increased (p<0.001) between 1995 and 2000. After control for baseline SRH and BMI, job activity level (p<0.05), negative affectivity (p<0.05), change in BMI (p<0.001) and in smoking habits (p<0.02), predicted SRH change. Over and above this additive model, curvilinear/interactive age and BMI terms explained significant (p<0.05) variance. At low age (–1SD) but not at high age (+1SD), decreased BMI predicted increased SRH. Conversely, at high age but not at low age, increased BMI predicted decreased SRH.
Discussion: In this 'healthy worker' group, curvilinear relationships between change in BMI and change in SRH took different forms for older and younger individuals. Methodologically, the results highlight the need to consider non-linear models in SRH research.

Psychological evaluation of a primary care health walks scheme for older adults

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Background: 'Active living' is a means of incorporating moderate levels of physical activity into everyday life (Shephard, 1999). This study investigates a primary care exercise referral scheme in Shipston-upon-Stour using the theory of planned behaviour (TPB) on a population of older adults, and evaluates users' views.
Methods: A cross sectional design of participants referred onto the 'Health Walks' by a GP practice in Shipston-upon-Stour. One-hundred participants were sent a postal questionnaire, exercise diary and an invitation to take part in a face-to-face or telephone interview. A semi-structured interview schedule was devised to investigate the components of the TPB, analysed by content analysis. Exercise diaries were analysed by coding activities as bone loading and non-bone loading (Wallace & Boxall, 2003).
Results: 64.3 per cent of participants exercised to the recommended five 30-minute sessions of moderate intensity exercise per week (British Heart Foundation, 1998). Most participants scored the maximum score for attitude, perceived behavioural control (PBC) and intention whereas social norms was least influential. All participants held very positive attitudes towards 'Health Walks', with a strong intention to continue walking and participate in more exercise. A significant benefit was the opportunity to socialise.
Discussion: Exercise referral schemes should focus not only on the low cost and high health benefits, but also social contact. Participants had strong intentions to exercise, so further improvements in exercise may come from influencing patients' attitudes and PBC in primary care settings.

The 'Health Walks' scheme is a promising intervention since it embeds health action within a safe and rewarding social context.

Exploring the experience of stroke survivors: A grounded qualitative approach

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Background: The objective was to develop a grounded account of the experience of stroke survivors, with a particular focus on barriers/facilitators to adjustment. The study draws on Wright and Kirby's (1999) critical approach to existing quantitative/psychometric measures of adjustment and adopts a material discursive intrapsychic approach to the experience of health and illness.
Method: Inductive, semi-structured interviews were used to elicit participants' accounts of their experiences before, during and since their first stroke. With participants' informed consent, interviews were transcribed verbatim and subjected to a form of grounded discursive analysis. The participants were five women and eight men aged 32 to 86 years, with an interval from first stroke of two to 19 years.
Findings: Analysis generated psychological, structural and discursive themes. Psychological themes included active vs. passive approaches to adjustment, and a tension between recovery of former lifestyle vs. acceptance of a new way of living. Structural themes included access to transport, support on discharge from hospital, and problems with basic personal care. Discursive themes suggested that survivors tended to construct themselves as better off than the 'typical' stroke survivor, which has implications for expectations of recovery and provision of care.
Discussion: The findings have implications both for improving service provision, and for the development of theory in health psychology. They support the argument for more grounded and inclusive models of the experience of chronic illness, and for clearer and richer definitions of concepts such as adjustment, which are often used as outcome measures in health psychology research.

Delay in seeking help in patients experiencing acute myocardial infarction is predicted by age and symptom attribution

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Background: Successful treatment of acute myocardial infarction (AMI) depends on prompt treatment. The main cause of delay is time taken for patients to call for help following symptom onset (patient delay).
Objectives: To investigate predictors of patient delay and time to receiving medical help.
Design & Methods: Interviews and questionnaire assessments completed with 241 patients hospitalised for AMI within five days of admission (193 men and 48 women, mean age of 59.8 years, SD=11.08).
Findings: Median delay was 45 minutes, with 49.6 per cent delaying under one hour. Median time to receiving medical help was 64.5 minutes, with 60.5 per cent receiving help within one hour, 68.1 per cent within two hours and 13.4 per cent waiting over four hours.
A conditional logistic regression to predict patient delay found that of the demographic variables only age contributed significantly, with younger patients delaying longer. Illness variables including previous AMI, diabetes and hypertension, did not contribute significantly, and neither did psychological variables including cardiac denial of impact, locus of control and depression. However, an individual's attribution of their chest pain to having an AMI predicted shorter delay (p=0.001), beyond the effect of age.
Investigations of a subgroup of 132 patients, with more detailed information on pain-related behaviour independently showed no effect for pain intensity or number of symptoms, but a greater number of atypical symptoms produced shorter delay.

Conclusions: Younger patients may perceive having an AMI as an 'off-time' event, whilst for older patients it may be an 'on-time' event, demanding more rapid and decisive action. Symptom attributions are also relevant.

A trial of the effectiveness of a brief distraction-based coping intervention for women undergoing cancer genetic risk assessment

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Background: Around a third of women experience distress when undergoing cancer genetic risk assessment. Psychological theory suggests that distraction may help individuals manage intrusive thoughts whilst waiting for notification of their level of risk. A distraction-based coping leaflet has been developed and its effectiveness assessed through a randomised trial with women referred into the Cancer Genetics Service for Wales.
Methods: Participants were pre-randomised into intervention (distraction leaflet) or control condition (standard information) and completed a postal questionnaire upon referral (T1) and four weeks later before receiving their risk information (T2). One-hundred-and-sixty-two participants (trial n=86; control n=76) completed T1 questionnaires and 99 (n=50 and 49 respectively) completed T2 questionnaires.
Findings: Repeated measures ANOVA was conducted using the Impact of Event Scale as the key outcome measure. No significant interaction effects over time were found between groups for the whole sample. However, a sub-group analysis of participants with high baseline IES global distress scores revealed a significantly greater reduction in levels of distress over time in the intervention group than in the control group. These results were attributable to significant reductions in levels of avoidance and marginally significant reductions in the frequency of intrusive thoughts.
Discussion: These results indicate that the distraction leaflet is effective in reducing distress in women with high levels of distress upon referral for cancer genetic risk assessment. The leaflet may work by reducing the level of intrusive thoughts, resulting in less need to engage in avoidance.

Group intervention for smoking cessation: The impact of group cohesion strategy on attendance and outcome

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Background: The Specialist Smoking Cessation Service at Hillingdon Hospital is a Withdrawal-Oriented Therapy (Hajek, 1989) for smokers wishing to quit. This study investigates whether a specific group intervention 'breaking the ice' has an impact on attendance and outcome. Previous research, e.g. Hajek (1985) suggests that specific group processes affect outcome in smoking cessation group.
Methods: 140 smokers (age: M=48, sd=12.45; 47 per cent male, 53 per cent female) were allocated to two conditions; half attended the traditional Hajek group intervention (HGI) and the remaining received HGI plus a 'breaking the ice exercise' (BIE). BIE involves members being divided into pairs discussing their reasons for quitting smoking and then introducing each other to the group. The dependant variables were four-weeks abstinence measured via carbon monoxide and sessions' attendance. The independent variable was group format.
Findings: Results showed no significant mean differences in attendance between the control group and the treatment. (t(69)=0.782, p>0.005). Smokers in the treatment group, were more likely to remain abstinent for four weeks (t(69)=0.2195, p<0.001).
Discussion: Findings suggest that group strategies that increase group cohesiveness at an earlier stage may have an impact on abstinence rates. This research highlights the need for further research into the effectiveness of specific group strategies in smoking cessation intervention.

Operationalisation of constructs within theoretical models using existing measures: A method to establish content validity of health status measures

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Background: The evaluation and assessment of any theoretical models depend on appropriate measures. It is vital to establish that items in a measure are measuring the construct of interest. The establishing of content validity is often overlooked and carried out informally. We propose a structured methodology for assessing the content validity of measures. The method is illustrated by assessing the content of common health status measures using the International Classification of Functioning, Disability and Health (ICF) framework (2001).
Methods: 10 expert judges allocated 342 items from 13 commonly used osteoarthritis health status measures to one or more ICF construct, i.e. Impairment (I), Activity (A) and Participation (P) (with confidence ratings). One sample t-tests on the mean confidence rating were used to classify each item as measuring either Impairment, Activity, Participation or some combination thereof.
Findings: No measure was only measuring a single ICF construct (and only 18 of the 49 subscales). Only three of the 13 measures for assessing musculoskeletal health status had more than 50 per cent of the items measuring a single construct [AKS (I); HAQ (A); Lequesne (A)].
Discussion: None of the measures investigated could be used to measure ICF constructs without contamination from other constructs from the same model. The finding is particularly relevant for the operationalisation of theoretical models and we are applying this methodology to psychological constructs. Without 'pure' measures, it is impossible to be sure whether observed relationships between constructs are 'real' or merely reflect relationships inherent in the measure themselves.

The impact of neuropathic pain on quality of life

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Background: Health-related QoL is used to supplement more traditional measures of efficacy and safety. Contemporaneously the need to incorporate patient perspectives in outcome evaluation is recognised. Generic QoL tools lack disease or pain specificity and may be less sensitive to clinically relevant changes. Condition specific tools can address these limitations. Such a tool is lacking in the neruopathic pain literature. This study represents the preliminary phases of a project designed to develop and validate a QoL measure (the NPIQoL) specifically for neuropathic pain.
Methods:
1. Three focus groups were conducted to develop an item pool – n=26 patients participated. Four-hundred-and-eighty potential items were generated. Following deletion of items deemed ambiguous, too colloquial or repetitive, the first draft NPIQoL contained 152 items. This was tested using cognitive interviews (n=18 patients) to determine face and content validity, also response format of the NPIQoL.
2. Field test survey. Revised NPIQoL sent to 190 patients – 112 returned (59 per cent response rate).
Findings:
1. NPIQoL demonstrated good content and face validity. Issues relating to length, item wording and response format were identified. Number of items was reduced to 91.
2. Missing data, item endorsement, internal reliability of subscales evaluated. A further 39 items were removed. Chronbach's Alphas for 52-item scale were: psychological (0.84), social/work activity (0.85), symptoms (0.73), personal care (0.84), relationship (0.71) and physical (0.83).
Discussion: Initial testing of the NPIQoL is encouraging and confirms the need for a condition specific measure. Temporal stability of the NPIQoL is being evaluated and further analysis of its psychometric properties will be presented.

Music intervention in patients with cancer: An interpretative phenomenological analysis

M. POTHOULAKI, R.A.R. McDONALD & P. FLOWERS, Glasgow Caledonian University.

Background: The application of music interventions has attracted a growing research interest. In light of recent research in music intervention in patients with cancer it has been demonstrated that music can play a significant role in influencing physiological and psychological processes. Results of most recent research papers indicate that music interventions can stimulate emotions, relieve stress and discomfort and improve quality of life for patients with cancer.
Methods: This qualitative study was conducted in a Glaswegian hospice. Its aim was to explore in-depth the psychological effects of music in patients suffering from cancer. Nine participants (all cancer outpatients) took part in this study on a voluntary basis. A music therapy intervention was developed, with the collaboration of a music therapist, and introduced to the patients of the hospice. The intervention lasted for six weeks. Participants took part in semi-structured interviews before and after the intervention. Interpretative phenomenological analysis (IPA) was employed.
Findings: Analysis revealed that music therapy had a variety of psychological effects. These included the centrality of group dynamics in facilitating peer support, the temporary disruption of illness trajectories and liberation from negative feelings and identities. There was also an emphasis upon the importance of social interaction and communication.
Discussion: This paper highlights particular aspects of the application of music within the clinical context of cancer therapy. The innovative and evaluative use of IPA has appeal in terms of methodological interest. In addition the paper's substantive findings are of interest to health psychologists studying chronic illness and complementary interventions.

Sunscreen use among adolescent females: Comparing the predictive power of the stages of change and a continuous intention measure in a full application of the transtheoretical model

J. RAPLEY & N. COULSON, University of Derby.

Background: There is a lack of research which fully applies the transtheoretical model (TTM), particularly in relation to the acquisition of positive health behaviours such as sunscreen use. The aim of this study was to extend previous studies by considering a broader range of TTM variables as well as examining the stage based approach to participants classification.
Methods: In this cross-sectional study, 572 adolescent females (age range 11 to 16 years) completed a questionnaire that measured stage of change for sunscreen using standard time-based criteria, decisional balance (pros and cons), self-efficacy, level of temptation, the processes of change, and intention for sunscreen use.
Findings: 78.3 per cent of participants were not meeting health recommendations for sunscreen use. Analyses of variance found significant differences in self-efficacy, pro-scores, and con-scores by stage of change that supported TTM hypotheses. Significant differences in these variables were also evident across the levels of intention. Multiple regression identified the continuous intention measure as the more powerful predictor of these variables.
Discussion: Adolescent females may benefit from a health promotion intervention to increase sunscreen use. Such an intervention might use certain TTM hypotheses as a basis. However, it should not be assumed that TTM hypotheses are universally applicable for different behaviours. Further research into the nature of the stages of change is needed, basing measurement criteria on qualitative rather than quantitative differences, before making conclusions regarding greater predictive power of the continuous intention measure.

The development of a satisfaction with medication scale

D. ROFAIL & L.B. MYERS, University College London.

Background: Patient satisfaction is an important quality outcome indicator of health care. Although there are a number of measures of patient satisfaction, they have not been systematically developed (Walburn *et al.*, 2001). This paper describes the development and factor structure of a patient satisfaction with medication measure.
Methods: The satisfaction measure was developed based on a literature review, health professionals and health service users opinions and a pilot study (n=69) of 44 items. The final scale was a 33-item Likert scale. The measure was administered to 315 patients (144 (46 per cent) females and 170 (54 per cent) males) taking antipsychotic medication from London Hospitals.
Findings: We factor analysed scores from the 33 items using a principal component analysis with varimax rotation. Factors whose eigenvalues were one or greater were retained and loadings greater than 0.4 were considered significant. The results indicated that the 33-item questionnaire can be considered as a dichotomous scale (treatment acceptability (n=14) and medication insight (n=9)). The two-factor solution explained 40 per cent of the variance, with Treatment Acceptability and Medication Insight having Cronbach's alpha statistic of 0.90 to 0.92 respectively, demonstrating a very good level of internal consistency.
Discussion: This is an encouraging initial stage of development. The psychometric properties of the satisfaction scale warrants further investigation using standard methods, including the use of Rasch models, determining test-retest reliability and the estimation of Minimally Important Difference (MID). The application of the measure with other medications is also necessary.

Representations of Type 2 diabetes: An examination of partner's beliefs and their influence on patients well-being

A. SEARLE, P. NORMAN & K. VEDHARA, University of Bristol.

This aim of this research was to elucidate the role of the health beliefs of individuals with a partner with Type 2 diabetes. The illness representations of the partner were examined to determine whether differences exist according to the partner's gender; and the extent to which partners representations influence patients' emotional well-being (anxiety and depression) and dyadic adjustment.
The Revised Illness Perception Questionnaire (IPQ-R) was utilised to assess the representations of partners' beliefs about Type 2 diabetes (n=164). The emotional well-being of patients was assessed with the Hospital Anxiety and Depression Scale and marital satisfaction was assessed with the Dyadic Adjustment Scale (DAS).
Analyses were conducted to: (1) examine if gender differences exist for partners representations of Type 2 diabetes; and (2) explore whether the relationships between partner health beliefs and patients' emotional well-being and dyadic adjustment are influenced by the gender of the partner.
No differences were found between male and female diabetes representations. T-tests demonstrated that female partners' representations were associated with anxiety and depression in male patients. However, male patients' representations were not associated with their own anxiety and depression. Female partners' representations were associated with more marital satisfaction in males. There were no associations for female patients representations and marital satisfaction. In conclusion, it appears that female partners over emphasise the emotional impact that diabetes has on husbands' well-being and male partners were not likely to associate diabetes with the emotional well-being of female patients.

Stress in parents of severely food allergic children: Does consulting a health professional influence stress levels?

H.M. SEMPER & R.C. KNIBB, University of Derby.

Background: It is argued that parental adjustment and psychosocial condition can influence their child's own adjustment to their allergic condition (Shapiro, 1983). Therefore, it is essential that the health care system is successful at monitoring and reducing levels of stress and providing suitable support for parents caring for a child with severe allergy. There has been a paucity of literature examining how interaction with the health care system may influence the levels of stress in parents with severely food allergic children. This study aims to examine whether stress levels in this population are related to particular types of health professional consultations.
Methods: 400 questionnaires were distributed to a random sample of parents who were members of the Anaphylaxis Campaign, of which 157 were completed (39.3 per cent response rate). Questionnaires comprised of general demographic and specific allergy questions and the Perceived Stress Scale (PSS). Data were analysed using chi-square and point biserial correlation.
Findings: Mean score for the PSS was 24.04 (8.27) with a range of six to 45. Parents who had received advice about their child's diet reported higher levels of stress than those who had not received advice (54.7 per cent vs. 34.5 per cent) (p<0.05). Parents who had consulted a dietician about their food allergic child reported higher levels of stress than parents who had not consulted a dietician (60 per cent vs. 42.7 per cent) (p<0.05). However, consultation with an allergy specialist was associated with neither an increase nor decrease in stress levels (p>0.05).
Discussion: It appears from the data that consultation with a health professional is associated with either no difference in stress levels or elevated stress levels in this population. This finding is of particular concern due to the effects on quality of life, health and psychosocial adjustment of both the parents and the children. Further investigation into the causal nature of this relationship and the reasons for these stress levels is needed.

Motivational interviewing in primary care: Exploratory studies in smoking cessation and diabetes management

D.G. SHAW, T. SHAMSI, D.A. BRODIE, U. ARUMUGAM, Buckinghamshire Chilterns University College & R. BANSIL, Wycombe Primary Care Trust.

Background: These two small but novel exploratory studies aimed to assess new applications of motivational interviewing (MI) in influencing health behaviour change. The theoretical underpinning of MI includes the transtheoretical model. Uniquely, it also aimed to assess MI fidelity by audio-tape transcript analysis using a combination of two emerging systems.
Methods: The first study involved a sample of high-risk Caucasian primary care patients. Six fortnightly MI sessions were used to influence smoking and related behaviour. The second study involved a similar input, this time directed at an outpatient sample of British Asians with Type 2 diabetes – this was directed at influencing food choice and related behaviours. Interviews were audio-taped and analysed using the 1-Pass System and the MISC 2 rating scale. A range of quantitative bio-medical and psychological data were collected pre- and post-intervention.
Findings: Despite some encouraging findings, the sample size forbids any claims arising from quantitative data. However, audio-tape content analysis raised delivery issues about content knowledge versus therapeutic competence. It also showed that Asian participants demonstrated a different attitude towards HPs which has implications for the application of MI to this group. All participant evaluations were very positive about MI approach and, in the diabetes study, translated questionnaires worked well.
Discussion: The studies provide encouragement and pointers for those contemplating a new approach

to managing health behaviour and justification for those planning larger studies. They contribute to the sparse literature on adherence among Asian diabetics and highlight the need to assess MI fidelity.

Game outcome and well-being in football fans: Are Rangers' fans as sick as a parrot after losing Old Firm games?

D. SHEFFIELD, Staffordshire University, C. McVEY, Glasgow Caledonian University, K. BURNETT, University of Paisley & P. BANKS, Glasgow University.

Background: Minor hassles and uplifts have been associated with subsequent physical (Evans & Edgerton, 1991) and psychological well-being (Sheffield, McVey & Carroll, 1996). The present study examined whether a specific hassle or uplift, outcome of Old Firm (Rangers vs. Celtic) games, was associated with the well-being of Glaswegian football fans.
Methods: 80 Rangers, Celtic and other football fans completed physical symptoms and general health questionnaires indicating how they had been feeling over the past few days four to six days after two Old Firm games. In addition, participants completed questionnaires about the importance of football, in general, and the past game, in particular. Celtic won both games.
Findings: ANOVA revealed differences between the Rangers, Celtic and other fans on measures of somatic and anxiety symptoms (p<0.05), but not physical symptoms or social dysfunction. Celtic fans reported fewest symptoms and other fans reported the most symptoms. There were no differences in ratings of the general importance of football between fans, but both Celtic and Rangers' fans rated the game as more important than other fans (p<0.05).
Discussion: These cross-sectional data suggest that winning may have a short-term beneficial effect on some health measures in fans or that losing may have a short-term detrimental effect on some health measures in football fans. These data are consistent with psychoneuroimmunological explanations of stress-illness relationships.

Linguistic validation of diabetes-specific psychological measures in Hindi and Punjabi

H. SINGH, R. PLOWRIGHT & C. BRADLEY, University of London.

Background: Our current research on diabetes management in South Asians requires translation of five diabetes-specific measures into two widely used Indian languages. Availability of these validated measures for use in India and the UK will assist health care professionals in efforts to understand and manage the high prevalence of diabetes in this population.
Methods: Quality of Life (ADDQoL), Treatment Satisfaction (Status and Change versions – DTSQs&c), Knowledge (ADKnowl) and Well-being (W-BQ28) questionnaires were linguistically validated in Hindi and Punjabi. Translation methodology for each questionnaire/language comprised: (i) two forward-translations, reconciliation; (ii) two back-translations; (iii) review by clinicians (India one, UK one); (iv) cognitive debriefing interviews with patients (India four, UK four); and (v) proof-reading. Review by author followed all stages except (i). Translations were undertaken by psychologists experienced in questionnaire design and diabetes, with contributions from Mapi Research Institute and professional translators, to ensure intended meaning.
Findings: The methodology contributed significantly to the quality of the translations, e.g. back-translation of an ADKnowl item on treating hypoglycaemia revealed that *sugary drink* had not unreasonably been translated as *sweet drink*. However, author review indicated that this could imply artificial sweetening, which would be inappropriate for treating hypoglycaemia. Cognitive debriefings showed that only some people understood translations of *sex life* (ADDQoL) and all preferred *physical relationship* to describe this concept.
Discussion: The value of this methodology is

illustrated by these and other examples. The validity of cross-cultural research is open to question if the instruments used have not been linguistically validated with cultural adaptation.

The well-being of grandparents with full-time care of grandchildren

W. SLAVIN & H. FOOT, University of Strathclyde.

The UK population is living longer and more healthily. More people, therefore, are becoming grandparents who are able to contribute actively to the upbringing of their grandchildren. There is evidence that an increasing number of grandparents are becoming liable for the full-time care of their grandchildren, especially where the parents have been affected by drug abuse. The question arises as to how such grandparents might maintain their own well-being in such challenging circumstances. Bandura's Self Efficacy Theory (Bandura, 1997) suggests that they might be able to draw upon particular sources of self-efficacy. The research identified 50 grandparent-headed households where there were one or more grandchildren being cared for full-time. Data about the well-being or otherwise of the grandparents was elicited by semi-structured interviews which were subjected to content analysis.

Results indicated that these grandparents did reveal a sense of self-efficacy in their new task. Evidence of emotional stress and physical ill-health which preceded the arrival of the grandchildren was also observed while some grandparents reported health benefits from being with the children.

Children living permanently with grandparents is an issue of increasing concern. Health psychologists can contribute positively to the well-being of grandparents and children by affirming the value of the concept of self-efficacy and encouraging child welfare agencies to reinforce it among grandparents who have the full-time care of grandchildren.

Predicting outcomes in the Dose Adjustment For Normal Eating (DAFNE) Trial

J. SPEIGHT, University of London; The DAFNE Study.

Background: In the UK, DAFNE training in flexible intensive insulin therapy significantly reduced the negative impact of diabetes on quality of life (QoL) and improved blood glucose (BG) control without significantly increasing severe hypoglycaemia or body mass index (BMI). Analyses were conducted to predict who would benefit most from the generally highly successful DAFNE training and who might experience undesirable effects (e.g. weight gain).
Methods: Multiple regression was used to predict change in outcomes (six-months post-DAFNE) using baseline data: demographic, biomedical, ADDQoL (measure of the impact of diabetes on QoL), extended DTSQ (Diabetes Treatment Satisfaction Questionnaire), and other psychological measures including diabetes-specific well-being and locus of control.
Findings: Greatest improvement in ADDQoL scores was achieved by those reporting less dietary freedom and less treatment satisfaction at baseline (R^2=0.21). BG improvement was predicted by higher baseline BG, lower perceived frequency of hypoglycaemia, greater expectations of DAFNE, and greater BMI (R^2=0.30). Increase in BMI was predicted by less dietary freedom, DAFNE training centre, and less 'satisfaction with insulin' at baseline (R^2=0.23).
Discussion: DAFNE has important benefits to offer. Lifting dietary restrictions had substantial benefits for QoL. BG improvement was predicted by baseline BG but also by expectations (perhaps reflecting greater optimism or determination). Prediction of weight gain was more complex. The influence of training centre will have involved implicit messages conveyed by Educators before and during DAFNE. While DAFNE was successful overall, outcomes are likely to be maximised for individuals if their expectations and personal goals are considered by DAFNE Educators.

Investigating patients' decision making about elective orthognathic surgery

J. STIRLING, G. LATCHFORD, H.L. BEKKER, University of Leeds, D. MORRIS, Leeds Dental Hospital, J. KINDERLAN, York District Hospital & J. SPENCER, Pinderfields Hospital.

Introduction: An understanding of how patients make decisions is required to design interventions to facilitate choice. There is little evidence describing patients' decision making about orthognathic surgery. This study investigates patients' decision making about (not) having orthognathic surgery.
Methods: A cross-sectional survey using qualitative and quantitative methods of patients prospectively (n=31) and retrospectively (n=30) to surgery. Questionnaires assessed: anxiety; self-esteem; decisional conflict; body satisfaction; perception of attractiveness. Semi-structured telephone interviews assessed: factors involved in decision making.
Results: Orthognathic patients do not differ from the general population in terms of anxiety, self-esteem or body satisfaction. Four chose not to have the procedure; they were less certain about their choice than those having surgery. The qualitative data illustrated that about 66 per cent made some trade-off between the pros and cons of treatment but 56 per cent felt there was no alternative treatment. Comments made about information provision suggest this was insufficient to inform the decision making process:
(a) Patients were satisfied with the information provided but 46 per cent made negative evaluations, 'Need things simplified so that I can understand ... talk in medical terms'.
(b) Of the retrospective surgery patients, about 20 per cent stated incomplete information was provided about the treatment before decision making, 'I did not know about the operation until about a year into treatment'.
(c) Patients attended selectively to what information was provided, 'I tried not to think about the bad things they said ...'
Discussion: It is recommended that a decision-aid be introduced into the orthognathic clinics to help patients with this decision.

Influence of beliefs, mood and aversive feedback on adherence to a physiotherapy simulation

I. TIJOU, L. YARDLEY & L. BIZO, University of Southampton.

This pilot study aimed to assess the contribution of self-efficacy (SE) and outcome expectations (OE; which have a cognitive influence on behaviour) and mood and pain (which have an automatic influence on behaviour) on performance on a physiotherapy simulation.
Thirteen participants were randomly assigned to two experimental conditions; auditory (aversive) or visual feedback (informational). To achieve virtual recovery from their simulated shoulder injury, participants needed to repeat simulated movements (controlled by a computer key) at a steady speed over an extended period of time. Feedback on their performance was given either in auditory form (a loud 'scream' whenever a physiotherapy 'movement' was performed, that decreased in volume as they recovered) or visually (an on-screen vertical red bar which reduced in height as they recovered). This manipulation was designed to enable separation of the informative value and the aversive component of pain in real therapy. The participants completed questionnaires that assessed SE, OE, and mood at baseline, at five points during the simulation and when finished. Non-parametric correlations and ANOVAs were conducted.
Those in the visual condition adhered better than those in the auditory condition (effect size 0.39). SE and OE were weakly related to adherence until the last assessment during the simulation (effect sizes ranged from 0.03 to 0.77). Positive mood was related to adherence at every questionnaire point with a large effect size at baseline and the last three assessment points.
This pilot study suggests that variables with an automatic influence on behaviour might be important in this physiotherapy simulation.

'Trusting the Body': Experiences of recovery after a heart attack and implications for health services

A.M. TOD, University of Sheffield.

Background: Evidence suggests that an acute cardiac event such as a heart attack can have a profound psychological impact on patients and their families. This paper presents the results of a qualitative research study that explored heart attack recovery and rehabilitation experiences. The aims were to capture service users experience in order to: (1) illuminate and understand recovery; and (2) inform future service delivery.
Methods:
Design: An interpretive study using qualitative methods and naturalistic inquiry.
Participants & Data Collection: Using purposive sampling, four group interviews (n=3 to 7) and individual interviews (n=20) were held with patients post-heart attack.
Data Analysis: A combination of Framework Analysis and Grounded Theory techniques were used.
Findings: The results map the pathway from heart attack to recovery. Two key concepts emerged to epitomise recovery; 'trusting the body' and 'looking to the future'. Three factors emerged as prerequisites to recovery; confidence, control and understanding (based on information and knowledge). Three 'recovery mechanisms' were also identified that helped people cope with the recovery process and move along the pathway. These mechanisms are conceptualised as taking control, attribution and redefining. Particular life experiences and social contexts influenced ability to mobilize recovery mechanisms. This is explored with reference to Antonovsky's Sense of Coherence Model (1979).
Conclusion: The study illustrates how recovery is experienced. The implications of the results for health services in facilitating, and not hindering, recovery processes will be explored in the poster.

The role of the LTSN Special Co-Ordinator in Health Psychology

D. UPTON, University of Wales Institute, Cardiff.

Background: Although there are some good teaching resources in the area of health psychology that are well known to most, there is a range of both online and other resources that are not immediately apparent. Furthermore, there may be many resources or practices that have been devised and implemented that can be described as good practice and which could benefit the wider health psychology community. Finally, there are a number of critical areas relating to the teaching of health psychology. This presentation reports on the first year of the LTSN Special Co-ordinator role in health psychology, which aimed to explore, and develop some of these issues.
Methods: During this year, an online survey has been completed of those involved in teaching health psychology that suggested a number of priority areas for the health psychology teachers' community.
Findings: A total of 52 teachers of health psychology responded to the survey. The responses suggested a number of priorities for the role and these included: expanding the database of resources, developing a database of practical exercises in health psychology, dissemination of good practice, the development of an e-mail discussion list and the presentation of developments at local and national conferences.
Discussion: The survey revealed an eagerness in the health psychology community to develop teaching and learning further and it is hoped that the LTSN Special Co-ordinator role can build upon this to enhance the experience of students and staff alike.

Depression and anxiety in health care assistants: The role of supervisor favouritism

N. WAGER, G. FIELDMAN & T. HUSSEY, Buckinghamshire Chilterns University College.

Background: We examined the role of interpersonal relationships between workers their supervisors as a potential source of workplace stress. Particular focus was placed upon the equitable or inequitable treatment of employees by their supervisors. It was hypothesised that the practice of favouritism on the part of supervisors in

relation to their supervisees would be associated with relatively high levels of depression and anxiety.

Method: The study consisted of a postal survey distributed to health care assistants (n=211) in a range of health care settings. The questionnaires included a scale assessing perceptions of supervisor interactional style, from which perceptions of equity of treatment were determined. Respondents were categorised as indicating that their supervisor treated them more or less favourably than other workers, or as being equitably treated. Self-reported measures of anxiety and depression were obtained using the 28-item GHQ.

Findings: Analysis of variance indicated that both positive and negative inequity is associated with significantly less favourable measures of psychological well being. Negative inequity was associated with the least favourable scores. In particular, reports of depressive symptoms was almost three times higher for respondents who indicated negative inequity and twice as high for those who indicated positive inequity in comparison to equitably treated respondents.

Discussion: Interpersonal fairness, particularly that exemplified by the equitable treatment of supervisees, appears to have health protective implications for employees. Possible reasons for the discrepancy of these findings in relation to those reported in distributive justice research are discussed, as are the potential limitations of the current study.

Predicting healthy eating behaviour: A test of the theory of planned behaviour, past behaviour and time perspective

J. WALSH & L. GERMANOVA, University of East London.

Objective: An expanded model of the theory of planned behaviour (TPB – Aizen, 1991), including past behaviour and time perspective, was used to predict intentions to eat five pieces of fruit and vegetables over a two-week period. Actual consumption was also assessed.

Design: A correlational design was employed containing both cross-sectional (intention) and prospective (behaviour) elements.

Methods: A mixed group of 65 University and High School students from Finland was presented with written information about the benefits of consuming daily five pieces of fruit and vegetables. They then completed two questionnaires. The first measured TPB factors (attitude, subjective norm and perceived behavioural control) and past behaviour; the second was the Zimbardo Time Perspective Inventory (ZTPI – Zimbardo & Boyd, 1999) which assessed participants' past, present and future time perspectives. Two weeks later participants were asked to indicate how often they consumed the recommended amount of fruit and vegetables during the study period. Fifty-two participants responded.

Findings: Intention correlated significantly with attitude, subjective norm, perceived behavioural control, past behaviour and past positive time perspective. However, hierarchical regression analyses found that the latter two correlates were not significantly predictive (Final model: Adj. R^2=0.65, F(5,59)=25.16, p<0.001). Behaviour correlated significantly with intention, perceived behavioural control, past behaviour and future time perspective. Hierarchical regression analysis indicated that both past behaviour (eight per cent) and future time perspective (five per cent) made significant independent contributions to predicting behaviour (Final model: Adj. R^2=0.45, F(4,47)=11.47, p<.0001).

Discussion: As well as endorsing the utility of the TPB in predicting intentions, the findings also confirm that those scoring higher on future time perspective (FTP) are more likely to achieve their healthy eating goals. Links between FTP and both conscientiousness and a preference for nutrition over taste may underpin this result.

Post-traumatic stress disorder following admission for acute coronary syndromes

D.L. WHITEHEAD, P. STRIKE, L. PERKINS-PORRAS & A. STEPTOE, University College London.

Background: Admission to hospital with an acute coronary syndrome (ACS) can be a highly stressful experience. Previous studies have described post-traumatic stress disorder (PTSD) symptoms in a proportion of patients who survive myocardial infarction. The objective of this study was to determine which psychological factors during admission for ACS predict PTSD three months later.

Methods: Interviews and questionnaire assessments were carried out with 70 patients hospitalised for ACS within five days of admission. PTSD was assessed using the PTSD Symptom Scale-Self Report (PSS-SR) three months later.

Findings: Using a conservative criterion to counteract presence of illness-related somatic items, 15.7 per cent (11 patients) met diagnostic criteria for PTSD. There were no effects of age, gender, or either biological or clinical indicators of severity on three month PTSD symptoms. Higher scores on the PSS-SR at three months were more common among individuals who showed symptoms of acute stress disorder during admission (r=0.453, p<0.001). A multiple regression predicting PSS-SR score at three months found that both depression (Beck Depression Inventory) and hostility (Cook-Medley) measured during admission added significantly to the model, beyond variance explained by acute stress score (overall model, r=0.745, p<0.001).

Discussion: We conclude that PTSD symptoms at three months following acute life-threatening illness such as ACS are predictable on the basis of emotional responses at the time of admission. Psychological interventions, targeting individuals displaying acute stress response or depression may help to prevent acute stress reactions developing into more chronic patterns of behaviour.

A responses latency measure of the public's attitude towards dental fluorosis

D.M. WILLIAMS, University of Wales, Cardiff, P.D. BENNETT, University of Wales, Swansea, I.G. CHESTNUTT, University of Wales, Cardiff, R. LOWE, P. HEARD, University of Wales, Swansea & K. HOOD, University of Wales, Cardiff.

Background: Dental fluorosis is a condition characterised by tooth discolouration, ranging from white flecks to brown staining. It is caused by excessive ingestion of floride during tooth development. Potential psychological impacts of fluorosis have not been investigated. Attitude measures utilising response latencies have been used to implicitly assess attitudes. The objective of this study was to assess public opinion of fluorosis using a response latency technique in order to avoid participants' responses being influenced by social norms of politeness.

Methods: Images of males and female faces were digitally manipulated to reproduce normal dental enamel, mild, moderate and severe fluorosis. These images were then displayed life-size, on a computer monitor. Each image was systematically paired with 18 personality traits, identified as relevant to fluorosis. Thirty-nine participants responded by pressing a 'yes' or 'no' key to indicate whether or not each trait describe each image. The response latencies were recorded by computer. The procedure was completed under one of two experimental conditions, participants either were, or were not, cued to look at the mouth.

Findings: Preliminary analysis showed the relevance of fluorosis to participant's attitudes (as measured by response latency) resulted in mean response latencies from 900 to 2725ms. These differ significantly across levels of fluorosis (p<0.05), for cued but not for uncued participants.

Discussion: Implicitly measured attitudes showed discrimination between levels of fluorosis for cued participants. Work is ongoing to determine the extent of this discrimination.

The Training and Support Programme (TSP) for carers of children with disabilities: A one-year follow-up study

H.L. WILLIAMS, L.A. CULLEN & J.H. BARLOW, Coventry University.

Background: Previous evaluations of the TSP have demonstrated short-term improvements in psychological well-being and self-efficacy of carers. The purpose of this study was to compare adherers (carers continuing to massage their child at follow-up) and non-adherers (carers no longer using massage at follow-up) in terms of psychological well-being and self-efficacy and to determine whether demonstrated improvements are sustained over longer periods of time.

Methods: The participants (n=82) were all carers of children with disabilities. Of the 82 carers, 76 were mothers, four fathers and two grandmothers. A between-groups design was used to compare adherers and non-adherers on measures of psychosocial well-being and self-efficacy. For adherers, within groups comparisons were made to examine change in scores over time. Data were collected using standardised self-report questionnaires. Psychological well-being was measured by the Hospital Anxiety and Depression Scale (HADS) and carer's self efficacy to manage their child's psychosocial well-being and to carry out the massage on their child was measured by a Parent's Self-Efficacy Scale (PSES). Between groups analyses of variance were used to compare mean scores on study variables between adherers and non-adherers. Repeated measures t-tests were used to compare mean scores of adherers over time.

Findings: 12 months after participation in the TSP, adherers reported significantly higher levels of self-efficacy to manage their child's psychosocial well-being (F(1,81)=3.26, p<0.001) and to carry out massage (F(1,81)=4.87, p<0.001) as well as significantly lower anxiety (F(1,81)=26.70, p<0.001) and depression (F(1,81)=12.41, p<0.001) levels when compared to non-adherers. Comparisons over time were not statistically significant, although trends towards further improvements in the expected direction were observed.

Discussion: This first long-term evaluation of the TSP suggests that carers who continue to massage their children derive substantial and prolonged benefits in terms of perceived ability to manage their child's' psychosocial well-being and improved psychological well-being.

Predictors of non-attendance at general practice appointments

H. WHILLIS & D. STEWART, University of Luton.

Background: There is little research on why people do not attend appointments with their General Practitioner (GP). Even minimal levels of non-attendance can be problematic as it leaves unnecessary gaps in busy schedules, and can increase the length of time that others have to wait to be assessed and treated.

Method: In this cross-sectional study 80 participants from two GP surgeries completed the Health Value Scale, Attitudes to Doctors/Medicine Scale, and MHLC. An exploratory 15-item 'Intention' Scale was also developed/used. Comparisons were made between 'non-attenders', n=42, (not attended one or more appointments in last six months), and 'attenders', n=38, (gone to all appointments).

Findings: No significant differences were found between all measures. In a first regression internal health locus of control was found to be the strongest predictor of 'non-attendance' (the model included three factors predicting between 16.3 per cent to 21.7 per cent of the variance). In a second regression age was found to be a strong predictor of 'attendance' and smoking a strong predictor of 'non-attendance'(the two factors in the model predicted 30.3 per cent to 40.3 per cent of the variance). For 'non-attenders' 81.8 per cent were smokers compared to 18.2 per cent smokers in the 'attenders' group'. From the intention scale, 26.19 per cent of 'non-attenders' reported that this behaviour was intentional (for example they did not forget).

Discussion: Further research needs to identify factors associated with an internal health locus of control and smoking behaviour that accounts for

non-attendance. It may include a more comprehensive examination of health/symptom perceptions (beyond limitations of Health Value Scale) and the decision making processes underpinning intentional non-adherence.

What are we missing? An examination of referral patterns for psychosocial problems in oncology practice

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Background: Research shows that standard oncology care does not always identify patients with social difficulties and distress. As part of a larger study looking at the clinical meaning and utility of the Social Difficulties Inventory (SDI), referral patterns for patients seen in routine oncology care was examined.
Method: 183 patients completed, the SDI, Hospital Anxiety and Depression Scale, EORTC Quality of Life Questionnaire – C30, The Close Persons Questionnaire and socio-demographics using a computer touch-screen. Social work assessments were carried out to explore in depth any social problems and need for subsequent referral
Findings: The majority of patients were resilient to psychological and social difficulties. From the 183 interviews, 30 patients received or were offered a referral, with 21 of those to social work, and six to psychological services. Forty-six patients were given information on a range of issues such as benefits advice, contact telephone numbers or information on holiday insurance. Fifteen patients were already in receipt of additional support. The SDI score for those receiving or being offered a referral varied, with the majority of patients who were offered a referral scoring highly on the HADS.
Conclusion: Standard oncology care is not always capable of identifying oncology patients with psychosocial difficulties and providing an appropriate referral. Ongoing research examines the utility of the SDI in clinical practice to provide a quick and effective method of detecting vulnerable patients who may require additional support.

Are men suffering from 'Mentral Distress'? A preliminary comparison of men and women's self-reported symptoms using Moos (1968) Mentrual Distress Questionnaire

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Background: Previous research has demonstrated that not only do men rate menstruation as more debilitating than women (Brooks Gunn & Ruble, 1986) but, that they may also experience cyclical changes themselves (McFarlane & Williams, 1994). It has further been suggested that menstrual symptomology may be related to societies portrayal of the menstrual cycle (e.g. Chrisler et al., 1994, Aubeeluck & Maguire, 2002). To investigate this phenomena, this study compares men and women's self-reported symptoms using the Menstrual Distress Questionnaire (MDQ – Moos, 1968).
Method: 50 men and 50 women (matched for age) took part in a study relating to 'health issues'. The title of the MDQ was removed and men completed the questionnaire once whilst the women completed the questionnaire across three cycle phases. Participants were informed during debriefing that the questionnaire they had completed was MDQ and reminded of their right to withdraw.
Results: A series of t-tests measured sex differences between the eight subscales on the MDQ. Men score significantly higher on the MDQ than women on the subscales of Pain, Concentration, Behavioural Change, Arousal and Control across all three cycle phases (p<0.05). Mixed ANOVA further established a significant interaction between sex and cycle phase (p<0.05).
Discussion: Results suggest that men experience many of the symptoms usually associated with menstrual distress in women. It is, therefore, possible that symptoms, although evident in both sexes, are attributed differently in accordance with societal stereotypes (Heard et al., 1999; Walker, 1998). These preliminary finding have health implications not only for women who find themselves stereotyped as having PMS but also for men who may be suffering from cyclical changes that are left undiagnosed/untreated due to lack of recognition.

Risk as feelings in protection motivation theory: Fear, not vulnerability or severity, interacts with coping to predict intentions to quit

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Background: Protection Motivation Theory (PMT) focuses on cognitive appraisal of health threats, predicting that this appraisal interacts with coping appraisal to influence motivation for the risk-reducing behaviour. This interaction is not always obtained, however, possibly reflecting neglect of the more emotional components of threat perception. Drawing on the 'Risk as Feelings' perspective, this study examined whether fear, rather than perceived vulnerability or severity, interacts with coping appraisal to motivate smokers to quit.
Methods:
Design: Cross-sectional survey of 334 adult smokers.
Measures: Perceived severity of, vulnerability to and fear of heart disease, coping and intention to quit smoking.
Analyses: Multiple regression, with the univariate effects of severity, vulnerability, fear and coping entered on step one. The fear x coping, vulnerability x coping and severity x coping interactions were entered on step two.
Results: The model accounted for 43.7 per cent of the variance in intentions. Vulnerability (B=0.331, p<0.001), fear (B=0.135, p<0.01) and coping (B=0.608, p<0.001) all significantly predicted intention. Of the interaction terms, only fear x coping was a marginally significant predictor of intention (B=0.055, p=0.065), uniquely accounting for 1.7 per cent of the variance. Greater fear increased intentions more for smokers with higher coping appraisals than for smokers with lower coping appraisals.
Discussion: This study presents the first evidence that it may be people's emotional reactions to learning of the health threat, rather than their cognitive reactions, that interact with coping to determine intention to alter behaviour. These findings fit with current growing research interest in more experiential aspects of risk perception.