

Proceedings

of The British Psychological Society

Previously published as Abstracts of Papers, now has volume number and ISSN.

Volume 8, No 2, August 2000

ISSN 1350-472X

Contents

Psychology of Women Section Conference, Manchester Metropolitan University, 1–3 July 1999.

Psychobiology Section, Annual Scientific Meeting, Langdale, The Lake District, 15–17 September 1999.

Transpersonal Psychology Section, Annual Conference, Cober Hill Conference Centre, Scarborough, 17–19 September 1999.

Scottish and Northern Ireland Branches Annual Conference, The Jarvis Caledonia Hotel, Ayr, 26–28 November 1999

Mathematical, Statistical & Computing Section, Birkbeck College, University of London, 27 November 1999.

BPS Student Conference, Welsh Branch, Cardiff University, Tower Building, 5 April 2000

The 2000 Annual Conference, Winchester Guildhall, 13–16 April 2000.

History and Philosophy of Psychology Section, 14th Annual Conference, University College of Ripon and York St. John, 18–20 April 2000.

Note: The Society's office does not have copies of any of the papers presented at its conferences. Anyone wanting papers should write direct to the author. If the printed address is insufficient, write a separate letter, and stamp it, to each author and send each separately to

The British Psychological Society,
St Andrews House, 48 Princess Road
East, Leicester LE1 7DR.

On the outside of each envelope please write clearly the volume number and page number of the Proceedings – this will ensure that your request is directed to the correct person. We will then re-address each envelope and forward it to the author.

Psychology of Women Section

Section Conference, Manchester Metropolitan University, 1–3 July 1999.

The drag artist and the construction of a gender identity: Deconstructing the category of 'woman'

H ARGYROU

The construction of gender identity is a complex phenomenon extensively studied in postmodern feminist literature. Using a postmodern approach and qualitative research methods, South African drag artists (n=7) were interviewed to explore their construction of a gender identity. The interviews were analysed in accordance with grounded theory and thematic analytical principles. The analysis revealed a drag specific transformation process, which included physiological, psychological as well as emotional alterations. This transformation process holds vital importance in the transition from 'masculine' and 'male' discourses to those considered 'female' and 'feminine'. The study examines the way in which the drag act constructs and represents the category of 'woman' and 'feminine' attributes, and subsequently deconstructs these concepts and the notion of gender in general. Analogous to the mask, drag exposes essentialist notions of femininity and masculinity, whereby drag artists mask their 'masculinity' in order to express 'feminine' attributes. This work acts as a catalyst to the postmodern realisation that gender, identity, and finally reality, is socially constructed. It describes this realisation by painting the psychological portrait of individuals who are able to manipulate consciousness, and socially defined masculine and feminine discourses in the art of impersonating the 'woman'.

Why did he die?: The attributions of cause of death amongst women widowed in later life

K BENNETT

Older widowed women (n=19) were asked to describe the death of their husbands. Almost all the women discussed why their husbands had died. In some cases this was simply the medical explanation. However, many women referred to a specific event or lifestyle which the widows believed had contributed to their husbands' death. Other attributions are often related to lay views of medicine. The attributions of cause are

important. They may help the widow understand what has happened, or help to find something (or someone) to blame. Other research has shown that these factors have a role to play in coping with bereavement.

The discursive construction of eating disorders in the popular media

C BINDING & E STOKOE

Until recently, eating disorders have been theorised and studied as individual pathology. The culturally-bound meanings of anorexia and bulimia nervosa have typically been neglected. However, within the post-modern turn in the social sciences, researchers have begun to theorise eating disorders within a broader socio-historical framework. While this has led to a contextually grounded analysis of eating disorders, there have been few systematic studies of their representation within the popular media. In this study, a range of public texts was interrogated using discourse analysis. Several themes emerged from the data, including eating disorders and the location of accountability, the sensationalisation of eating disorders, the construction of 'lay expert' and 'expert' discourses in talk about eating disorders, and eating disorders as individual pathology. The implications of these findings are discussed within the general problematic of gender, eating disorders and the media.

Abiding by 'The Rules': Instructing women in relationships

P BOYNTON

Historically, self-help literature aimed at women in relationships advises personal changes to maintain a partnership. Whilst feminist psychology has criticised such texts, there is an additional source of literature which states improvements should be made before a relationship begins. A recent text is 'The Rules' - an American advice manual for women which provides specific instructions on changes to language, behaviour, clothing, and time planning in order to date men. 'The Rules' also encourages women to downplay their own successes and make significant personal changes. This paper will discuss how 'The Rules' may represent a new era in relationship information for women, given its phenomenal success in the US.

'My tender heart and everything about me': Women's accounts of health problems and symptoms prior to coronary angiography

P BOYNTON, S PHILPOTT & H HEMINGWAY

The British Heart Foundation recently announced that 'Britain's No. 1 Ladykiller Isn't A Man' highlighting that CHD (Coronary Heart Disease) is responsible for killing 1 in 4 women. However, women with suspected heart disease are less likely to undergo medical investigations, and their symptoms are more likely to be constructed as 'atypical'. A possible reason for this is that women use different language styles when describing their symptoms to the doctor. This paper will outline accounts from 200 patients from a large cardiothoracic centre in London, who gave written accounts of the symptoms or health problems which led up to their angiogram. Thematic Discourse Analysis revealed accounts relating to physical and emotional symptoms; attributions of illness; and chronological, medical, doctor and story discourses. The majority of accounts from the patients were not dissimilar - suggesting that differences in treatment may be related to doctors' perceptions of their female patients.

Invoking the 'generic woman': Colluding in heterosexism in focus group research

V BRAUN

Heterosexuality is the implicit, seldom addressed norm of most psychological research, and homosexuality is, primarily, represented as a more or less 'acceptable' deviation from this norm. Heterosexism - discrimination on the basis of (non-hetero) sexuality - includes the silencing or obliterating of lesbian women and their experiences through psychology's assumption of a generic (heterosexual) woman. The 'common-sense' status of heterosexist talk makes it difficult to resist or challenge, and while some psychologists do challenge heterosexism, many more collude in it. Using data from focus groups with women about the vagina, I explore ways in which research practices can be heterosexist, even when we attempt to avoid it. Such heterosexism was evident in both 'active' forms (e.g., through talk of 'sex' as if it were always heterosexual) and 'passive' forms (e.g., through my failure, as moderator, to challenge participants')

heterosexist talk). Focus groups thus highlight an important concern around the sometimes-competing demands of collecting data and challenging heterosexism.

Criminal and sexual identities on the streets

B BROOKS-GORDON

International research on prostitution has traditionally focused on women engaged in sex work while the male client has remained a marginal figure. This figure has been constructed as an otherwise harmless, stable character who goes home to his partner and family after buying street sex. Yet the extensive literature on prostitution drawn from sex workers themselves expands on the risk of the physical harm by clients to women selling sex. This paper explores such a discrepancy by presenting an analysis of the previous convictions of men stopped whilst soliciting for commercial street sex and whose criminal records were traced. The results illustrate the patterns of violence and connections to other crimes in these men's lives. Thus, the findings illustrate a link between kerb crawling (an activity previously considered more with regard to its social nuisance and harassment to non-sex working women) and more serious sexual and violent crimes. The discussion explores how these findings redress previous omissions to contribute to policy debates on the physical protection and psychological well-being for sex workers, and to the wider debates on masculine identity, culture and violence.

'The intifada is my son': Constructing political identities through discourses of motherhood

R CAPDEVILA

The role of 'mother' has oft been understood as a traditional one. Thus, unsurprisingly perhaps, discourses of motherhood have been associated with those of the home, family, nurture and care. Accordingly, they have also been seen to locate motherhood within the realm of the 'apolitical'. Based on interviews conducted with women involved in social movements and published texts which focus on women as 'politically active', this paper will question the assumption that understandings and discourses of motherhood are separate and distinct from those of political identity. Hence, it will be argued, it is not incommensurability of discourses, but rather how these are woven through each other, that orders power relations in the construction of 'motherhood' and thus, indirectly, of gender.

The sex appeal and flex appeal of the physically active woman

P CHOI, Keele University.

The pursuit of, and preoccupation with, 'beauty' are central features of the ideology of femininity. This drive for 'beauty' has been taught to us since childhood. The aim of this paper is to examine, from a critical feminist perspective, how this influences women's involvement in sport and physical exercise. To do this it will look at the activities of aerobics and bodybuilding chosen as representative of two opposite ends of a conceptual continuum. This paper will illustrate how aerobics is considered an acceptable physical activity for women to participate in because the aim is to lose fat (reduce the body) and create the body beautiful of slim, toned and sexy. In contrast, the aim of bodybuilding is to build muscles and make the body larger and stronger which is not acceptable because it is not consistent with the ideology of femininity. As a result, the women who participate in both of these activities face dilemmas that are similar in their mandate to conform with pressures from family, friends, governing bodies and wider society to look beautifully feminine. It will be argued that, as a result, women are not empowered by participation in sport and physical exercise. They are, in fact, disempowered, discouraged from participating and prevented from attaining psychological health that comes from pride and pleasure in their physically active bodies.

Feminisms and pornographies: Changing representations, changing perspectives

K CICLITIRA

The wide-ranging effects of new media and technologies include increasing opportunities for sex without physical contact, access to sex educational material, and the creation of multiple meanings of pornography for women. This paper, based on a discourse analysis of interviews, explores how recent changes in the pornography industry, and feminists' responses to pornography, have impacted on individual women. The women's accounts show how they negotiate the heterosexist and masculine discourses of pornography in unexpected ways. Feminist theory and texts are shown to have influenced their views, and impacted on their identities and socially constructed sexualities. Women's accounts serve to illustrate how feminists' writings, like most psychology research, rarely account for the complexities and dilemmas experienced by women who view pornography. Their descriptions illustrate the complex interactions and tensions between the discourses of pornographies and feminisms, and how these influence their sexualities and their perspectives on current and future pornographic/erotic representations.

'Facts trump opinions and falsify theories': Scientific rhetoric in psychological research on lesbian and gay parenting

V CLARKE

In this paper, I outline and examine the rhetoric within psychology and the social sciences surrounding whether or not lesbians and gay men should raise children. Psychologists (on both 'sides' of the controversy) use the rhetoric of 'bad science' in order to establish the superiority of their claims about lesbian and gay parenting over competing professional (and lay) claims. They highlight the bias and political motivation of their opponents, and the methodological and analytic flaws of their research. This analysis raises questions about the future of research on lesbian and gay parenting and also the future of lesbian and gay psychology. Specifically, we need to critically examine lesbian and gay psychologists' assumptions that 'science' and the scientific method are a guarantor of (their) truth, and, following on from this, the privileging of 'science' over and above political commitment to lesbian and gay rights.

How single-mothers cope by bending the law to survive: A poverty trap perspective

K DUGGAN

This qualitative research focused on the experiences of four single-parent mothers and was aimed at developing an understanding as to why female crime is on the increase and where the single-parent is embedded in that framework. The format of a semi-structured interview was utilised to examine their feelings, attitudes and experiences. To analyse the three and a half hours of interview material, the voice-relational method was employed to explore how women experience themselves within broader social contexts. The blame was placed by the women on patriarchal dominant groups who fuel the stigma attached to the single-mother: psychological research, the government, the law and the judiciary.

Lesbian issues are human rights issues: The need for a human rights approach in feminist psychology

S ELLIS

A human rights perspective holds that all people, everywhere, equally possess human rights (whether they want them or not), simply because they are human beings and that these rights should be respected. However, somewhere in the world, every day, lesbians are the victims of violence and injustice, merely for being lesbian,

loving other women, expressing that love in public, and/or fighting for lesbian rights. While on one level these occurrences exemplify lesbian oppression, they are also human rights issues. The purpose of this paper is to highlight the ways in which, for feminist psychologists, the employment of a human rights framework may be a politically useful tool for both addressing women's issues and advancing women's rights.

Music and identity in the lives of British women composers

R EVANS

Musicians often start their education in music at a very early age and it forms an integral part of their identity. Other people significant in their lives influence their sense of identity and enhance or detract from their own positive self image. The belief that one is capable often precedes actual ability, and this survey identifies stages in the composers' lives where they have felt themselves to be musically competent. Positive parenting, teacher/pupil relations, mentoring and role-modelling will all be discussed in the light of their considerable achievements.

The smear campaign: Why (some) lesbians do go for smears

J FISH

Most research into cervical screening has investigated the reasons women give for not attending smear tests (Howson, 1995), however, the majority of women do attend. This study takes lesbians' health as its starting point and explores the factors that prompt their attendance. The paper is based upon a national survey questionnaire of Lesbians and Health Care from 1,066 lesbian participants. Over half (54%) said that they have smear tests on a regular basis. Their reasons for doing so are grouped under the following themes: (1) 'taking responsibility for early prevention', (2) 'own or others' experiences of pre-cancerous changes or cancer, (3) 'using a service for women' and (4) 'sexual activity'. Such explanations portray lesbians as making proactive, and contingent, health care choices.

A sign of the times: Female principles and promiscuous identities

B GOLDBERG

As an undergraduate the author wrote an essay about trans-sexuality based on Jan Morris's (1974) autobiography *Conundrum*. At the time it was less the topic area of trans-gender that intrigued, rather than Moore's (1988) question, 'if its no longer necessary to be a woman to speak as a woman, how do you speak as a feminist?' In the book Jan Morris's quest seemed less about being a woman (as I then understood it) and more about appropriating an abstraction she termed the 'female principle'. This paper explores what the author now identifies as the materialisation of that 'female principle'. She looks back on a decade that has iconised female figures as emblems of a new found emotional sensitivity and catharsis. Within this milieu we find politicians un-embarrassingly and freely appropriating the discourses of feminism, and femininity, with such terms as flexibility, 'caring', inclusion, and diversity, while pursuing political ends. Meanwhile, capitalism, cross-dressed in similar female discourses, 'speaks' as a woman while implementing aggressive, colonial, market practices. As femininity becomes common property, or a commodity, the paper asks, what sign is left for women to occupy.

Women's bodybuilding: Motivations for and experiences of increased muscularity

S GROGAN, S WRIGHT & R EVANS

This project examines the motivations of women to bodybuild and their subsequent lifestyle changes, including dietary change and/or the use of anabolic steroids. Effects of body building on body image and social interactions are investigated to examine the impact of increased muscularity. Sources of social support are

studied, to investigate women's experiences of social interactions with body builders and non-body builders of both genders. The study sheds light on women's motivations and experiences of body-building and steroid use in a context where muscularity for women is generally seen as socially inappropriate. Implications of increased muscularity for women's empowerment and effects of steroids on women's health will be discussed.

I'm not a woman – I'm a health professional: Gender blindness and access to power among surgical teams

C HEALY & P NICOLSON

Health professionals are suffering stress in their working lives - women more so than men. This study comprised 30 in-depth interviews with female clinical staff of all grades working in surgical teams in four hospitals. The interviews focused on perceptions of working in multi-disciplinary teams, gender relations, their evaluation of organisational communications and the competence of their colleagues. Results showed that almost all respondents denied that gender made a difference to their aspirations and experience of work, although the content of the interviews indicated women and men discussed different issues in relation to stress, competence and aspirations.

Is there a future for feminist therapy?

C HEENAN

In the 1980's, feminist critiques of conventional psychotherapies led to the development of more gender-conscious theories and modes of practice. The 1990's brought a deconstruction of the very feminist thinking which informed these critiques and models. As feminists continue to question 'what is woman' and 'what is female', they also query 'what is therapy' and 'is there a future for feminist therapy?' In this paper, the author reviews the past, present and future of feminist therapy, drawing on her experiences carrying out a reflexive research project in which she acted as both a feminist therapist and feminist researcher. Although tensions in the relationship between feminist and therapeutic thinking and practice remain inherent, the exploration of these remains dynamic and productive. Moreover, the turn of the century brings with it the promise of 'narrative', deconstructive therapies which supersede feminist models.

The attitudes and thoughts about pregnancy, childbirth and motherhood of four 'childfree' women: A qualitative approach

K JANES

This study examines four women's views about their own, and other women's, potential or actual, pregnancies and childbirth, and their feelings about motherhood. The data are generated using a semi-structured interview, designed by the author specifically for the study. The analysis is based on the Grounded Theory method proposed by Charmaz (1995). Five main concepts are identified; choice, decisions, restrictions/limitations, identity and curiosity. Sub-categories are also identified to further organise the data. The study originally aimed to focus on women's feelings about other women's pregnancies, but the use of a qualitative methodology revealed other potentially important ideas surrounding this theme. The results provide a framework that can be used to begin to understand the processes involved in considering these issues and may also aid further exploration in this area.

British mixed-race subjectivities

Y KHAN

Britain's mixed race people are an unknown and pathologised population. Recent work challenges ideas of identity problems in young mixed-race

people. However, life-span issues, adults and those of Asian/white origins have been neglected. This paper presents findings from a discourse analytic study of interviews with Asian/white and African-Caribbean/white British adults. It explores how mixed-race subjectivity emerges in relation to Asian, black and white subjectivities in which others have difficulty identifying mixed-race subjects - and often pathologizing them - when using dominant and essentialising discourse around race and identity, the binary of black and white, and the notion of the rational, unitary humanist subject.

The Women's Health Australia project: Can we do large-scale survey work from a feminist standpoint?

C LEE

Women's Health Australia is a large-scale longitudinal survey of psychosocial influences on the health of three cohorts of Australia's women, aged respectively 18-23, 45-50 and 70-75 when the survey began in 1996. With the participation of 42,000 women located across an area the size of Europe, the project necessarily relies on mailed surveys with largely closed-response items. This paper describes the survey and explores conflicts between traditional epidemiological models and feminist research perspectives. I argue that the use of a range of qualitative and quantitative research methods, a collaborative and respectful approach both within the research team and towards research participants, an awareness of diversity and of context, and an explicitly political and feminist research agenda actually enhance the team's ability to succeed by more traditional criteria.

Constructing post-abortion syndrome

E LEE

Through drawing on a discourse of Post-Traumatic Stress Disorder, first developed in relation to Vietnam Veterans, later victims of sexual abuse and now an ever-widening group of 'victims', anti-abortion groups now construct abortion as a trauma, leading to 'post-abortion syndrome'. This paper considers the resulting claim made by anti-abortion groups, first in the US and then in Britain, to be taken seriously as advocates of women's health needs, on the grounds that they recognise the damaging effects abortion has for women's mental health.

Primary mental health resources for low income women of the West Coast/Winelands region of South Africa

L LIEBENBERG & LM KRUGER

Research suggests that rural women of low income are not only vulnerable to mental illness, but do, on a whole, suffer psychologically. In the South African context, this is particularly troublesome. A severe lack of resources, a large degree of inaccessibility, duplication and fragmentation characterise our mental health services. The administration and provision of mental health services in South Africa has been described as 'irrational, wasteful and fragmented' (Kriegler, 1993; Freeman, 1992). Consequently, low income women remain neglected. It is therefore necessary to gain greater perspective on existing services in order to address issues of accessibility, thereby attempting to offer more adequate services to these women. This study is aimed at exploring both the availability and accessibility of primary mental health services available to previously disadvantaged women in the West Coast/Winelands region. These services will be described and analysed in terms of what is available and how accessibility is gained to these services, and possibly which services are lacking. Information from the study will be used to compile a distributable directory listing available facilities and the services that they offer.

Discourses of distress in South African cultures

C LOCHNER & L KRUGER

The primary goal of this cross-cultural investigation was to study how low income women of colour (living on farms in the Western Cape) articulate psychological distress. More specifically, the usefulness of the diagnostic category of depression in this particular context was explored. Data were generated by open-ended interviews with participants (selected by purposive sampling) and implementation of a structured measuring instrument (Beck Depression Inventory). Through qualitative analysis of interviews and questionnaire data, an attempt was made to capture the idioms of distress used in this culture. Comments are also made about whether and how discourses of distress in this culture differ from the ways in which people in middle class Western contexts traditionally articulate distress.

Premenstrual changes: Do they exist?

N MCARA

The study of Premenstrual Syndrome has become a battleground with the lines firmly drawn between mainstream psychologists who regard PMS as an illness which blights women's lives, and feminists who argue that such an approach succeeds only in portraying women as being at the mercy of their hormones. In a recent study of mothers' (n=24) perceptions of their children's behaviour, I found that during the premenstrual cycle, mothers perceived significant differences in their children's behaviour, regardless of whether they suffered from PMS. My dilemma concerns what the next step should be. While I agree that PMS alone does not explain women's behaviour and actions during the premenstrual phase of the menstrual cycle, I find it hard to deny that for some women, premenstrual changes do influence their lives. How then can the experiences of these women be adequately explained without portraying them as being at the mercy of their hormones?

Teenage motherhood and the construction of mothering

C MacLEOD

The mainstream literature on teenage pregnancy highlights teenagers' inadequate mothering abilities as an area of disquiet. The revisionists argue that a confluence of factors (such as socio-economic status and social support) are implicated in teenagers' mothering. Whether arguing that teenagers make good or bad mothers, the literature relies on the 'invention of 'good' mothering'. In this paper I highlight the taken-for-granted assumptions concerning mothering (mothering as an essentialised dyad; mothering as a skill; motherhood as a pathway to adulthood; fathering as an add-on to the deficient mother-child relationship) appearing in the psychologised literature on teenage pregnancy in South Africa. I indicate how these assumptions are implicated in the reproduction of gendered power relations.

'The woman in the body'

J MARSHALL

Assisted conception and genetics pose dilemmas for a feminist standpoint of 'a woman's choice'. This paper will explore choice and regulation of reproduction and the ways in which new 'choices' create both new possibilities and new disappointments. Reproductive technologies produce new desires for creating babies (regardless of fertility and age) and new subjects (fit and unfit mothers). The operation of institutional power and control in 'producing' babies and regulating 'families' serves to create new discourses of blame and responsibility. This project of individualisation and pathologisation is ably assisted by psychological research. Will our daughters' daughters celebrate new possibilities and new choices around fertility and having children?

Becoming women: Transgendered identities, psychosexual therapy and the challenge of metamorphosis

K MAY

As a practising psychosexual therapist, I seek to position myself in this paper as a reflexive practitioner working with clients moving between transgendered identities. The conceptual tensions arising from such processes of metamorphosis seem considerable, not least in their challenges to language and labelling, particularly within the context of a broadly medical model. Gender therefore becomes, superficially at least, an unstable category, whilst perhaps retaining underneath a bedrock of polarities which struggle to fit the shifting images and identities presented. I consider here the impact of these challenges upon notions of identity and sexuality, both my own, those upheld by the professional context in which I am operating and those of transsexual clients.

Towards an Irish feminist liberation psychology

G MOANE

This paper presents the elements of an Irish feminist liberation psychology, that is, a psychology which is grounded in the Irish context, with its colonial as well as patriarchal legacies, which places women at its centre, and which aims to facilitate taking action to bring about change. Interviews and focus group discussions with women involved in the Irish women's liberation movement identified a cycle of liberation involving change at the personal, the interpersonal and the political levels. This cycle is elaborated based on theoretical writings in feminist psychology on aspects of colonialism, and also research on and experiences of the Irish women's liberation movement.

Brains, genes and media hype: Feminist psychology, biological politics and evolutionary psychology

P NICOLSON

The study of gender in mainstream academic psychology has been typically focused on gender differences in cognition and performance, sex-roles, stereotyping and psycho-biological gender differences related to female hormonal cycles, gender and aggression. Both evolutionary and feminist psychologists are at heart concerned to re-assess and breathe new life into psychological research questions and explanations about gender. However, evolutionary psychology currently has the populist edge providing neat, media friendly explanations for the biology of gender inequality. This paper explores the benefits of taking up the challenges posed by evolutionary psychology for future feminist scholarship and research.

'False memories' and the production of 'true' science

L O'DELL

Feminists and other commentators have used science to prove the existence and wrongfulness of child sexual abuse. However, under science, child sexual abuse has also been disproved and dismissed. 'False memory syndrome' is seen by many as a new arena through which women's and children's voices are disbelieved. Using arguments within the site of 'false memory syndrome' the production of scientific knowledge will be examined. My analysis will focus upon the responses published in *The Psychologist* (the monthly journal of the British Psychological Society) to the publication of a report commissioned by the British Psychological Society by Andrews, Morton, Brewin, Davies and Mollon in 1995. The debates centre around the constitution of appropriate scientific inquiry and the legitimacy of evidence/data. In my paper I will show how argument and counter argument are given within a scientific discourse in which the opposition is seen to be offering 'mere pseudo science'. The focus upon proof and scientific

facts can only be counterproductive to adult survivors of child sexual abuse. Most survivors are unable to produce the kind of evidence required for legal proceedings (Saraga & MacLeod, 1997). Furthermore, the materially real consequences and pressures not to tell are still immense within our (British) society. I am particularly concerned about the ways in which the purported 'syndrome' reifies women as passive, without agency; women are seen to need others to make their minds (and their memories) up. If, as Kitzinger questioned (1998), science gives us answers that we (as feminists) do not agree with, what do we do? I will suggest that there is a need to examine the textual production of such 'syndromes'. What are the 'conditions of possibility' which make the syndrome possible? Saraga and MacLeod (1997) pose similar questions: why now and why child sexual abuse?

Cautionary tales: The translation of knowledge of child abuse to elder abuse

L O'DELL & M WORRELL

The theoretical, policy and practice base of child abuse shares a number of commonalities with the newly emergent field of elder abuse. These commonalities include a slow acceptance in recognising and responding to the problems of elder abuse and the ranges of abuse older people may be subjected to. Further commonalities include definitional and conceptual deficiencies; lack of a historical perspective; failure to recognise cultural issues and to adequately theorise about the gendered and political nature of the abuse, and in particular, the ways in which abuse is often focused upon girls and women. Feminist analyses in the field of child abuse have been pivotal in highlighting and addressing many of these problems. We will argue that a similar approach should be adopted in the field of elder abuse, but we will caution against an unproblematic transportation of ideas from child to elder abuse. It is our view that the collapsing of 'elder' and 'children' into a singular socially and politically analogous category, on the basis of the inherent 'dependency' shared by each group, is a strategy to be avoided. Our argument is that such discourses of 'dependency', as they relate to elder abuse, are counterproductive to the extent that they draw upon stereotypical images of older women as infirm and/or disabled which leads to simplified models of elder abuse. Furthermore these discourses of dependency may warrant the deployment of paternalistic practices and policies that infringe upon the rights of older women.

Exposing gendered assumptions in young 'talented' women's construction of self

S O'NEILL, A IVALDI & C FOX

This study focuses on the accounts of four adolescent girls in relation to their experiences as young talented musicians. Two, semi-structured interviews were conducted with each girl, approximately four weeks apart. Social constructionist theory involving discursive analysis was used to examine the gendered assumptions associated with the girls' constructions of self. The findings illustrate the ways in which musical patriarchy and the ideology of femininity is demonstrated in the girls' self-presentation of their experiences. Despite the fact that people involved in the girls' lives reassure them of their talent, their discourses denote a constraining influence on their understanding of their ability and potential.

Black therapists: A lost race?

M PATEL

Cross-cultural therapy literature has focused on the effects of racial differences between client and therapist. The typical scenario examines the relationship between white therapists working with clients from different cultures. Literature concerning issues that might arise for black (including Asian) therapists working cross-culturally is sparse. A qualitative, grounded

theory approach was used to address the lack of literature and to examine accounts of black therapists working cross-culturally. This paper examines various themes identified which point to lost/hidden identities of black therapists, whilst the professional identity of clinical psychology - typically white and middle-class - is sustained. Possible reasons for this are explored.

Monitoring the mainstream: How some psychologists still talk about teenage pregnancy and motherhood

M PAYNE

In this paper I examine the way in which issues of teenage pregnancy and parenthood have been reported in mainstream adolescent psychology journals in recent years. I suggest that serious dangers arise not only from use of an uncritiqued discourse which problematises teen parenthood--a matter which has been regularly addressed by feminist writers--but from shoddy research practice which cannot even be considered good 'normal science'. I argue that we must not simply choose to ignore the existence of such work, and be content to research in ways which we individually consider more meaningful and respectful, but that it is necessary to be heard raising questions of a discipline which continues to permit young women to be researched and written about in such ways.

Violence against lesbians and gay men: Decision making in reporting and not reporting crime

E PEEL, Loughborough University

This paper examines the reasons lesbians and gay men give for reporting or not reporting violence against them to the police. Anti-lesbian and anti-gay violence is a large social problem (e.g. Stonewall, 1994), and such crime is reported at lower rates than in the general population (e.g. Herek, 1989). A questionnaire was devised to explore lesbian and gay men's decision making processes in reporting (n=143). Quantitative analysis (discriminant functions analysis) revealed lesbians and gay men report crime to the police for similar reasons as the general population. Qualitative analysis, however, demonstrated respondents' concern with broader socio-political issues, including heterosexism and homophobia. Results demonstrate the pervasiveness of this social problem, suggesting it is a key issue for feminist psychology.

Violence against lesbians in psychology of women introductory textbooks: Heterosexism, neglect and tokenism

E PEEL, Loughborough University

This paper addresses the question: how is violence against lesbians represented in introductory textbooks? Fourteen introductory psychology and sociology textbooks were examined. The index and contents of these texts were searched using the key terms 'lesbian/s' and 'violence against women'. The findings are, first, the terms 'homophobia' and 'heterosexism' are rarely presented in the books. Second, violence against lesbians is often represented as perpetrated by other lesbians. Third, very few feminist authors describe violence against lesbians as a 'hate crime', or as a result of prejudice and discrimination. Fourth, there is a paucity in the variety of research on violence against lesbians compared to violence against women. In conclusion, feminist psychology, as it is presented in introductory textbooks, would benefit from more research conducted within lesbian and gay psychology in order for the field more adequately to present the issues involved in violence against lesbians.

Pregnancy and working Asian women: A preliminary investigation

U ROU

Several studies have been conducted to find out the relation between working during pregnancy and outcome of pregnancy. However, research

documenting aspects of the British Asian pregnant women experience has paid little attention to women's combinations of work and family experiences, despite employment rates for women during pregnancy which are similar to the rates for other British women. Using in-depth interviews, this study collected and analysed British Asian women's accounts of their problems and supports in combining employment with family life. Important themes that emerged from these interviews were: expectations of extended family members, community pressure, lack of support from in-laws and husband, inability to attend antenatal clinic regularly, lack of understanding of colleagues and managers, lack of flexibility in the working schedule, and cultural and social expectations. The evidence obtained suggests that there is a need to broaden the existing definitions of family which are too narrow as they fail to include wider extended family and community dynamics which impinge on the lives of Asian women. The discussion of nuclear family structures fails to represent multigenerational structures present in ethnic minority families. The women's accounts reveal that the dominant population fails to be culturally aware/sensitive towards ethnic minorities. There is a need to raise cultural awareness, recognise cultural diversities and to be sensitive to ethnic distinctiveness. In conclusion, this exploratory study points to the importance of broadening the study of work and family to incorporate the experiences of British Asian pregnant women who are living at the junction of two cultures. Further research on this topic will be important for practitioners, such as human resource or line managers, to be able to support pregnant working women from diverse backgrounds.

Exploring and theorising attempted suicide among British Asian women

A SAYAL-BENNETT, A COYLE & C TWIGGER-ROSS

Relatively high rates of attempted and actual suicide have been reported among Asian women in Britain. This Slough based qualitative study's aims were to explore Asian women's perceptions of psychological factors associated with their suicide attempts and subsequent recovery, in order to theorise this phenomenon. Six women, who had attempted suicide 3-12 months prior to the start of the research, were interviewed about their experiences and, using a grounded theory approach, salient themes were discerned from their accounts. The relationships between these themes -- abuse, distress, cultural expectations, silencing, coping, self-harm -- and attempted suicide are examined and the clinical and psychosociocultural implications are discussed.

Gender differences in everyday conversation between mixed and single sex social groups

M SHAMS & K CARTER

Gender roles and language interact with each other (Duck, 1993; Ellyson, 1991; Cook et al, 1985). This paper aims to examine three key issues in communication: (1) the use of commands, (2) tag questions, (3) interruptions amongst single and mixed sex groups. A total of 26 students took part in this study. The findings of this study show a tendency, in all-male groups, to engage in a verbal competition to take on a dominant conversor's role, more interruptions and less use of tag questions, in comparison to all-female groups. This pattern persists in mixed-gender groups indicating a male-dominancy in conversation. The implications of this study for interpersonal communication skills are discussed.

Heterosexism: A discursive perspective

S SPEER

This paper provides a discursive critique of the theory and method of researching 'heterosexism'. I argue that previous research has reified 'heterosexism' and presented its characteristics as self evident prior to analysis. Using data from a variety of sources, I examine accounts where sexuality is made relevant (in labelling someone a 'poof' or 'dyke', for example), to see what the

contours of 'heterosexist' statements look like in practice. I explore participants' methods for managing and undermining the 'heterosexist' statements of self and others and argue that 'heterosexist talk' is not a straightforward emptying out of homophobic 'attitudes' by the 'heterosexist' person. Instead, statements are often produced in ways which show a concern for the accountability and identity of the speaker. I conclude with a discussion of the wider implications of this type of research for lesbian and gay hate-crime reduction policies.

Discourse and continuity: Discursive constructions of 'being single' and their salience beyond the interactive context

K STAPLETON

The growing acceptance of the 'discursive' paradigm within feminist (and other areas of) psychology has had a number of implications for traditional notions of identity. From this perspective, identity is linguistically reconstructed from moment to moment, within situated contexts; it is thus truly inherently variable and contingent. In the present paper, I adopt a discursive approach to the processes of (gender) identity construction undertaken by one female respondent (Zoe), with particular emphasis on her variable constructions of 'being single'. However, through the integration of Identity Structure Analysis (ISA; Weinreich, 1980; 1986), I present a crucial critique of the notion that identity is constructed afresh within each interactive episode. I demonstrate that certain of Zoe's discursive constructions hold consistently evaluative connotations outside of the interactive situation, thereby suggesting that they are formulated within the bounds of an overarching (and relatively coherent) framework of meanings. This framework provides the respondent with a sense of personal continuity, which transcends her contingent versions of self.

Positive marginality and social change

R UNGER, Montclair State University, USA

This talk presents evidence for the view that an important precursor of a feminist identity is a sense of one's own marginality plus a redefinition of what that marginality means. Choosing marginality appears to be a highly adaptive strategy for social activists who can 'pass' as members of the dominant majority. For example, women leaders in US psychology are much more likely to be Jewish and/or from working class backgrounds than one would expect by chance. An examination of their autobiographical narratives indicates that many of them actively engaged their marginal identities and redefined them into a source of strength. This talk will also examine the historical and contextual factors that influence overt identification with some form of marginality. These include historical differences in the dangers posed by particular stigmatising labels, familial social activism, and the social power possessed by individual women. Finally, I will argue that positive social marginality promotes an awareness that injustice is rooted in structural processes rather than personal inadequacy.

Giving up the high ground and situating morality: Child abuse and feminist post-structuralist theory

S WARNER

The aim of this paper is to critically interrogate feminist texts on child sexual abuse in order to challenge the normative assumption that women, in theory and practice, are the natural guardians of society's morality. I draw on feminist post-structuralist epistemologies to argue that 'woman' is an ideologically laden term whose social structuring is obscured within feminist narratives which take gender as foundational. An uncritical acceptance of women's de facto right to speak sediments and naturalises women's role as the (caring) mothers of culture and hence reproduces rather than challenges normative templates for gendered action. I argue that it is necessary,

therefore, to interrogate and remain suspicious of grand feminist narratives of gender which rely on and reproduce all encompassing representations of structural inequalities, whilst at the same time fail to fully theorise difference and diversity. This paper, therefore, concludes that the need to disrupt notions of naturalised gender embedded within (some) feminist theorising is still ongoing. However, the challenge for feminism today is to detail those non-foundationalist strategies which neither deny our history nor proclaim a new orthodoxy, but rather enable us to draw on our pasts without essentialising our futures.

Women talking to women: Midwives and their clients

J WEAVER

After an exploratory pilot study to establish appropriate research and interview questions, one-to-one semi-structured interviews were conducted both antenatally and postnatally with 15 primiparous women. Each woman's midwife was also interviewed soon after the birth. A thematic analysis was used to identify ways in which the parturient women and their midwives represented each other. The consequences of these representations for the midwife-client relationship were discussed in terms of idealised images of the intuitive midwife who communicates well with her client.

How do you know you're a woman? Transgender: Determining the indeterminate

S WHITTLE, Manchester Metropolitan University

This paper will consider the question of gender: whether we can know the individual's knowledge behind the cultural and social concepts of gender. Framed in a short history of psychology's involvement with trans people, it will focus on the concerns that arise out of the paradigms that inform radical feminist polemics about trans people. It will consider the contradictions inherent in those assumptions as they relate to the experiences of trans people. Feminist theory seeks an escape from gender prescriptions, but is it only for some? It could be argued that in relation to trans people, feminist theorists have become the overarching prescriptors of acceptable trans lives. I will argue that despite all the academic and political words seeking the deconstruction of gendered boundaries, gendered values (and hence gendered lives) are in fact being reconstructed by feminism. It may well be that this operates in ways that the majority of 'right thinking' people would undoubtedly applaud – but yet (somehow) we still find the theoretical extinction of the trans person's own gendered life. Psychology and its practice provides a space in which trans people are often obligated to explore the complex pedagogies informing their selves, yet invariably as 'the patient', their voice is contained and controlled within and by the assumptions of the discipline. I wish to explore the extent to which feminist psychology can move beyond its own gendered values and seek out the 'other's' gender knowledge, so exploring the complexity of the new stage of gender performativity and experience that trans people are currently expounding through trans-theory.

South Asian/White identities

R YUSUF

My research offers a critical social psychological discourse analysis of mixed-race identities. This work moves away from previously problematised/limited constructions of mixed-race identities. My study of young people of South Asian/white parentage challenges discourse in which we do not visibly or experientially fit, and points to the multiplicity of our racialised identities. For example, talk of overt racism was trivialised as 'name calling', further mitigated and justified. Racism as an essentialised notion of a white on black attack denies our complex experiences of racism. It is hoped feminism can help promote positive debate on these multiple and complex mixed-race identities.

Psychobiology Section

Annual Scientific Meeting, Langdale, The Lake District, 15–17 September 1999.

Daffodils for dementia? Back to the future with phyto-psycho-therapy

EK PERRY, MRC Neurochemical Pathology Unit, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne

The concept that plants provide effective treatments for disease is as old as human records. Amongst new drugs for enhancing cognition in Alzheimer's disease is galanthamine, derived from daffodil bulbs. This promotes the action of the brain transmitter, acetylcholine. European herbals record the use of other plants, such as sage and balm for improving memory. In Eastern cultures, ginkgo biloba and ginseng have a similar reputation. The validity of these phytotherapies is being established in scientific and clinical programmes. Not only do some plant extracts improve cognitive function – but others such as tobacco, also protect the ageing brain against degeneration. New concepts of the role of acetylcholine in the brain extend beyond cognitive to non-cognitive functions. Psychotic features in dementia, such as hallucinations and delusions, are also related to loss of acetylcholine. Chemicals which block acetylcholine occur in plants like mandrake and belladonna, which have long been used ritualistically to induce alterations in consciousness similar to those in dementia. Plants thus continue to provide new leads in treatment and understanding disease mechanisms.

Ethopharmacological evaluation of the effects of pentylentetrazol using the unstable, elevated plus maze model of anxiety

H GWYNNE, Birkbeck College, London

Animal models of anxiety aim to mimic different types of human pathological anxiety before testing drugs which affect the neural regulation of fear. The aim of this study was to examine the effects of a putative anxiogenic drug, pentylentetrazol (PTZ), using a model of anxiety known as the unstable, elevated plus maze (King, 1998). This model induces in rats a state analogous to the hyper-aroused, highly avoidant, flight-oriented state of patients suffering from extreme anxiety states such as panic disorder. Escape-related, anxiety-related, and motor-exploratory behaviours were measured. PTZ elicited a significant increase in anxiety-related behaviours and in motor-exploratory behaviour over time in the highest drug group. The latter profile contradicts previous findings on locomotor suppression induced by PTZ. This result suggests differences in individual coping strategies in the face of threat. A challenge for future research is how to relate pathological anxiety to the ontogenetic origin of anxiety-related behaviours.

Ethanol and psychomotor performance: A validation study of a pen-based test system

E CAMERON & B TIPLADY, AstraZeneca Clinical Research Unit, Edinburgh

Portable pen-based computers (e.g. Apple MessagePad®) have advantages in psychomotor and cognitive assessment, being easy to use, and allowing the automation of paper-and-pencil as well as button-pressing tasks. Forty-eight healthy volunteers (24 male) aged 18–45 took part in a double-blind crossover study comparing ethanol (0.8 g/kg, maximum: 60g (males), 50g (females)) with placebo. Conventional computer versions of Rapid Visual Information Processing (RVIP), Sentence Verification (SVR) and Continuous Attention Task (CAT) and paper versions of Digit-Symbol (DS), maze tasks and Visual Analogue Scales (VAS) were compared with the MessagePad. Old and new versions of the RVIP, SVR, CAT and VAS showed very similar results

for ethanol-placebo difference, sensitivity and reliability, indicating that these tests are valid substitutes for the originals. The Maze and DS tasks showed some differences between paper and computer versions that may relate to the relationship between speed and accuracy in these tasks, but both versions showed good sensitivity to the effects of ethanol.

Cannabis and cognitive function: A study of chronic effects

A ZORBALA, JK FOSTER, Department of Psychology, University of Manchester, G AYRE & K WESNES, CDR Ltd, Reading

This study sought to investigate the long-term effects of cannabis use on human cognitive functioning. Twenty-one chronic cannabis users and twenty-one controls were tested. Only participants with more than two years use of cannabis and with limited use of other illicit drugs were included in the sample of users. The cognitive functions assessed were attention, short-term and working memory and episodic long-term memory. All participants were tested in a non-intoxicated state. Analysis of the data revealed significant statistical group differences on the attention tasks only. Acute effects of cannabis previously reported in the literature (for example, an impairment in short-term memory) were not evident. These findings are potentially important in the context of the ongoing debate about the social, legal and health-related aspects of cannabis use.

Effects of glucose on heart rate and performance of mental arithmetic and memory tasks

D KENNEDY & AB SCHOLEY, Human Cognitive Neuroscience Unit, University of Northumbria

Increasing levels of either oxygen or glucose can enhance aspects of cognition, and both glucose and oxygen levels can fall as a consequence of cognitive demand. Furthermore, lower energy expenditure and falling blood glucose levels during tasks are associated with improved performance. This suggests that cognitive demand may be 'fuel limited' and that physiological efficiency is an important individual determinant of performance.

This placebo controlled, cross-over study investigated the relationship between cognitive performance, blood glucose levels and cognitive demand-driven acceleration of heart rate. Participants performed two serial subtraction tasks and a memory task following consumption of a glucose and a placebo drink. Results showed that whilst the tasks differentially engendered heart rates above somatic requirements irrespective of condition, consumption of glucose was associated with raised heart rates throughout. Glucose consumption also selectively enhanced performance on the most demanding serial subtraction task. Physiological efficiency both in terms of lower resting heart rates and falling glucose levels were associated with enhanced performance on the non-memory tasks alone.

Neuropsychological profile and cortisol secretion in drug-free depressed patients

JM THOMPSON, RJ PORTER, P GALLAGHER, L BARNARD, M SMITH & AH YOUNG, Department of Psychiatry, School of Neurosciences and Psychiatry, University of Newcastle-upon-Tyne

43 drug free (> 6 weeks) patients with DSM-IV major depression were matched with control subjects for age, sex, premorbid IQ and phase of menstrual cycle. Participants completed neuropsychological tests at 2-00pm, and on separate days salivary cortisol was sampled at 0800, 1200, 1600 and 2000 H. Depressed participants were slower on the DSST

(unpaired t-test; $t(72) = 2.50, p = 0.016$), and on Tower of London exhibited slowed initial thinking times (MANOVA group effect; $F(1,57) = 4.54, p = 0.037$) and subsequent thinking times (MANOVA group effect; $F(1,57) = 5.62, p = 0.021$), particularly for more difficult problems. Accuracy was preserved. Depressed participants were also impaired on accuracy and strategy measures of the Spatial Working Memory test but were unimpaired on short-term visual recognition memory and conditional associative learning. Salivary cortisol levels of depressed participants did not differ significantly from controls (MANOVA group effect; $F(3,150) = 0.13, p = 0.945$). The data demonstrate neuropsychological deficits in depression, primarily involving psychomotor slowing and impaired working memory. These cannot be explained by the effects of drugs or of hypercortisolaemia.

Ex chronic MDMA abusers report elevated levels of depression and life stress.

N. MacINNES, SL HANDLEY & GFA HARDING, School of Life and Health Sciences, Aston University

Previous work has indicated that in the short term recreational abuse of 'ecstasy' (MDMA or methylene-dioxy-methamphetamine) associates with increased self-report levels of depression (Peroutka et al. 1988). This study sought to look at the possible long-term effects of ecstasy on depression in ex-chronic users. Participants ($n=29$) were obtained through the snowball technique (Solowij et al. 1992) and as a group had consumed an average of 1.5 ecstasy tablets in the last month, 8.4 in the last 6 months and 23.3 in the last 12 months. The estimated total consumed was 527 tablets thus indicating these were ex-chronic abusers. Respondents were experiencing significantly higher levels of depression ($p<0.05$), as assessed with the Beck Depression Inventory, when compared to matched controls. These levels of depression positively correlated with an external locus of control ($p<0.05$) and, infrequent but severe ($p<0.05$) and frequent but mild ($p<0.005$) measures of life stress.

We are undertaking a multiple regression analysis of the data in an attempt to investigate the relationship between the life stress variables, drug use and levels of depression.

Memory impairment in long-term out-of-hospital cardiac arrest survivors is associated with a global reduction in brain volume, not focal hippocampal injury

RE O'CARROLL, NR GRUBB, K SMITH, KA FOX, J BEST, A BLANE, KP EBMEIER & MF GLABUS, School of Psychology, University of St. Andrews, and Cardiovascular Research, University of Edinburgh

The objective of this study was to determine whether selective hippocampal injury is the anatomical substrate for memory impairment in out-of-hospital cardiac arrest (OHCA) survivors. Seventeen OHCA survivors, and 12 patients with prior myocardial infarction (MI) (without cardiac arrest) were studied. Magnetic Resonance Imaging (MRI) was used to determine brain volumes. Although left amygdala-hippocampal volume was significantly reduced in memory impaired OHCA victims compared with MI controls, left temporal lobe volume and total brain volume were also reduced. There were no significant inter-group differences in amygdala-hippocampal volume indexed against ipsilateral temporal lobe volume. Significant correlations were observed between total brain volume and RBMT ($r = 0.56, p < 0.05$) and DPT ($r = 0.67, p < 0.01$) scores in OHCA survivors as a whole. Memory impairment in OHCA survivors is associated with global cerebral atrophy, not selective hippocampal damage.

Semantic memory functioning and the left temporal lobe: HA revisited.

BP PAPPS, JK BEST & RE O'CARROLL, The Department of Psychology, University of Stirling, The Department of Psychiatry, University of Edinburgh, The School of Psychology, University of St Andrews

We report further investigations of the right handed patient HA, whose left temporal and parietal lobe has been largely replaced with cerebrospinal fluid. Despite this damage acquired in adulthood, she presents with relatively normal neuropsychological functioning including preserved verbal memory. Further analysis of her brain structure reveals a preserved strip of inferior left medial temporal cortex, as a result of this, the focus of the present investigation is to carry out additional studies of HA's semantic memory functioning. Naming, categories, visual attribute, superordinate and subordinate knowledge are assessed, as well as both abstract and concrete comprehension, autobiographical memory and semantic property knowledge. The results indicate that HA demonstrates relatively preserved semantic memory functioning. It is argued that the preserved strip of infero temporal cortex may account for this relative preservation. However, the possibility of crossed aphasia, right hemisphere involvement or peri-lesional support is also discussed.

Memory and attentional ability amongst recreational users of MDMA

J RODGERS Division of Psychology, University of Sunderland,

Memory and attention were examined in three groups: 15 users of 'ecstasy'; 15 users of cannabis who had never taken ecstasy and 15 control subjects, using the Weschler Memory Scale and a computerised reaction time task. Subjects also completed a biographical questionnaire and the Cognitive Failures Questionnaire to assess subjective accounts of cognition. Performance was similar for measures of visual reaction time, auditory reaction time, complex reaction time, visual memory, attention and concentration. Impairment was found on measures of verbal memory and general memory in cannabis users and 'ecstasy' users. An impairment was also found in delayed memory for the 'ecstasy' group only. No differences in subjective ratings of cognitive performance were found between the groups. The present study provides additional evidence for long-term neuropsychological sequelae associated with the use of 'ecstasy'.

Cognitive performance in normotensive and hypertensive older subjects

BK SAXBY, F HARRINGTON, H POPPLETON, IG McKEITH, OFW JAMES, K WESNES* & GA FORD, Institute for the Health of the Elderly, University of Newcastle-upon-Tyne, *Cognitive Drug Research, Reading

We are examining cognitive function in elderly hypertensive and normotensive subjects, recruited from 10 local general practices. Subjects with known cognitive impairment, depression, previous stroke, on blood pressure lowering therapy or benzodiazepines are excluded. A computerised cognitive assessment battery (CDR-Cognitive Drug Research) is administered to subjects on third visit after training. Data from 67 hypertensives (27 female, 75±4 yrs, BP 162±9/89±7 mmHg) and 67 normotensives (29 female, 75±4 yrs, BP 131±10/74±6 mmHg) are reported. Concomitant medication is similar. Hypertensive subjects show significant impairment of cognitive performance in 4 of the 8 domains tested (mean ± SD): simple reaction time 337±66 vs 315±57 ms, $p=.042$; memory scanning 830±172 vs 766±163 ms, $p=.028$; picture recognition 932±145 vs 875±117 ms, $p=.012$; spatial memory accuracy 62.7±34.2 vs 78.5±21.5 %, $p=.002$. As pre-morbid cognitive

function is a risk factor for dementia, hypertension may place older subjects at increased vulnerability for developing dementia.

Basal activity of the HPA axis and cognitive function in Anorexia Nervosa

JA SEED & PM McCUE, Human Cognitive Neuroscience Unit, University of Northumbria, K WESNES, CDR Ltd., Reading, & AH YOUNG, Department of Neuroscience & Psychiatry, University of Newcastle-upon-Tyne

Various studies have shown cortisol secretion to be elevated in patients with Anorexia Nervosa. However, the relationship between cortisol secretion and cognitive function in such patients has not yet been adequately explored. Twenty female patients with a diagnosis of Anorexia Nervosa and 20 individually age-matched control participants completed a tailored version of the Cognitive Drug Research computerised assessment battery. Basal activity of the HPA axis was measured via 24-hour serial saliva sampling in order to provide a profile of cortisol secretion over the circadian cycle. Patients were found to be significantly impaired on tasks of vigilance, attention and the spatial aspect of working memory. Both groups showed the expected diurnal variation in cortisol secretion, but no evidence was found for patient hypersecretion. Findings are discussed with reference to the existing literature on cortisol secretion in Anorexia Nervosa, and studies of cognitive function in the disorder.

Physiological Individual differences in response to oxygen and glucose: effects on cognitive performance

AB SCHOLEY & MC MOSS, Human Cognitive Neuroscience Unit, University of Northumbria

Over the past few years our group has conducted a number of studies into the effects of oxygen and glucose administration on cognitive performance, the general finding being that either intervention improves cognitive performance, particularly when the task involves "effortful" mental processing.

Following a glucose/oxygen load blood oxygen/glucose levels rise then fall (though with very different time scales). Data from a number of studies were re-analysed to assess the degree to which individual cardiac reactivity and physiological responses to either an oxygen or a glucose load are related to cognitive processing. The extent to which blood glucose/oxygen levels rise and fall respectively correlates with cognitive performance in a task-specific manner. While not demonstrating causality, the results are generally (though not wholly) consistent with the notion that physiological efficiency, and the capacity to regulate glucose and oxygen are important physiological individual differences with regard to cognitive processing.

Memory and glucose: a conceptual facilitation effect?

SI SÜNRAM-LEA & JK FOSTER, Department of Psychology, University of Manchester

Previous research conducted in our laboratory has demonstrated that administration of glucose after overnight fasting can facilitate performance on delayed recall measures of memory in healthy young adults (2). This facilitation effect was related to increased peripheral availability and, presumably, increased central utility of glucose. In this paper we attempt to identify the elements of cognition that are most receptive to glucose induced enhancement, and to provide a conceptual framework for delineating the cognitive influence of blood glucose. The memory facilitation effect appears to be quite selective, as in several studies only word recall was significantly affected, but not long-term memory for non-verbal materials, or working memory

span (1,3). Likewise, our own findings have indicated that glucose administration may produce a somewhat selective memory enhancement effect, influencing most clearly recall from long-term verbal declarative memory (2). By contrast, glucose facilitation effects have not been reliably observed in our laboratory using measures of attention and executive functioning, or other measures of memory. We here consider the extent to which different elements of cognition can interact and influence each other when carried out within the same temporal window, and how this may relate to the glucose facilitation effect. Benton, D., Owens, D.S. Blood glucose and human memory. *Psychopharmacology*. 113: 83-88; 1993 Foster, JK, Lidder PG, Sünräm SI (1998) Glucose facilitation of memory performance in normal young participants: fractionation of enhancement effects? *Psychopharmacology* 137: 259-270. Manning, C.A., Parsons, M.W., Gold, P.E. Anterograde and retrograde enhancement of 24-hr memory by glucose in elderly humans. *Behavioural Neural Biology*. 58: 125-130; 1992.

Differential effects of glucose administration and emotional content of words on heart rate and verbal memory

C FORD, AB SCHOLEY, Human Cognitive Neuroscience Unit, University of Northumbria, G AYRE & K WESNES, CDR Ltd., Reading

It is known that glucose administration can improve cognitive performance and that affective material is more easily remembered than neutral material. Processing of emotional material is also associated with autonomic changes including increased heart rate – a response which may serve to deliver glucose to the brain.

This double-blind, placebo-controlled, balanced crossover study examined the effects of glucose administration and emotionality of target material on heart rate and memory using a specially tailored version of the Cognitive Drug Research computerised assessment battery in which the emotional valency of target words was manipulated.

Memory for emotional words was better than for neutral words. In response to emotional words heart rates increased in the placebo condition, but decreased in the glucose condition. There were also task-specific correlations between performance and the rise and fall in blood glucose respectively.

These results suggest that different physiological responses, involving interactions between blood glucose and heart rate, may mediate memory for affective and neutral material.

Nicotine and cognitive performance in smokers and never-smokers: effects of nicotine administration via an inhalator

C REILY, AB SCHOLEY, Human Cognitive Neuroscience Unit, University of Northumbria, & K WESNES, CDR Ltd., Reading

It is known that nicotine administration to tobacco smokers improves aspects of cognitive performance. However it has remained controversial as to whether this effect is due to the reversal of a deprivation state in smokers. Furthermore, other nicotine delivery systems do not share cigarettes' pharmacokinetics. The recent availability of the nicotine inhalator allows delivery of low doses of nicotine having similar absorption properties to smoking.

In the present double-blind, placebo-controlled, randomised crossover study, smokers and never-smokers were administered with nicotine or a placebo via an inhalator. Their performance was assessed on measures of Simple Reaction Time, Rapid Visual Information Processing (RVIPT) and a tapping task. The following day the procedure was repeated in the opposite drug condition. Nicotine improved both speed and accuracy of the RVIPT, irrespective of smoker/never-smoker

status. Nicotine also reduced the number of false alarms on the RVIPT in smokers but not in non-smokers. These results are broadly consistent with the hypothesis that nicotine improves absolute levels of performance.

Effects of actual caffeine content and informed caffeine content on cognitive performance

C CHANDLER, AB SCHOLEY, Human Cognitive Neuroscience Unit, University of Northumbria, & K WESNES, CDR Ltd, Reading

Previous research has identified that, following consumption of decaffeinated coffee, performance on cognitive tasks was predicted by information participants received regarding caffeine's enhancing or impairing effects respectively. The present randomised, placebo-controlled, double blind study examined the interaction between actual caffeine content and informed caffeine content on mood and vigilance. Participants were randomly assigned to one of two conditions where they were informed that they would receive either caffeinated or decaffeinated coffee (but no other information regarding caffeine's psychopharmacological properties); within each of these two groups half were administered with caffeinated and half with decaffeinated coffee. Participants then completed a cognitive test battery.

The results demonstrate a clear dissociation between pharmacological properties and information regarding type of beverage consumed. Furthermore the pharmacological and expectancy effects differed across task measures. These results may have important methodological implications for information given to participants in experiments examining the psychopharmacological properties of "everyday" psychoactive substances.

Glucose metabolism and cognitive performance: Possible sex differences.

V DODDS, N NEAVE & AB SCHOLEY, University of Northumbria.

In a two-factor, repeated measures, double-blind protocol, males and females performed a series of cognitive tasks after having ingested either a glucose-rich drink or a placebo drink. Several hypotheses were investigated. Firstly, that sex differences may exist regarding performance on some of these tasks; secondly, that glucose ingestion would enhance cognitive performance; finally that sex differences in glucose regulation and metabolism may interact with cognitive performance. Results showed that glucose ingestion did not significantly enhance cognitive performance. However, sex differences did exist on some of the tasks, and this appeared to be due to the fact that females regulated glucose more efficiently. This may have meant that females' performance was negatively affected by the lack of available glucose to facilitate cognitive performance. These results indicate that sex and glucoregulatory responses may be important physiological individual differences when considering the effects of glucose administration and cognitive enhancement.

Effects of exposure to 'copulin' pheromones on impression formation

C NEWBY, N NEAVE, AB SCHOLEY & L DREWERY, Human Cognitive Neuroscience Unit, University of Northumbria

Copulins are pheromones secreted in vaginal fluids whose composition changes across menstrual cycle phases. Sub-olfactory threshold exposure to artificial pheromones has been shown to affect males' ratings of female photographs. In this double-blind study, sixty-four males were each (falsely) informed that they were participating in an study into the effects of glucose on impression formation. Participants entered a one of four cubicles containing synthetic pheromones which mimicked either

ovulatory, pre-menstrual or menstrual copulin or a control. They then completed a mood scale and rated a number of written and visual (female) stimuli on dimensions of attractiveness. Unexpectedly, exposure to pre-menstrual copulin increased ratings of attractiveness on a number of measures, in some cases this was accompanied by an effect of ovulatory pheromones. Data collected following debriefing as to which condition participants believed they had been in confirmed that pheromone exposure had been unconscious. Possible methodological issues relating to these findings are considered.

Cognition is impaired in elderly fallers with Carotid Sinus Syndrome (CSS)

SW PARRY, P MCCUE*, GA AYRE**, NR STOUT, KA WESNES** & RA KENNY, Cardiovascular Investigation Unit, Royal Victoria Infirmary, Newcastle, *Human Cognitive Neuroscience Unit, University of Northumbria, **CD Ltd, Reading

Cardiovascular risk factors for cognitive impairment include hypertension, atrial fibrillation, heart failure and systemic hypotension, with postulated mechanisms including thromboembolism, decreased cardiac output and an increase in white matter lesions. Patients with carotid sinus hypersensitivity (CSH) experience recurrent transient hypotension, but there are no published data on cognition in such individuals. Our objective was to compare cognitive function in patients with symptomatic CSH with healthy age-matched controls. Patients were recruited consecutively from our falls and syncope facility to a randomised controlled trial of pacing intervention in CSH and unexplained falls. Cognitive function: assessed via computerised Cognitive Drug Research (CDR) test battery. Patient CDR sub-test results were then compared to those of age-matched healthy subjects, with intra-group comparisons based on CVS comorbidity (2 sample t-tests with groups of equal variance). CSH patients: n=28, mean age 77 years +/- sd 9.2 (range 56-91), mean MMSE 27. Ischaemic heart disease 20%, hypertension 14%. None had history of head injury. Controls: n=22, mean age 74 +/- sd 6.1 (range 69-95), mean MMSE 26. No significant differences in age/MMSE (p>0.05). Patient CDR sub-test results were significantly lower than those of healthy controls in all sub-tests: speed of memory processes p=0.02; quality of episodic secondary memory p=0.003; power of attention p=0.006; quality of working memory p<0.0001. All were independent of IHD and HTN (p>0.05 all sub-tests). In conclusion, despite equivalent MMSE scores, patients with symptomatic CSH show a global decline in cognition, independent of known cardiovascular risk factors. We hypothesise that this decline in cognition is secondary to intermittent, transient systemic hypotensive insults.

Validity and utility of the CDR computerised cognitive assessment system: A review following 15 years of use

T WARD & K WESNES, CDR Ltd, Reading

In the 70s and early 80s the growing realisation that cognitive performance was a major consideration for pharmaceutical development identified a need for more sensitive and sophisticated instruments following disillusionment with traditional paper and pencil measures. The Cognitive Drug Research computerised cognitive testing system was developed to meet this need. This system has now been in use since 1984 in which time it has become the most widely used of any such system in the world. It has been used to date in several hundred national and international clinical trials. Given this length of time and the number of studies now accrued, there is now sufficient data to enable firm conclusions to be drawn regarding the validity and utility of the system. This paper sets out to review these issues. The CDR system has now been used to examine the effects of over 100 novel compounds from all major drug

categories including those which impair function, such as benzodiazepines and classical antipsychotics, through to those which actually improve human cognitive function e.g. anticholinesterases. Sensitivity to drug induced changes have been reported in over 150 published abstracts and papers. An important feature of the CDR system is that it profiles a range of domains of cognitive function, including attention, information processing, sub-loops of working memory, executive function, reasoning, secondary memory and skilled coordination. Over the years factor analyses have been conducted upon various populations tested with the system, including young, middle aged and elderly volunteers and patients with Alzheimer's disease. Data from these analyses will be presented to illustrate the factor structure of the CDR system. In conclusion, after fifteen years of extensive use, it is clear that the CDR system has high utility as a sensitive set of cognitive measures for use in clinical research. Further, the validity of the CDR system for profiling human cognitive function has now been unequivocally established.

The development and validation of a technique for administering cognitive tests over the telephone

G WADDINGTON, T WARD, N ROTHERHAM*, J ENGLER*, C HERMAN* & K WESNES, CDR Ltd, Reading, *ClinPhone Ltd, Nottingham

Computerised tests of cognitive function are now used widely in clinical research. Whilst greatly improved since their advent, there are still limiting factors which can reduce the likelihood of computerised systems being employed in trials with patients. These primarily involve the cost of computers as well as the logistics of moving and storing them. The recent application of Interactive Voice Response (IVR) telephone technology to the pharmaceutical domain has provided one solution to this dilemma. This paper describes the development and validation of telephone versions of core tasks of attention, working and secondary memory from the Cognitive Drug Research (CDR) computerised cognitive assessment system. A large cohort of volunteers (from 6 to 85 years) were assessed on a series of CDR tests administered over the telephone as well as on the same tests administered directly by the computer. The order of assessment of the two forms of administration was counterbalanced across volunteers. Correlation of the data between the two forms of administration indicated that the two ways of assessing cognitive functioning were equivalent. Both forms of administration were sensitive to age-related differences. Further, the telephone tasks were found to be sensitive to the impairment produced by a social dose of alcohol, confirming their sensitivity to pharmacological manipulation. This study heralds a new era for the cognitive testing of patients in clinical trials. A system is now available which can automatically test over 100 patients simultaneously from anywhere in Europe and North America. The patients can be assessed at home, at frequent intervals, without the involvement of study personnel or the completion of any paperwork. Further, the data are verified and processed during testing and automatically stored in a central database. This methodology can be applied to trials of any size and duration. Psychopharmacology now has a methodology for the remote assessment of cognitive function.

The effects in man of non-selective anticholinergics on deoxyglucose metabolism in the brain

WO CARTER, SA WILLIAMS, F HILTON, A FISCHMAN*, NJ HARGADEN**, S JONES** & KA WESNES**, Pfizer, Groton CT 06340, USA, *Massachusetts General Hospital, Boston, MA, USA; **CDR Ltd., Reading

Anticholinergics have been long recognized to negatively affect cognitive function in man and have been used as a model for dementia in healthy subjects. The objective of this study was

to identify specific brain regions that may be affected by different non-selective anticholinergics using 18F-FDG PET. Two groups of 6 subjects each received either double-blind dicyclomine or oxybutynin in a 3-way crossover design. On arrival the volunteers performed a selection of tasks from the Cognitive Drug Research (CDR) computerised assessment system, including Immediate and Delayed Word Recall, Simple Reaction Time, Digit Vigilance, Choice Reaction Time, Rapid Visual Information Processing, Tracking, Numeric Working Memory and Delayed Word and Picture Recognition. Prior to each PET scan, each subject received in a random order either placebo, 20 mg dicyclomine or 40 mg dicyclomine or placebo, 2.5 mg oxybutynin or 5 mg oxybutynin. Subjects were administered 5 mCi 18F-FDG intravenously followed by two consecutive runs through the CDR system, lasting around 60 minutes. Subjects then underwent PET scanning for 30 minutes. All images were co-registered with MRI and transformed to Talairach space. Average uptake values were compared to uptake in the cerebellum. Overall, both anticholinergics were associated with impaired cognitive function and increased deoxyglucose metabolism (range 0-40 per cent), although the regional distribution and dose-response curves were different. There was no tendency for metabolism to decrease.

Effects of flumazenil on physiology, cognition, and mood.

N NEAVE, J THOMPSON & AB SCHOLEY, University of Northumbria, C REID & N GIRDLER, Dental Hospital, University of Newcastle-upon-Tyne, G AYRE & KA WESNES, CDR Ltd, Reading.

In a double-blind, placebo controlled four-way cross-over repeated measures study, 16 healthy volunteers received either 0.5mg, 2.5mg and 5.0mg of flumazenil, or saline control. Cognitive function was assessed using the Cognitive Drug Research (CDR) computerised test battery. Subjective mood state was assessed by the Bond-Lader 'Visual Analogue Scale'. Measures of heart rate, blood oxygen and blood pressure were also taken.

The majority of cognitive tasks showed dose-dependent declines in efficiency, the factors of 'quality of episodic memory' and 'power of attention' showed particular drug-related effects, while 'speed of memory processing' remained unaffected. The mood scale of 'alertness' showed a similar decline. Blood pressure was significantly reduced, as was pulse rate. Hitherto, flumazenil has been marketed as a pure antagonist, with no intrinsic properties, this study has shown that flumazenil does possess intrinsic properties with regards mood, cognition and physiology.

Do different 'types' of smoker demonstrate reliable differences in cognitive performance following 24-hour abstinence from nicotine, and differential responses to nicotine reinstatement?

R. HAYWARD, Psychopharmacology Unit School of Medical Sciences, University of Bristol

120 smokers (mainly staff and students at the University of Bristol, UK) completed a battery of smoking questionnaires examining motivations to smoke and tobacco dependence. Other pertinent data regarding their use of tobacco were collected in the same questionnaire: how long they have smoked, how many per day, which brand, whether they inhale, what time of day they tend to smoke most, etc. An inventory of smoking beliefs was also included. From this panel, 50 smokers participated in the withdrawal experiment. This sample was split into two groups of 25 according to FTQ score, indicating an approximate grouping of addicted and non-addicted smokers. Participants performed three sessions of computer-based cognitive tests: a baseline session (normal nicotine levels), a withdrawal session (after subjects had abstained from smoking for 24 hours), and a reinstated session (after subjects had completed an hour of 'free smoking'). It was hypothesised that the addicted group would demonstrate greater performance decrements through withdrawal, and greater performance decrement reversal after reinstatement. A further 25 non-smokers were also tested. DNA analysis of all participants was undertaken, to examine possible differences in dopamine function and nicotine metabolism between the two groups. All subjects also completed a psychosocial questionnaire battery and Cloninger's (1992) Temperament and Character Inventory – the novelty-seeking item in which has previously been strongly linked with individual differences in dopaminergic system architecture.

The effect of caffeine on semantic memory: a reliable effect?

DP NGUYEN-VAN-TAM, The Health Psychology Research Unit, University of Bristol

96 young adults were assigned to one of four groups formed by the combination of caffeine (4mg/kg) and placebo. After a familiarisation session, testing took place over two days with a baseline condition preceding the test battery on day 1. On each day double blind administration of caffeine or placebo was followed by a test of semantic memory and a test of sustained

attention which acted as a positive control. It was found using ANCOVA that on day 1 and day 2 of testing there were positive effects of caffeine on both tasks. A between-subjects analysis of the sub-group of participants who were in the same condition on both days demonstrated a clearer profile of caffeine effects than cross-over study using the sub-group of participants who changed condition. No state-dependent effects of caffeine were found. In replicating previous work it is suggested that caffeine has a reliable effect on semantic memory and that relatively subtle caffeine effects can be demonstrated clearly in between-subjects designs.

Selective attention and anxiety: A comparison of student and patient populations

T WRIGHT, Department of Experimental Psychology, Faculty of Sciences, University of Bristol

The studies to be discussed aimed to directly compare the cognitive processing of anxiety-relevant stimuli in the clinically anxious, and sub-clinical populations. Processing of lexical stimuli was assessed using a computer task requiring participants to make a timed real word/non-word lexical decision. The stimuli consisted of groups of words relevant to particular anxiety disorders, with neutral control groups matched for length and frequency. The results are discussed in terms of the similarities and differences between student and patient populations, and the implications for cognitive theories of, and treatments for, the major anxiety disorders.

Transpersonal Psychology Section

Section Conference, Cober Hill Conference Centre, Scarborough, 17–19 September 1999.

'Where all ladders start...': Transpersonal paradox in the western initiatory system of the golden dawn

M ANGELO

There is little transpersonal research into the Golden Dawn system of initiations, perhaps in part because this turn-of-the-century attempt at a Renaissance of the perennial philosophy flourished for only a short while before fragmenting in personality clashes. Was the system inherently flawed? – or the practitioners? – or are there perhaps particular cultural problems involved when a Traditional ladder of ascent is worked by a modern Western consciousness 'in-formed' by social Darwinism? Taking a phenomenological approach, this paper explores the imagery of one of the Golden Dawn initiations – that of the element Air – drawing out contrasting qualities of experience. The Masonic and Cabalistic structures are noted, as well as related symbolism from astrological, alchemical and magical traditions. Particular emphasis is given to the world-view or cosmos in which the narrative is understood; for example, whether as spiritual science or as soul-making art. It is suggested that an appropriate psychological location for the extraverted image-work of ritual is Archetypal psychology. Despite its limitations with regard to mystical consciousness, this psychology of anima mundi offers a particularly subtle and differentiating container for the paradoxes of the *via positiva*.

Music and healing: Balancing the self

J BOYCE-TILLMAN

The paper will set out a model of healing as balance with both a personal and a political dimension. Drawing on the literature on creativity, health, therapy, well-being and leisure, it will set up a model of the self as a dynamic entity balancing a number of polarities: individualism/community, containment/freedom, expression/confidentiality, unity/diversity, challenge/nurture, excitement/relaxation, embodiment/transcendence. The model gives the possibility of multiple selves or forms of the self. It will examine how music can be used in a globalizing society by musicians and non-musicians to balance these polarities drawing on the traditions of western classical music, music therapy, shamanic and spirit possession cults and the New Age. It will be illustrated by musical examples on audio and videotape.

Music and healing

J BOYCE-TILLMAN

This will examine a model of the self that is continually rebalancing itself. It will explore this through simple practical activities by which the theory will be illustrated. It will look at each of the polarities – individualism/community, containment/freedom, expression/confidentiality, unity/diversity, challenge/nurture, excitement/relaxation and embodiment/transcendence. The activities will include composing/improvising (including chanting of various kinds), performing and listening in audience and draw on a variety of styles. No musical skill is required but if participants do play instruments it would be helpful if they brought them.

Mystical experience and trance experience

P CONNOLLY

This paper will argue against a commonly held view that whilst Mystical and Trance Experiences might share a number of features in common they are fundamentally different in kind. Instead, a case will be developed to show that the

parallels and overlaps between the two types of experience are substantial and point to a fundamental continuity between the two. Mystical experience, it will be suggested, is actually just one form of trance experience. Both can be induced by the experiencer or another, both can be internally or externally oriented, both can arise spontaneously or be cultivated, and both, when cultivated, often begin with a restriction of attention and a reduction in mental activity which gives way to vivid and deeply meaningful content-full experiences. On the other hand, this might just be a coincidence.

Roland Fischer's cartography of mystical and ecstatic states:

A reappraisal

P CONNOLLY

In a number of influential articles from the 1960's and 70's (subsequently reprinted in various anthologies and quoted in works on mysticism and related subjects) Roland Fischer developed a model of human experience which located states as varied as ecstatic mystical rapture, schizophrenia, 'normal' consciousness, Zen satori, and yogic samadhi on a continuum. The ends are represented by ecstatic mystical rapture and yogic samadhi; the mid point by 'normal' consciousness. Ecstatic mystical rapture and yogic samadhi are thus as far apart as one can get in terms of experiences, and in order to get from one to the other a person has to pass through the state of normal consciousness. This paper will argue that Fischer's model is fundamentally inaccurate and that ecstatic mystical rapture and yogic samadhi are both best understood as trance states which can be easily transformed into each other and that they are more closely related to each other than either is to 'normal' consciousness.

A shining silence – the Ch'an (Chinese Zen) route to peace and freedom

J CROOK

The Chinese Zen (Ch'an) approach to human freedom and inner tranquility is over a thousand years old and has been severely tested in several cultures. Newly arrived in Britain fresh tests are being carried out in the Welsh hills. In this talk the traditional wisdom is presented together with some account of Westerners' difficulties and the need for relatively small cultural adjustments. In addition biased emphases within Western perspectives on Zen need some revision following recent scholarly research; and this is summarised.

The shadow in transpersonal psychology

M DANIELS

I begin by considering the nature and dynamics of the 'Shadow' side of our being. These submerged aspects can cause psychological difficulties if not acknowledged, owned (rather than projected) and integrated into the larger personality. I then consider some of the implications of an understanding of the Shadow for transpersonal psychology. I argue that transpersonal psychology itself has an unacknowledged shadow side. This is indicated, firstly, by the emphasis in this area on transformational experiences of an emotionally positive kind (ecstatic, peak, divine, higher, creative, inspirational, etc.). If taken to extremes this can lead to an unbalanced, puerile and pretentious approach to the transpersonal, similar to that characterised by Michael Marien (1983) as the 'Sandbox Syndrome' and caricatured by Art Levine (1985) as the 'Pollyanna Paradigm'. I define transpersonal experiences (after Walsh & Vaughan 1993) as those in which the sense of self is extended or transformed beyond the purely personal or individual. In practice, I believe that such profound transformation is, in many people (perhaps most), instigated by experiences of an

emotionally negative kind (illness, suffering, depression, tragedy, confrontation with death, loss of faith, etc.). At the present time there is insufficient attention paid in transpersonal psychology to the significance of these experiences. This is despite the lessons from many religious traditions (e.g. Christianity, Buddhism) on the spiritual importance of suffering, and the pioneering psychological work of Grof & Grof (1990) into the 'spiritual emergencies'.

I then consider another related aspect of our current transpersonal shadow, which is the unbalanced emphasis in transpersonal psychology on an ascending, masculine, patriarchal approach to the 'transcendent', which tends to ignore or devalue the descending, feminine approach to transformation through contact with the 'immanent' realms. I argue (after Wilber, 1996) that a balanced approach to the transpersonal needs to acknowledge and integrate both ascending and descending currents. In practice this means that transpersonal psychology must seek to investigate equally both currents.

On the basis of this discussion I present a preliminary inclusive taxonomy of transpersonal experiences and practices that incorporates both (1) positive and negative emotional tone and (2) transcendent and immanent realms. This taxonomy itself raises a number of important and largely ignored questions within transpersonal psychology, including that of the ontological status and psychological significance of the archetypes of good and evil.

Cave – the place of transformation

M DUNN

A visitor from Mars could be forgiven for thinking that human beings worship Rock. There is a rich seam of folklore, myth and association with caves as sacred places of healing and transformation. Could it be that we might derive some principles of change from this material, and then check them against our ordinary experience of personal growth? Using the Great Chain of Being as a framework, this poster display will build a composite of cave-based healing principles linked to some data on everyday experience and then connected to transformational experience of the emergence of the divine.

Self and soul in Eastern and Western psychologies

D FONTANA

The nature of self and whether or not there is a spiritual or soul-based dimension to human life are issues of particular concern to transpersonal psychology. Extreme differences are apparent in Eastern and Western thinking on such issues. In the East models of the self and of the soul or atman have dominated and continue to dominate many of the cultural traditions, while by contrast Western materialist reductionist philosophies take the view that questions relating to self and soul are not even worth the asking. Is there a middle way between these two positions? Transpersonal psychology takes the view that the puzzle of personal identity and of the meaning of individual existence confronts each one of us every moment of our lives. The presentation will address this puzzle from a transpersonal perspective, and attempt to provide some tentative conclusions.

The use of sound and light in Kabbalistic practice

B LANCASTER

The practices employed by Jewish mystics are explored with a specific focus on features of particular relevance for Transpersonal Psychology. In general, two such areas of relevance may be distinguished. Firstly, the practices are predicated on a specific view of the way in which transcendent levels of mind operate within the individual. Knowledge of such material may contribute to our efforts to model the mind in

ways which include and respect the transpersonal. Secondly, understanding the psychological basis of the techniques used to bring about 'higher' states, or a closeness to the divine, may inform the transpersonal quest towards individual development. The techniques themselves display significant parallels with those found in other traditions, although key distinctive elements – notably those involving language mysticism – are included. Such distinctive elements broadly arise in view of the role of the techniques in fundamentally extending and deepening the 'normative' imperative within Judaism of imitating the divine. Thus, many practices drawing on language mysticism arise from the maxim that God employs the 'secret' dynamics of language in creation. By similarly working with these dynamics, the mystic joins with the divine in the work of creation, and furthers the goal of perfecting the world. Notwithstanding such cosmic aims, the work of mystics focuses on their own embodied being, and may be understood in terms of enriching contact with deep states of mind. Three distinct modes of operating, each having evident psychological implications, are explored in the workshop. Firstly, the use of sound – especially as related to the letters of the divine name; secondly, visualisation techniques; and thirdly, the cultivation of 'oppositional', or paradoxical, thinking which relates to the conception of concealed mental processes, as developed in particular by the mystics of the mediaeval period. The relevance of this latter area – involving working with polarities such as light-dark or concealed-revealed – for contemporary views of the nature of conscious vs. unconscious thought is discussed.

Transpersonal aspects of the near-death experience

D LORIMER

Deep near-death experiences lead experiencers into transpersonal realms of the kind described in introverted mystical experiences. They evoke classical mystical images and speak of a unity of the knower and the known. More specifically, NDE's often feature encounters with a being of light, which may lead to a life review. Interpretations of the being of light vary according to cultures and presuppositions, but their qualities of love, peace and joy are universal. The experiencer literally becomes these values, and much of the subsequent transformation seems to stem from the light and its sublime qualities.

Paneurythmy

D LORIMER

Paneurythmy, literally universal harmony of movement, was created by the Bulgarian sage Beinsa Douno (Peter Deunov, 1864-1944). He composed both the music and the movements, which are in themselves embodiments in gesture of the sublime principles of his teaching, namely love, wisdom and truth. The movements are danced in a sacred circle, with musicians in the middle. There are three levels of exchange in the dance: between the dancers, between dancers and the earth, and between the dancer and angelic forces or beings. The movements were developed in the Seven Lakes region of the Rila Mountains, where the purity of the air and colours are truly inspiring. In the workshop I shall explain the principles before involving everyone in the movements themselves.

EEG brain mapping during peak experiences triggered by music

M LOWIS

This paper reports preliminary findings of the final stage of a long-term study into 'peak experiences', as originally described by Maslow and regarded by him as one of the defining features of self-actualisation. The research had previously surveyed the reported incidence of such experiences among staff at a university college, and had identified music as being the most frequently mentioned trigger. During controlled listening trials, an analysis of the characteristics of music that tends to stimulate

peak experiences was attempted. More recently, participants known to exhibit strong emotional reactions to music were played tapes whilst their EEG tracings were being recorded. The findings were converted to brain contour 'maps', and examined for evidence to support the theory that both cerebral hemispheres are involved in processing musical sounds which lead to particularly high affective responses. The implications of using physiological measurements to try to gain insight into transpersonal phenomena are discussed.

The role of spirituality within recovery from alcohol-related problems.

A MORJARIA

The research explores the role of spirituality within recovery from alcohol-related problems. Findings are presented from an earlier small-scale qualitative study carried out, which explored the role of spirituality within the experiences of recovery from alcohol-related problems for South Asian men and White male members of Alcoholics Anonymous. Current work being undertaken explores recovery from alcohol-related problems for South Asian men in greater detail. Specifically the research seeks to explore aspects of the recovery process associated with counselling and those aspects associated with religiousness and spirituality. Semi-structured interviews with South Asian men in recovery, either accessing counselling services and/or recovering through the use of religious/spiritual means are being carried out to explore these two areas that may facilitate the recovery process. Preliminary findings from this stage of the research will also be presented.

Classical yoga and existential-phenomenology: Indian yogic practice through Merleau-Ponty's concept of the lived body

J MORLEY

This paper offers an interpretation of yoga practice of pranayama (breath control) that is influenced by the existential-phenomenology of Merleau-Ponty. My approach to yoga will be less concerned with comparison between Merleau-Ponty's thought and the texts of classical yoga than with the elucidation of the actual experience of breath control through the constructs provided by Merleau-Ponty's philosophy of the lived-body. The discussion of yoga can answer certain pedagogical goals, but it can never finally be severed from doing yoga. Academic discourse that is centered entirely on the theoretical concepts of yoga philosophies must to some extent remain incomplete. Patanjali's Yoga Sutras is itself a manual of practice. It is for this reason that I choose to take as the basis of my study the commentary of the scholar-practitioner T.K.V. Desikachar, rather than a more exclusively theoretical commentary. In so doing, I will approach yoga as an experience or phenomenon and not only in the context of a series of academic debates.

Long-term meditators' experience of psychological development

R PEARMAN

How do practitioners within a particular model of meditation practice conceptualise their sense of change and development over time? What relationship do these conceptions have to western and eastern approaches? As part of a doctoral research project, 30 subjects from 14 different nationalities who had been practising the Sahaj Marg system of meditation (a modern form of Raj Yoga) for between 6 and 27 years were interviewed for a qualitative research project. Initially the focus of exploration was on changes in perception but subjects wished to report more extensively on psychological and existential changes. Following a grounded theory method of analysis, particular aspects of conceived development are clarified from these interviews and will be compared with Wilber's model in this paper.

Phenomenology of the Centaur stage

J ROWAN

The Centaur stage is important because according to Ken Wilber it falls within the Transpersonal realm, and is therefore a type of mysticism. At the same time it seems to be the peak of the Personal realm, and to partake of many features which belong to that realm. Hence it is perhaps best regarded as a watershed or cusp, where we find it hard to rest steady without falling over into one side or the other. It is hardly to be found in most of the Eastern accounts, which tend to lump it with the Mental Ego. However, there are very important differences which make it quite separate and distinct from the Mental Ego. Taking off from the well-known description of the self-actualised person from Maslow, I propose to talk about my own experiences of this stage, dividing it into three sub-stages, as Wilber has in his most recent work. Other accounts of this level will also be quoted.

Wilber's 'spectrum' model and Jung's 'elevationism': Identifying alternative soteriological perspectives

L SCHLAMM

This paper will identify two problematic strands of Wilber's transpersonal theory. Firstly, it will question Wilber's claim that his 'spectrum' model is supported by the materials of all the world's major mystical traditions, arguing that his integral, hierarchical perspective privileges some traditions, while distorting others. Drawing heavily upon Andrew Rawlinson's recent (1997) taxonomic study of mystical traditions which identifies four authentic routes to spiritual emancipation (hot structured, hot unstructured, cool structured, and cool unstructured), it will argue that while Wilber's model (itself cool [the divine ground is the very essence of oneself] and structured) provides a valuable cartography of transegoic structures and states of consciousness, it cannot accommodate the alternative soteriological paths of hot traditions (emphasizing the numinous as other than oneself) and unstructured traditions (affirming that there can be no gradual or progressive spiritual development at all). Secondly, in the light of this discussion, it will argue that it is Wilber's cool structured (transcendence and integration) perspective that informs his judgement that Jung (hot [numinous] structured tradition) is an 'elevationist'. It will demonstrate that Jung's model of the conjunction of opposites ('pre' and 'trans', spirit and instinct, archaic image and archetype) provides an alternative soteriological path for those with very different spiritual needs from those of the spiritual constituency that Wilber represents. Moreover, it will draw attention to a danger arising from Wilber's developmental disjunction of 'pre' and 'trans' structures which Jung (as well as other hot traditions) has been particularly sensitive to: inflation of the ego by transpersonal content (transitory states or experiences), the result of which is typically an intensification of identification with egoic structures.

The extended mind

R SHELDRAKE

We have been brought up to believe that the mind is located inside the head. But there are good reasons for thinking that this view is much too limited. Recent experimental results show that people can influence others at a distance just by looking at them, even if they look from behind and if all sensory clues are eliminated. And people's intentions can be detected by animals from miles away. The mind may be extended not only in space but in time. We may all draw upon a collective memory, similar to the collective unconscious postulated by C.G.Jung. I will discuss empirical evidence for this idea, and show how my hypothesis of morphic fields and morphic resonance could provide an explanation.

A survey of personality correlates of anomalous experiences, perceived ability and belief

CA SIMMONDS & CA ROE

Surveys have typically found that a substantial proportion of the general population declare a belief in the reality of at least some paranormal phenomena, and that these beliefs tend to be grounded in personal anomalous experiences. High levels of belief and experience seem to be associated with certain personality attributes in a manner that is neutral to the debate concerning the objective existence of these phenomena. For example, individuals who experience anomalous phenomena are likely to be more prone to hallucination whilst being subjectively awake, may often experience states of confusion between reality and imagination, and are more likely to attach intense meaning to an experience. In particular, high scorers on measure of schizotypy (who exhibit less extreme, often adaptive manifestations of schizophrenic cognition) and of temporal lobe lability (who exhibit similarities in cognition to temporal lobe epileptics) tend to present as experiencers of anomalous phenomena. It may be that such experiences are explainable in terms of the mislabelling of imaginal experiences as real, or it may be that these individuals are particularly prone to psi-conducive states of consciousness. This paper will report on a computerised survey that was designed to replicate and extend previous findings in terms of how these variables (among others) can account for levels of paranormal belief. In total, 145 participants completed a battery of measures that included the Anomalous Experiences Inventory, the STA scale (schizotypy), Complex Partial Epileptic Signs scale and the Bem sex role inventory. An exploratory path analysis was performed on the data and a model constructed which describes the relationships between variables. The implications of the model, in terms of the mechanism of experiencing anomalous phenomena, will be discussed.

The spectrum of psychopathology: A critical examination of Wilber's model of therapeutic intervention in the context of the Dzogchen tradition

M TREACY

To what extent can advanced transpersonal techniques (such as Buddhist meditation practices) also be effective in transforming 'pre-personal' problems (e.g. emotional blocks linked to unresolved material from early childhood)? This talk will discuss some of the theoretical issues raised by this question, and possible practical implications (e.g. for meditation practitioners). Particular reference will be made to the respective views of Ken Wilber and the Tibetan Buddhist Dzogchen tradition.

The human will: Psychological and transpersonal expressions in the context of psychotherapy

W WAHL

The human will has been explored and emphasised by existential philosophers and psychotherapists (e.g. Friedrich Nietzsche, Rollo May), some psychoanalytic therapists (e.g. Otto Rank) and certain transpersonal practitioners (e.g. Roberto Assagioli). This paper presents a developmental model of the human will that seeks to integrate psychological and transpersonal perspectives. Theoretical issues are considered and applications for the practising psychotherapist are drawn out.

Transcendence: A very human exploration

W WAHL

Many transpersonally orientated writers offer lucid theoretical models and techniques for spiritual attainment. All too often, however, such theorists neglect to appreciate how complex and difficult spiritual progress may be, a situation which can leave the practitioner feeling as though they are a 'spiritual failure'. On the other hand, the existential philosophers/practitioners from Soren Kierkegaard to contemporary writers such as Emmy van Deurzen-Smith have never underestimated how hard it is to be human. This presentation explores the numerous tensions and conflicts which existentialists have shown to be intrinsic to our human condition. These tensions are then put into a transpersonal context in order to help us understand why spiritual progress is such a tough (yet not impossible) project.

Applications of mindfulness and metta meditation

M WALLEY & L BROWN

Interest in the practical usefulness of meditation has steadily grown in recent years, and there have been a range of attempts by researchers to evaluate the effectiveness of such applications. Much of this work has focussed upon mindfulness practice and has been undertaken in a clinical or therapeutic setting. In addition there is an increasing application of meditation to enhance sporting performance and, more recently, to the work setting, along with other areas such as education.

This presentation reviews the main ways in which applications of meditational theory and practice have been understood and researched to date. Consideration is given to how other areas of meditational expertise may be fruitfully applied and researched, with particular emphasis upon the theoretical and applied value of metta (loving-kindness) practice.

Therapists' views of transpersonal communication within psychotherapy

T WHITEHOUSE

Clarkson (1995) argues that client-therapist interactions take place on many levels, ranging from the working relationship to transpersonal communication. Although this 'linking' (Budgell (1995)) is currently beyond our understanding, Rowan (1999), May (1989) believe these types of connection between therapist and client to be commonplace. This study sought to investigate such experiences by gathering together therapists' accounts of transpersonal connection with clients. Interview and questionnaire responses suggest that transpersonal communication does occur during therapy. Although it cannot be forced, it is not unusual and is about healing. It varies from a 'just knowing' to a 'deep and wonderful sense of connectedness', and is typified by the therapist's surrender of self. It leaves therapist and client with an awareness that something special has happened, and frequently helps the client to move on in therapy.

Scottish and Northern Ireland Branch

Annual Conference, The Jarvis Caledonia Hotel, Ayr, 26–28 November 1999.

Mothers, models and muddles

B ALDER, University of Dundee

The transition to parenthood may be a developmental crisis, but being a parent is rated as one of the most important events in people's lives. Being a mother has deep significance in psychology, anthropology, and religion. The effect of parenting on the future development of children has concerned governments and psychologists alike. Post-natal depression is the downside to being a mother but affects less than 15 per cent of new mothers. However, PND has received much attention from researchers and the medical and nursing professions. Maternal behaviour has been studied extensively in animal models, but experimental studies are difficult to do in people. Most research has been carried out by using surveys and interview studies. Qualitative research has offered useful insights. Social cognition models are widely used to predict health behaviour and have been applied to maternal behaviour. Decisions about infant feeding may be based on beliefs about outcomes for the child's health. Muddles in studying the psychology of mothers come from two sources. First, there is a lack of understanding of the interaction between biology and psychology. Pregnancy and childbirth are accompanied by hormonal changes, and these continue into the postnatal period. Sexuality is influenced by physiology and psychology. Secondly, the importance of the individual characteristics of the child in influencing maternal behaviour has been underestimated. Postnatal depression may be related to a perceived difficult infant and feeding decisions may be influenced by interpretations of infants' behaviour.

Implications of environmental perceptions and attitudes for coastal zone management

EC ATKINSON, JAG COOPER, DA EASTWOOD, University of Ulster at Coleraine

To formulate and implement an effective policy for coastal zone management effectively, it is necessary to identify and consider the perceptions people have of the coastal environment. Data was collected from a total of 124 respondents at three different locations on the Donegal coast. A questionnaire eliciting personal information was followed by showing respondents five photographs, one at a time. These depicted a variety of coastal scenes. For each photograph, respondents had to list up to six aspects they liked and six they disliked and their descriptions were later categorised. Analyses showed few relationships between response categories and demographic variables, and despite obvious trends, different individuals often evaluated individual photographs in very different ways. These results suggest that future research should focus more on attitudinal and personality factors, and that the present descriptive categories could form the basis of a more systematic questionnaire.

Unlocking children's smoking: do peers hold the key?

M BARTON, O KENNEDY, B KNOX, J RUGKASA, University of Ulster at Coleraine

Peer influence is consistently acknowledged as a risk factor contributing towards adolescent smoking. Despite its relative importance, the present study found that although children readily identify peer influence/pressure as a 'reason' for other children smoking, they seldom identify it as a 'reason' for self-experimentation. The present paper discusses peer influence as a subtle phenomenon entangled in the context of group processes and social identity. These findings are part of a cross cultural longitudinal study,

exploring the attitudes and perceptions of 11 to 14-year-old children towards smoking and other health issues. The main methodology employed is the focused interview technique. (funding body: EU:DGV).

Communicating environmental issues: a complex systems approach

G BRADLEY & N SHEEHY, Queen's University of Belfast

Since the early seventies, factors influencing the social amplification of risk have been mainly analysed by using cognitive perception techniques from which results are extrapolated to assist communicators in creating educational messages that reduce inappropriate risk perceptions. While successful at defining differences in expert-layperson perceptions and risk assessments of technological hazards, these methods have not explained how amplified risk results in social groups displaying 'not in my back yard' and stigma related behaviours. Further, theoretical communications models often employ feedback systems which are necessary for message evaluation, are rarely found in reality. This paper proposes that the inclusion of feedback processes, subject complexity, personality, cognitive, cultural and sociometric variables requires complex systems model.

Waiting for a millennium. Ways forward in tackling referrals and waiting lists in clinical psychology

C BURKE & R MILLER, Royal Edinburgh Hospital

A project was undertaken to reduce waiting time through improved management of referrals from NW Edinburgh to the Psychological Service. Aims included: introducing a rapid assessment of patients' psychological needs; matching the assessed needs of the patient to identified statutory or voluntary sector mental health resources; providing prompt feedback to the referring GP. Despite a large increase in referrals to the service the protocol proved to be an effective management tool as over 23 per cent of those referred were redirected to alternative appropriate resources. All patients were assessed within two weeks of referral. 39 per cent of patients showed clinical improvement at follow up and both patients and GPs indicated satisfaction with referral recommendations made. The protocol has potential for use across a variety of clinical settings.

The need for a psychological service for children at commencement of being looked after and accommodated by the local authority

S BUTLER, C DEL PRIORE, G DIMIGEN, S EVANS, L FERGUSON, M SWAN, Department of Clinical Psychology/Community Child Health, Yorkhill NHS Trust.

The aim of this study was to look at the prevalence of psychological morbidity amongst children at commencement of being looked after and accommodated by the local authority. The study was targeted at children between the ages of 0 and 18 years, who attended for health assessment within six weeks of commencement of being looked after. About half of the total group of children were found to be experiencing high levels of psychological disorder. The most frequent disorders amongst children were conduct disorder and depression. The high incidence of pathology points to the need for multi-disciplinary discussion and strategic planning.

Sex differences in motivating factors for exercise

P CAMPBELL, Queen's University of Belfast

Motivating factors for physical exercise were recorded by participants (n=1020) in the Northern Ireland Health and Activity Survey (1994). It is hypothesised that men and women exercise for different reasons and thus the data were analysed for sex differences on the constructs of 'personal goal setting' and the 'effectiveness of exercise in achieving these goals'. The most significant difference between the sexes was that significantly more (85 per cent vs 70 per cent) women found the factor 'to look good' as an important personal goal. Whilst this difference is significant we see that a majority of men still rate 'to look good' as an important personal goal. The results also showed some similarities between the sexes.

Perceptions of locations and behavioural intentions in Belfast

IM CORNISH & V YOUNG, University of Ulster at Coleraine

This study extends previous research on locational perceptions in Northern Ireland to relate people's ratings of the social characteristics of locations to their expressed tendencies to visit them. Sixty undergraduate students (30 Catholic, 30 Protestant) rated each of 21 districts within Belfast on eight scales. Four scales represented social characteristics (religious composition, unemployment, violence, and economic well-being) and four spatial behaviours (walking in the afternoon, going to a party in the evening, job opportunities, and residential desirability). Correlations between the social and behavioural scales were much higher for Protestants than for Catholics. The main source of differences was that both groups were more likely to feel safe in areas where their own group predominated. This effect was so strong that it completely overrode the expected influences of other perceived characteristics.

Factor structure of the Environmental Response Inventory

IM CORNISH & M STRINGER, University of Ulster at Coleraine

McKechnie's Environmental Response Inventory (ERI) has been widely used since the early 1970's for describing people's environmental attitudes and perceptions. It consists of 184 items from which are calculated scores on nine subscales. However, the ERI has two main problems: it is too long for easy administration in many situations, and there is little available information on its factor structure. Completed ERI data from 455 adolescents and young adults in Northern Ireland was subjected to factor analysis, from which it appeared that a five-factor structure better fitted the data than the nine published subscales. The test was also found to be psychometrically weak, and the analyses suggested that a short-form would have better properties and be easier to administer.

CIRAS: Collecting and analysing human factors data from the UK railway industry

E COURTNEY, L WRIGHT, JB DAVIES & H REID, University of Strathclyde

This paper describes CIRAS (the Confidential Incident Reporting and Analysis System) which collects and analyses human factors data from railway staff. The aim of the system is to collect information on near misses, incidents and deviations from normal operations which would not be reported through official channels for fear of discipline. Within the CIRAS model human factors root causes of events are divided into three main categories. These are: (a) proximal factors or mistakes that occur at the sharp end; (b) intermediate factors including maintenance,

supervision and communication; and (c) distal factors which includes procedures, management decisions and company culture. To date 1,068 human factors codes have been assigned. Across the database as a whole, 15 per cent of reports state that if the incident had been reported through normal channels discipline would have resulted. This would suggest that new information can be gained via confidential reporting. The model is discussed with reference to the data collected from 368 reports and interviews.

Keen, and not-so-keen, young readers: What do they say about reading?

AP DALY & C McGUINNESS, Queen's University of Belfast

This paper outlines an interview administered to children as a method of further validating the UK-based Book Title Recognition Tests (BTRTs). Two versions of the BTRT were designed to measure levels of reading experience or print exposure and were administered to 314 children (aged 8-11 years). Mean scores were calculated and the highest- and lowest-scoring 10 per cent of each year-group were selected for interview. Keen readers (those with high print exposure scores) reported significantly more positive reading attitudes, habits and preferences than not-so-keen readers (those with low print exposure scores), in particular, the number of books that they said they owned and their ability to name book titles and authors. Thus the interviews add to the validation of the BTRT as a measure of print exposure and illustrate the huge variation in literacy habits and practices between keen and not-so-keen readers.

Do delayed response type tasks in adult humans suggest segregation between different types of visuospatial working memory ?

S DARLING, University of Aberdeen

The investigation of the structure of visuospatial working memory is an area that is currently receiving a substantial amount of interest from cognitive psychologists. One of the more influential approaches attempts to segregate the visuospatial sketchpad into two components, a 'visual' cache and a 'spatial' scribe, the former holding information which is rehearsed by the latter. This is complemented by growing supporting evidence from the domain of neurophysiology, which suggests that it is possible to observe a segregation of spatial and visual short term memory systems in the brain itself. In this paper I will describe an experiment which lends support to the segregation argument.

Pre-school education in the 21st century

H FOOT, C HOWE, B CHEYNE, M TERRAS & C RATTRAY, University of Strathclyde

The Government has already fulfilled its pledge to create a free part-time place in pre-school education for every child in the UK in the year before Primary School. It is now striving to do the same for children in the 3-4yr age band. Delivery of these pledges depends to a considerable degree upon support from the voluntary sector, in particular from parents. This paper reports a study undertaken by the researchers for SOEID on parental attitudes towards and participation in pre-school provision in Scotland. Results are encouraging in that they show more willingness by parents to become involved than is currently taken up, at least in the nursery school sector. The paper addresses the nature of the necessary partnership between providers and parents.

Where does psychology fit in modern society?

P FRANKISH, Rampton Hospital Authority, Retford

This conference is presenting a wide range of

material about psychological knowledge as it affects people in many different settings. Psychology has informed the development of many aspects of our daily lives, most for the better, some we would question. This brief presentation will examine some of the moral and ethical dilemmas facing psychology, some of the exciting initiatives that are open to psychological influence and some of the ways that the BPS is addressing its' role in helping individual psychologists to be more effective and influential.

Person x Organisation x Outcome Fit: Understanding the personality and organisational environment on specific work outcomes

A FURNHAM, University College London

This paper looks first at six different approaches to the study of personality at work. It then focuses on some of the studies on person-job fit particularly from Holland's theoretical perspective. The main part of the paper will concentrate on a series of programmatic studies on the effect of distraction (music, television) on various cognitive tasks (memory, analysis) on personality types (introversion/extraversion). The results of this person x task x situation analysis suggests that attempting to fit the person to the job also needs to take more cognisance of situational and organisational factors that may determine both satisfaction and productivity at work

What is the problem with breastfeeding?

K GARDINER, B KNOX, University of Ulster, Coleraine.

Breastfeeding rates in the UK continue to be low in comparison to other countries and Northern Ireland has the lowest rate of breastfeeding in the UK with only 45 per cent of mothers attempting to breastfeed. This poster reports the results of focus-group discussions held among women attending the ante-natal clinic of the Antrim Area Hospital. The groups were comprised of equal proportions of women intending to breast or bottle feed. The purpose of the discussions was to gather material for the construction of a questionnaire aimed at identifying influences upon feeding decisions and barriers to breastfeeding. Themes arising out of the spontaneous dialogue included: freedom/independence; embarrassment of both self and others; lack of privacy/facilities; work issues; and, support of family and friends. These themes appear conceptually inter-linked by an overriding theme of 'social isolation'. It was the general consensus of the groups that health promotion materials fail to provide 'real-world' images of breastfeeding and put many women off the idea. Discussion implied that societal attitudes have a profound influence upon infant feeding decisions and that to be successful, intervention to promote breastfeeding should be targeted at wider society and not just at pregnant mothers. These findings are currently being tested by quantitative survey.

The psychological effects of short term incarceration on juvenile delinquents

A HART, University of Leicester

This study investigated the effects of short term incarceration on juveniles across three psychological constructs (moral reasoning, self esteem and locus of control). The study also investigated the differences between delinquents and non delinquents, and the effect incarceration had on their relationship to each other. It was hypothesised that significant differences would exist on all three constructs, and that incarceration would have no effect on moral reasoning, but that self esteem and locus of control would be effected. The moral reasoning, self esteem and locus of control of 16 delinquents and 39 non-delinquents was measured using the SRM-SF, a 12-item measure of self esteem and the Internal, Powerful Others and Chance locus of control scale. Paired

samples t-tests were used to test for significant differences over time on each of the constructs, with independent t-tests being used for delinquent/ non-delinquent comparisons. Results showed that there were no significant differences over time. This means that there were no significant changes that could be attributed to the effect of incarceration. The findings also provide further evidence that differences exists between delinquents and non delinquents. The findings also show that there was no significant effect (negative or positive) of short term incarceration on any of the constructs measured.

Need an excuse? Ask a psychologist! Psychology as a functional discipline for alleviating societal and individual blame and guilt

D HEIM & JB DAVIES, University of Strathclyde

The presentation will begin by highlighting briefly developments in psychology, examining the way in which psychological knowledge is generated, yet unlike in other disciplines, often fails to accumulate. The talk will then address the way in which areas of research are selected and how the agenda for such research is set. The paper will move on to examine the impact psychological research has had on society and appraise critically the direction in which it is heading. A social constructivist framework of analysis will be employed to examine, with the aid of examples, how many psychologists have become obsessed with researching socially undesirable behaviour and appear to have taken on the role of explaining such behaviours functionally. Social representations theory as well as attributional research in conjunction with more general issues such as 'power' will be used to explain this.

Promoting the transition to first-time parenthood

M KILLORAN ROSS, Ayrshire & Arran Primary Care NHS Trust

The importance of mental health promotion as an adjunct to treatment and rehabilitation services in mental health is increasingly being identified (SODOH, 1998). In an attempt to promote psychological well-being among first-time parents during the transition to parenthood, a comparative outcome study was designed. Participating couples (n=123), all of whom attended 'Parentcraft Classes', were randomly allocated to one of four Treatment Conditions: (i) Directed Anticipatory Guidance; (ii) Non-Directed Anticipatory Guidance; (iii) Workbook Only; and, (iv) Control. It was predicted that new parents in the Lecture Condition would achieve significantly greater individual/couple adjustment during the transition to parenthood than other participants. In statistical analysis, the research hypothesis was not supported. However, the study raised important issues in the practice of mental health promotion in the current NHS.

Personality and religiosity: A comparison of Eysenckian, Freudian and Big-5 models

CA LEWIS, University of Ulster at Magee

The traditional view within the psychology of religion is that there is no convincing evidence of a relationship between personality and religion. However recent research has reported reasonably consistent findings. First within Eysenck's model of personality low psychoticism scores, rather than extraversion or neuroticism or lie scale scores, are associated with positive religious attitude and frequency of religious practice. Second within Freudian theory that religion is an obsessional neurosis high obsessional personality trait scores, rather than obsessional symptoms scores, are associated with positive religious attitude and greater frequency of religious practice. However, there has been no attempt to examine the association between religiosity and the five-factor model of personality. The present aim was to therefore examine the relationship between personality and

religiosity using measures of Eysenckian, Freudian, and the five-factor model. Personality measures were administered alongside measures of religious attitude and practice among a sample of adult churchgoers and two samples of university students in Northern Ireland. Data was largely consistent with previous findings, with higher obsessiveness scores and lower psychoticism scores being associated with more positive religious attitude and greater frequency of religious practice. In addition, within the five-factor model low openness and high conscientiousness and neuroticism scores, rather than extraversion and agreeableness scores, were associated with positive religious attitude and frequency of religious practice. It is suggested that previous research using different theoretical approaches can be clearly integrated using the five-factor model of personality.

'I am me now and I like me'. A positive identity following the onset of disability – will employment be a necessary criterion in the new millennium?

P LIGHTBODY, University of Glasgow, Mary Gilhooly, University of Paisley
This study aimed to establish the extent to which people with physical disabilities are able to access education and employment. Data were collected using interviews (n=22), a focus group (n=4), and analysis of secondary data. Participants, age 23-67 years, covered a number of disability groups. Analysis revealed that the onset of disability brings many changes including emotional and social effects; participants talked about the problems of accepting that they were disabled. It is suggested that over emphasising the importance of employment rather than addressing the emotional and social ways in which people adapt to, and cope with increasing disability may hamper the development of a positive sense of self.

A millennium without illiteracy?: Breaking the link between poverty and reading failure

T MACKAY, Psychology Consultancy Services/University of Strathclyde
This paper proposes that the established link between socioeconomic disadvantage and reading failure can be broken. First, it outlines the results, at the completion of the first phase, of three long-term studies of literacy among children in a large, socioeconomically disadvantaged population in the UK: (i) a multiple-strategy literacy intervention with over 4000 children aged 4-7 years; (ii) a study of synthetic phonics in 18 primary schools; (iii) a structured remedial scheme to address reading failure at secondary age. Significant gains were achieved by experimental groups in all three studies. Second, on the basis of the above interventions, it develops a statistical model for the eradication of reading failure.

Motivating children's learning

A McCLEAN, North East Psychological Services, Glasgow City Council
The aim of the workshop is to reflect upon, share and refine participants' understanding of motivation, to articulate their intuitive theories of motivation and develop a framework to understand children's motivation. The workshop will consider the main themes from current theories of motivation, in particular Intrinsic Motivation, Attributions and Self-Efficacy, Goals and Goal Orientations and Self Esteem. It will explore practical implications for schools in terms of setting a climate that encourages affiliation, mastery and self esteem providing an authoritative structure that maximises autonomy, offering a motivating curriculum and giving affirmative feedback.

Workplace bullying: the role of the work environment and the impact of bullying behaviours on the work and life attitudes of UK and Irish nurses.

C MCGUCKIN, CA LEWIS & M SHEVLIN, University of Ulster at Magee
Recent changes in the provision of health care within the UK and Ireland has left nurses and nursing managers operating in an increasingly turbulent working environment. Whilst Einarsen and Skogstad (1996) have highlighted the serious impact that such restructuring has on the nursing profession, Nield (1995) highlights that such restructuring does not occur in isolation from workplace bullying. Attempts were made to: (i) ascertain the prevalence of nurse bullying in a sample of nurses drawn from the UK and Irish health care systems; (ii) determine the role of the work environment as a possible antecedent of bullying behaviour; (iii) determine the impact of bullying on nurses' attitudes towards their life and their work. Of 205 respondents (165 female, 38 male), 96 (46.8 per cent) reported being bullied during the previous 6 months, and 113 (55.1 per cent) reported having witnessed a bullying attack during this period. A further 118 (57.6 per cent) indicated that they had been bullied at some stage in their nursing career. LISREL analysis revealed statistically significant ($p < 0.05$) gamma relationships between aspects of the Work Environment (work challenge, social climate, role ambiguity) and three indices of bullying behaviours: (i) have you been bullied in the last 6 months?; (ii) have you been bullied in your nursing career?; (iii) the Leymann Inventory of Psychological Terrorization. Statistically significant ($p < 0.05$) beta relationships between these three indices and respondents attitudes to various work and life concepts (work involvement, intrinsic job motivation, job satisfaction, self-rated anxiety, life satisfaction, and interpersonal trust at work) were also found.

Thinking skills and thinking classrooms

C MCGUINNESS, Queen's University of Belfast
Earlier attempts to teach thinking focused on bolt-on thinking skills programmes and measured students' cognitive achievements. Evaluations of these programmes, and an emerging conceptual analysis of successful teaching methodologies, shows a shift towards the idea of thinking classrooms. In thinking classrooms, high cognitive demand and challenge are embedded in a range of pedagogies which include - making thinking skills explicit within curricular content, focusing on talk and discussion about thinking, collaborative learning, creating dispositions and habits of good thinking; and making best use of technological advances. Characteristics of high quality learning in classrooms are being identified with implications not only for students' thinking but for teacher development and teacher thinking as well. Several of these themes will be illustrated by examples from ACTS (Activating Children's Thinking Skills), a development project on teaching thinking in Northern Ireland schools.

Pilot of attributional measure in pain sufferers

J McPARLAND, University of Stirling
The aim of the present study was to pilot an open-ended, in-depth interview schedule examining the pain attributions of a sample of 12 acute and chronic pain sufferers at both the pain onset and the present time. A content analysis of the results revealed no differences in the attributional trends between these two samples. All subjects made causal attributions for the pain onset, with fewer subjects making responsibility and blame attributions. Most subjects made causal attributions at the present time, with fewer subjects making responsibility and blame attributions. Few reason attributions were made for the pain. These results demonstrate the effectiveness of the interview schedule as an attribution measure.

The effect on mothers, of making a tape recording for their very premature babies in NICU

C McVEY, CA NIVEN, S IBHANESEBHOR & L ALROOMI, Glasgow Caledonian University.

Technological advances, as we have moved towards the millennium, have enabled the survival of very premature babies. Their mothers, who have little control over their situation and are separated from their babies in NICU experience anxiety, guilt, depression and helplessness. The aim of this study was to test an intervention intended to reduce mothers' distress (making a mother's voice to be played to their babies in their absence). Despite the small sample size, analysis using t-tests showed a significant post-versus pre-intervention reduction in mothers' anxiety. All participants expressed pleasure at having made the tape recording.

Beyond 2000: Psychological services in Scottish Healthcare – report of a review

R MILLER, Royal Edinburgh Hospital
Psychological Services in Scottish Healthcare are under review. Questions are being raised about workforce planning, commissioning of training, service delivery, skill mix, equity of access and the contribution of psychology to strategic and operational development as well as therapy. Against a background of changes in the organisation and structure of the NHS in Scotland, there are interesting and exciting opportunities for the profession into the new millennium. The review, published in September 1999, was commissioned by the Scottish Council for Post Graduate Medical and Dental Education jointly with Clinical and Applied Psychologists in Scottish Healthcare. This paper considers its findings, recommendations and implications.

The psychological and physical health of police officers retired recently from the Royal Ulster Constabulary

MC PATERSON, DA POOLE, KJ TREW, N HARKIN, Queen's University of Belfast.

The study aimed to establish the level of psychopathology and ill-health existing in medically and normally retired police officers and to identify factors associated with a good adjustment to retirement from the police service. 108 former police officers who had retired five years previously completed a questionnaire. A subsample completed focused interviews and a battery of psychosocial questionnaires. Psychopathology and ill health were found to be more prevalent in officers who had retired on medical grounds. These respondents also tended to see themselves as disadvantaged relative to those retired normally and contemporaries still serving. Overall, higher ratings of satisfaction with life are related to having good psychological and physical health, being in employment, having income adequate to meet needs, having recall of positive affect at retirement, and not having served previously in the armed forces.

Alcohol outcome expectancies as measures for cue reactivity in social drinkers

D SCHULZE, University of Glasgow
Alcohol outcome expectancies and desires to drink are both representations of the motivation to drink alcohol and have been associated with alcohol consumption decisions and behaviour. Experiments with social drinkers have reported increased desires to drink (as measured by the Desire for Alcohol Questionnaire: DAQ, Clark *et al.*, 1996) after the exposure to the sight, smell and taste of alcohol (Schulze, 1999, Schulze & Jones, 1999). The DAQ scales Mild Intentions and Positive Reinforcement and Negative Reinforcement, which were shown to be cue reactive, represent limited measures of outcome expectancies. The reported experiment aims to investigate whether more extensive measures of

outcome expectancies also indicate cue reactivity. The DAQ and two measures of outcome expectancies (Negative Alcohol Expectancy Questionnaire: NAEQ, Jones & McMahon, 1994 and Alcohol Expectancy Questionnaire: AEQ, Brown, Christiansen & Goldman, 1987) were administered to 44 social drinkers after cue exposure to soft or alcoholic drink cues. Previous results could be replicated: three out of five DAQ scales displayed cue reactivity. Only the Same Day scale on the NAEQ was found to be responsive to alcohol cues. Alcohol cues appear to influence different cognitive representations of alcohol motivation via which they can influence consumption decisions. Speculations about reasons for the discrepancy in detecting cue reactivity on some expectancy scales but not others are related to the issue of concept or questionnaire failure.

Immunising the elderly?

W SLAVIN, Notre Dame Family Centre, Glasgow

Firstly a comparison is made between the health of children in Britain at the beginning of the century and the health of the elderly at the end of it. Childhood was transformed by immunisation. The question arises as to whether the elderly can in any way be immunised against the so-called diseases of aging. Intense study is currently taking place on the efficacy of the immune system in older people. It is known that external factors (e.g. stress) can lessen its efficiency. The psychologist Albert Bandura has proposed a psychological model of self-efficacy which suggests that there is a psychological component to the homeostatic system that preserves human health. The author was granted a 1999 Winston Churchill Travelling Fellowship to the United States and Canada this summer to examine how attitudes to aging might affect the immune system and therefore health in the elderly. Could psychological intervention with the elderly help strengthen the immune function? The fellowship will fund visits to academic centres and to care programmes. The paper will present results from the study as a contribution to the UN International Year of the Elderly.

Carbohydrate (CHO) intake and the cognitive consequences in alcoholics with suspected Alcohol Related Brain Damage (ARBD)

J SMALLWOOD & P JAUHAR, University of Strathclyde/Parkhead Hospital, Glasgow
Thiamine deficiency has been implicated in the cognitive and neurological consequences of long term alcohol consumption, and is also fundamental in the metabolism of Carbohydrate (CHO). A retrospective analysis of 25 patients referred to a Glasgow Hospital with suspected ARBD were examined to investigate whether CHO consumption accelerated the consequences of long term alcohol abuse. The findings suggested that high carbohydrate consumers were more likely to be unemployed, drank significantly less alcohol and showed a trend to developing ARBD at an earlier age. High CHO consumption was correlated significantly with the development of cerebellar atrophy.

Task Unrelated Thought (TUT) and implicational processing

J SMALLWOOD & M OBONSAWIN, University of Strathclyde

Interacting Cognitive Subsystems (ICS; Teasdale & Barnard, 1993) relate the production of TUT to the competition between implicational processing (holistic knowledge, similar to schemata) and current propositional processing (knowing that). A limited resource model suggests that TUT is produced when a general purpose processing system is idle (e.g. Antrobus, 1968). Two studies are described which evaluate this assertion.

Study one compares two fluency tasks, Category Fluency (CATF), and Verbal Fluency (VF). TUT was most frequently reported in VF. This effect was observed despite lower word production in VF, suggesting a more demanding search. Study two replicated this when word production within the tasks was equated. In conclusion the results of these two studies indicate that the production of TUT is best described by an approach similar to the ICS model.

The employment of school-aged children: Evidence from Ireland and the United Kingdom

N STACK, J McKECHNIE & S HOBBS, University of Paisley

Evidence is growing that, until recently, psychologists have unjustifiably overlooked the work undertaken by children of school age. Research in USA and UK suggests that most school children are engaged in paid employment at some time. Data collected in the Republic of Ireland is reported. Results are broadly similar to those previously reported from UK. For psychologists to contribute meaningfully to policy debates, research is needed to clarify the character of children's jobs and the impact they may have on the child's development.

Locational preference in Northern Ireland: a review

M STRINGER & IM STRINGER, University of Ulster at Coleraine

The intergroup conflict in Northern Ireland has provided researchers with a useful opportunity to test theories of group behaviour in a realistic context. Researchers within the Province have tended to focus on either the effects of group categorization on subjects' perceptions of and attitudes toward own and other group members while little attention has been focused on perceptions of the environment. The current paper reviews the literature on locational preference from Stringer and Cornish's (1990) original study highlighting the high levels of intergroup agreement on perceptions of unemployment, violence and denominational composition through studies of the effects of strength of group identity (Cornish *et al.*, 1991, Stringer *et al.*, 1991 to recent work illustrating the dramatic changes in perceptions of the environment that appear to have occurred as a result of the Peace Process (Stringer and Cornish 1999). The need to examine locational perceptions in a more focused way as opposed to studies of the Province as a whole is highlighted (e.g. Cornish and Caldwell 1993 work on Londonderry) and the importance of examining factors such as perceptions of safety in future work is emphasized.

Evaluation of a Parenting Programmes: Issues and outcomes

K TREW, N QUIERY, S CURRAN, H RAFFERTY & N SHEEHY, Queen's University of Belfast

This paper addresses some general issues which have arisen as part of our evaluation of the Early Years Project developed by the Greater Shankill partnership in Belfast. This Project represents an holistic concept of education and development for young children. With its focus on a home-based programme for children and parents linked to a process of community regeneration, the Early Years Project has adopted an ecological approach to its task of enhancing child social and cognitive outcomes. In the paper we concentrate on one strand of the evaluation and focus on the pivotal issue of mothers' social support. The selection of a measure of social support and our initial findings highlight the complex processes involved in an evaluation as it progresses from the identification of general issues to the measurement of specific outcomes.

Pro-social behaviour; bullying; peer interaction, interpersonal competence; children.

D WARDEN, D CHRISTIE, H FITZPATRICK, K REID & B CHEYNE, University of Strathclyde

Using peer nomination methods, samples of 9/10-year-old children, from 14 primary schools, were identified as being either pro-social – helpful or caring children, anti-social – physical or relational bullies, victims of bullying, or neutral – children who were not nominated in any of these three categories. Each child was assessed on measures of moral reasoning, empathy, cognitive and emotional perspective-taking, social problem-solving, and verbal ability. Differences between these four groups of children on the above measures were identified, and changes in their scores, consequent upon a peer interaction intervention programme designed to foster children's interpersonal competence, will be discussed.

Cognitive therapy – what is left when you remove the hype?

J WHITE, Greater Glasgow Primary Care NHS Trust

Cognitive therapy has attained an extraordinary level of acceptance among both clinicians and researchers and continues to expand into new territories. This paper will look critically at the therapy particularly with regard to anxiety and mood disorders. It will look at methodological issues that greatly limit how far research centre findings can be generalised to routine clinical settings – the 'perfect patients treated in perfect circumstances'. It will argue that cognitive therapy, although useful, has been greatly overhyped and that, as a result, we are blinded to sources of empirical evidence that could better help us develop services both in terms of clinical-effectiveness and clinical efficiency. Finally, it will argue that clinicians should take the lead role in these developments.

Pilot study of personalised computer-based psychological treatment for anxiety in primary care: results to 6-month follow-up

J WHITE, Greater Glasgow Primary Care NHS Trust, R JONES & E MCGARRY, University of Glasgow

Given the waiting list problems often encountered in primary care psychology services, there is a need to provide GPs with readily accessible, easily understood and personally relevant treatments for common disorders that do not require extensive contact with a highly qualified therapist. This pilot study developed a three session interactive multi-media touch screen CD-ROM treatment. Patients meeting DSM-IV were recruited from a Health Centre in a socially deprived area in the West of Scotland. A 'one plus two' format was used – one information and self-assessment session followed by two treatment sessions. Six treatment options were available – Controlling your – (1) thoughts, (2) actions, (3) body, (4) panic attacks, (5) sleep problems and (6) future. Results, to six month follow-up, on 26 chronic, highly morbid anxiety disorder patients will be presented.

Mathematical, Statistical & Computing Section

Annual Meeting, Birkbeck College, University of London, 27 November 1999

Letters words and sounds

A ELITHORN & M NORRISH, Children's Hope Foundation)

The experiments we report repeat in vision in man an experiment carried out in touch with rhesus monkeys by the late Professor George Ettliger. The data collected by home computers from subjects of all ages is rough. Much of this 'roughness', however, represents many subjects' inability to settle for a single exponential distribution of effort but rather to oscillate between two competing processes both of which are probably exponential in character. We argue that, from our findings, moderately strong inferences can be drawn from the heads and tails of the distributions and that this procedure highlights 'the uncertain nervous system's difficulty in deciding at any one time whether to read for sound or to read directly for meaning. The statistical techniques used to date are described and suggestions are invited for improving the statistical and inference procedures. In accordance with best practice, we would be happy to make our data available to anyone interested in furthering the technique for separating overlapping distributions. Perhaps more to the point, we can provide a floppy disc to anyone interested in confirming our findings either in their own home or laboratory on an IBM compatible computer.

A basic analysis method for random number generation task

F ITAGAKI, Asia University

This study provides a basic analysis method of expressing the degree of randomness of number sequences generated by a human in a plane or a semi-spherical geometrical space. 225 and 200

number sequences data generated in a random number generation task (GND) and by the RND function of a computer were compared in this way. Each matrix, which consists of successive number pair frequencies, was treated as a vector to estimate position based on the two standard symmetry and asymmetry axes. These two axes had been constructed from an average matrix of human data. A square root transformation was also applied to these matrices. In both analyses, although the plot of RND data always showed a circular pattern, GND data were gathered in some specific areas outside the circle of RND. This appears to be an effective method of analysing the factors of the central executive of working memory by constructing appropriate axes.

Complexities in 'simple' reaction times: The role of voluntary decision criteria

D KORNROT, University of Hertfordshire
Simple reaction times are really rather complex. Since the response is known in advance people can 'anticipate' the signal and achieve very fast responses. There are two common solutions to this problem – random foreperiods and 'catch' trials. These two paradigms might result in rather different response criteria and possibly even different psychological processes. Using techniques based on linear moments it is possible to identify the RT distribution with relatively small numbers of responses (50-80 per person per condition). These new techniques are applied to vocal and key simple reaction time distributions in random and fixed foreperiod conditions in order to investigate the nature of the psychological processes involved.

A simple axiomatization of binary rank-dependent expected utility theory of gains (losses)

AAJ MARLEY, McGill University & RD LUCE, University of California, Irvine

For binary gambles composed only of gains (losses) relative to a status quo, the rank-dependent expected-utility model with a representation that is dense in intervals is shown to be equivalent to ten elementary properties plus event commutativity and a gamble partition assumption. The proof reduces to a (difficult) functional equation that has been solved by Aczel, Maksa, and Pales (submitted).

Single equation models with multiple response and explanatory variables

C TOFALLIS, University of Hertfordshire

A dependent quantity may have to be measured by a combination of variables and then related to multiple explanatory variables. We show how 'best fit' weights can be found for all these variables whilst also ensuring the model satisfies any conditions which arise from theory or common sense (e.g. weights may have to be positive and lie within a certain range). The method is based on the principle of maximising the correlation between the left and right sides of the equation that is being fitted to the data. By using constraints in the optimisation/estimation procedure one can at the same time ensure the model satisfies necessary conditions. All of this can be done straightforwardly on a spreadsheet.

Welsh Branch Student Conference

31st Annual Student Conference, Cardiff University, Tower Building, 5 April 2000

Response inhibition and strategic capability: Executive impairments in patients with schizophrenia.

L ASHWORTH, University of Wales College of Medicine.

Background: There are currently several studies which show evidence of executive dysfunction in patients with schizophrenia. This study looks specifically at how the executive functions of response inhibition and strategy use are altered in patients with schizophrenia and whether impairments are related to specific disease presentations.

Method: Performance on the Hayling Sentence Completion Task was assessed in healthy controls and a sample of patients with DSM-IV schizophrenia. Within patients, dimensional symptoms of psychomotor poverty, disorganisation and reality distortion were rated using SAPS and SANS scales.

Results: There was clear evidence of cognitive slowing, impaired inhibitory function and poor use of strategy in the patient group. We also showed that difficulties in inhibiting habitual responses and strategy use are closely related. There was no significant relationship between impairment and symptom dimensions within patients.

Conclusion: In schizophrenia, poor use of strategy is likely to represent a failure of inhibitory processing, resulting in insufficient time in which to activate a suitable strategy.

The looking glass self with reflections of self and others: An application of Leary, Timbor, Tearny, and Downs' sociometer theory of state self-esteem.

M BOYCOTT, University of Wales Institute Cardiff

Self-esteem has emerged as a cardinal construct in psychology. However, despite many studies, no consensus has been reached about the nature, function, and source of self-esteem. Sociometer Theory (Leary, Timbor, Tearny, & Downs) casts self-esteem in a novel light, and offers a parsimonious way to address questions about the nature of self-esteem. Sociometer theory proposes that the self-esteem system evolved as a monitor of social acceptance, and that the so called self-esteem motive functions not to maintain self-esteem per se, but rather to avoid rejection. The aims of this study were to examine the degree to which the relationship between interpersonal appraisals and self-esteem are linear as sociometer theory suggests, and to examine the relationship between self-esteem and social affiliation. Using an independent measures design, a convenience sample of 120 participants completed two studies via vignette methodology. Study 1 demonstrated a significant relationship between interpersonal appraisals and self-esteem ($p < 0.01$). Study 2 demonstrated a significant relationship between self-esteem and social affiliation ($p < 0.01$). The results provide support for the importance of interpersonal relationships in maintaining self-esteem. The theory has practical implications, as well as providing opportunities for future researchers to augment studies of self-esteem, with increased attention to underlying psychological systems by which people monitor their relationships.

Gender differences in eating disturbance, body image dissatisfaction and reasons for exercise.

M BRUCE, Cardiff University

This study explored gender differences in the relationship between body-image dissatisfaction, reasons for exercise and eating disturbance. 60 male and 60 female undergraduates at Cardiff

University were tested (mean age = 21). They all exercised regularly. The study used three questionnaires; the Body-Esteem Scale, the Eating Attitudes Test and the Reasons for Exercise Inventory. Females were more dissatisfied with their bodies than were males. In addition, gender differences in reasons for exercising were consistent with gender specific cultural pressures to achieve the 'ideal' physique (i.e., fitness and health for males, weight control and body tone for females). The relationship between body-image dissatisfaction and elevated levels of eating disturbance was also confirmed for both sexes. Further, elevated levels of eating disturbance in females was related to exercising for body tone, weight control, mood, and to a lesser extent fitness, whilst exercising for attractiveness, enjoyment and health was not. For males, there was no relationship between level of eating disturbance and reasons for exercise.

Perinatal stressors and their relationship to reading disability development.

L BURROWS, Cardiff University

This study was conducted to examine the relationship between environmental stressors and the development of reading disability in childhood. The study was undertaken due to the inconclusive and contradictory findings of previous research. The study examined the birth history and early post-natal life of 128 reading disabled subjects and 91 controls via parental questionnaire. The questionnaire covered a broad range of topics which could be implicated in the development of reading disability, e.g. viral infection during pregnancy, complicated birth, and aspects of prenatal and early post-natal nutrition. Results were analysed via chi-squared testing initially, followed by logistic regression where appropriate. Two results were found to be significant statistically: complications at birth (especially the umbilical cord around the neck) and breast feeding. Both were found to be positively associated with reading disability development. From this study, it was concluded that 'complicated' births could well be implicated in reading disability development, as has been found in previous studies (Kawi & Pasamanick, 1959). The breast feeding result may merely reflect an ambiguous question and would require further research before firmer conclusions can be drawn.

Teachers interactions and their effects on pupils.

F BURTON, Cardiff University

Observations using the OPTIC scale (Wheldall & Merrett, 1986) were carried out in two classes of primary school children (years 3 and 4, 4 and 5, $n=60$). Differences in on-task behaviour were noted, with children in one class showing consistently higher levels of academically engaged time. The teacher's interactions with the children also showed differences, with the teacher in the class exhibiting lower frequencies of on-task behaviour reacting more negatively to the social behaviours of the children ($X^2=9.46$, $d.f.=3$, $p=0.024$). No significant differences were found between the scores for self-esteem and locus of control for the children in the two classes.

Is an abrupt onset enough to capture attention within the attentional blink?

L CARTY, University of Wales Bangor

This investigation was conducted to find out whether an abrupt onset could capture attention within the attentional blink. The attentional blink is a deficit in reporting items that appear approximately 100 msec – 500 msec after a target in a rapid serial visual presentation (RSVP) stream. To study the effects of an abrupt onset on the attentional blink a multiple RSVP procedure with a spatial component was used.

The participants task during the experiment was to identify two targets (T1 and the probe) which were presented in an RSVP stream. On one third of the trials the abrupt onset occurred as the second target (spatial cue), while on another third of the trials the abrupt onset occurred away from the second target (distracter). The experimenters expected the abrupt onset to capture attention, to aid recognition of the probe on the spatial cue trials, and to hinder recognition of the probe on the distracter trials. When the abrupt onset occurred as the spatial cue, detection rates of the probe were higher than when it was absent, as it is in a normal attentional blink experiment. It appears, therefore, that the abrupt onset captured attention and aided recognition of the probe within the attentional blink. However, when the abrupt onset did not occur as the second target and occurred as a distracter, detection rates did not decrease as was expected. These results will be discussed further.

The modulatory effects of oestrogen on learning, memory, and attentional processes in female rats

F CLARK, University of Wales College of Medicine.

Background: Fluctuations in oestrogen levels can influence learning, memory and attentional processes, particularly via effects on hippocampal and basal forebrain cholinergic neurons.

Method: The present study investigated oestrogenic influences on these processes in female rats. Experiments 1a & 1b examined the effects of estradiol on a water maze latent inhibition (LI) paradigm. Experiment 2 investigated the effects of ovariectomy on a classical conditioning LI paradigm. Experiments 3a and 3b examined the effect of pre-training and post-training estradiol injections on acquisition and retention of a hidden platform water maze task.

Results: These experiments found: (1) the water maze LI paradigm is not as robust as first thought; (2) ovariectomy does not impair LI *per se*; (3) the post-training estradiol treated group performed more consistently than controls, suggesting that the estradiol enhanced retention of this task; and (4) a trend that suggested that pre-training estradiol may impair acquisition of this task.

Conclusions: These results suggest that estradiol supplementation can have both negative and positive effects on learning and memory and that ovariectomy does not impair decremental attentional processing *per se*.

Display posturing in territorial songbirds: An evolved behaviour due to predation risks of physical combat?

M COPLESTON & M DUNN, University of Glamorgan

Territorial songbirds have three aggressive behavioural options to deter and settle territorial disputes. These are song, display postures, and physical combat. The acknowledged costs of fighting behaviour are inflicted injuries and loss of time and energy. An often neglected cost of physical combat is decreased vigilance against risk of predation (Jakobsson 1995). To test vigilance a stuffed specimen and song playback were constructed in robin territories in winter and summer. The robins were tested under display and combat conditions by timing responses to the appearance of a stuffed Sparrowhawk. The theory was supported with significant reaction time differences and significant differences in seasonal response, which may be due to decreased cover for escape.

An investigation into sexual selection and the existence of evolved psychological mechanisms, namely age identification and mate preferences

L DALY, University of Glamorgan

An investigation was undertaken into whether, through sexual selection, mate preferences have evolved differently for men and women. These preferences start with one of the most powerful cues to a woman's reproductive status – her age. Hill (1945) and Buss (1989) have established that men show a preference, cross culturally, for younger women. The present study seeks to establish whether men have an evolved ability to identify a woman's age. Trivers seminal theories (1987) of parental investment and sexual selection will also be considered. Attractiveness is investigated as a male preference when considering the ideal female partner. Furthermore, whether men have a significant preference for chastity when considering a future partner will also be considered.

The laptop computer as an aid for pupils with dyspraxia

C ELLIS, Cardiff University

This study was designed to investigate the perceptions of three individuals within a mainstream comprehensive school following the introduction of a laptop computer as an alternative means of transcription. The individuals concerned all suffer from dyspraxia of varying degrees of severity. This has affected their ability to write with an acceptable level of legibility and speed within a classroom environment. A multiple case study approach using semi-structured interviews was conducted to elicit in-depth information on the experiences and perceptions of the participants in terms of their academic progress and social relations. Following introduction of the laptop the individuals reported increased feelings of accomplishment and satisfaction with their written work. It was also noted that the laptop acted as a physical reminder to teachers of their difficulty and this was perceived as contributing to a positive change in teacher/ pupil relations. The implications and limitations of the study and suggestions for further research in this area will be discussed.

Atypical reading strategy – A precursor for poor spelling ability in adulthood?

CA GIBBONS, University of Glamorgan

This research examines the phenomenon of good reading ability but poor spelling ability in a normal adult population. Some argue that the poor spelling ability demonstrated by such adults is the result of adopting an atypical reading strategy. Others propose that it is a mild form of developmental dyslexia. Thirty-two undergraduates took part in this research. Three tasks were employed; Word Identification, Word Matching, and Identification of Words in Context. The results will be discussed in relation to the claims that good reading with poor spelling is due to an atypical reading strategy or a mild form of developmental dyslexia.

Auditory illusions: Transformation effect

J HODGES, University of Glamorgan.

This study investigates auditory transformation effects, the influences of a Low Frequency Stimulus associated with speech sounds (in particular vowel sounds), and the occurrence of transformations in contrast to a High Frequency Stimulus. The two part investigation required subjects to listen to repeated tokens of music, played on a one second loop. Levels of High and Low Frequencies were employed in both experiments and contrasted in experiment two by a continuous bass tone, so that differences between occurrences of transformations could be measured. The results will be discussed in relation to vowel sounds and low frequency resonance.

Height and young children's aggressive interactions: An observational investigation.

C HUMMER, University of Wales Institute Cardiff

Background: Aggression refers to hostile or destructive behaviour or actions. In a study by Raine et al. (1998) a positive relationship was found between body-height in 3 year olds and aggression at age 11. Other studies (e.g. Farrington, 1989) have shown that aggression in children predicts aggression in adulthood. There appears, however, to be no research directly relating body-height in young children to their immediate aggression.

Aims: This study aims to find a relationship, within age and gender groups, between increased body-height and aggressiveness in the interactions of young children.

Methods: No-participant observations on children between the ages of 2 and 5 were carried out in two nurseries. Aggressive interactions, which were identified in a pilot study, were recorded by code on a prepared data recording sheet. The body-height of each child was measured after the observations had been completed and coded on the British standards of heights for children. The age of each child was also established.

Results: The outcome of correlating the height of the children and their aggression will be established and presented to the conference.

Conclusions: The findings from this study will be compared with Raine *et al.* (1998) and the implications of the outcomes to developmental psychology and educational practice will be considered.

Systematic review of interventions for grief – a meta-analysis

M HURLEY, University of Wales College of Medicine

Objective: To identify and synthesise the findings from all randomised-controlled and controlled trials that have examined the effectiveness of interventions for individuals who have suffered bereavement.

Design: Systematic review of randomised and unrandomised controlled trials of psychosocial and physical treatments.

Setting: Trials available in electronic databases (Medline, EMBASE, PsychLit) and the Cochrane Controlled Trials Register in 1999, and from hand searching journals (Journal of Consulting and Clinical Psychology and Death Studies) to December 1999.

Subjects: Individuals who had suffered the loss of a significant other. 1919 individuals involved with randomised controlled trials, 1662 involved with other, less methodologically sound studies. Outcome measures: Depression, anxiety, PTSD, grief, complicated grief.

Results: 30 studies were identified, fifteen of which were randomised-controlled trials. The standardised mean-change effect size for these studies was calculated as $D+ = 0.4285$ (95 % CI = 0, 0.858).

Conclusion: The studies that have been carried out in this field are few and largely methodologically flawed. Whilst no firm conclusions can be made, there is evidence to suggest that bereavement affects people differentially depending upon their gender, age, and their relationship to the deceased. Considerable uncertainty exists over which interventions the bereaved may benefit from. Further methodologically sound and comprehensively reported studies are required urgently.

Trainee teachers perspectives of bullying between school children: A gender difference?

T JAMIESON, University of Wales Institute Cardiff

An investigation regarding the long term effectiveness of anti-bullying work in primary schools found a decrease in bullying behaviour in all four schools for boys, but in only one for girls (Eslea & Smith, 1998). Considering that girls

report more fear of bullying than boys (Bliesener, 1997), the findings beg further investigation regarding why anti-bullying work may be failing for girls. It has been suggested that the continuation or cessation of children's behaviour may be influenced by the perceptions and attitudes of teachers (Chazan, Laing & Harper, 1987). The present study aims to investigate whether the gender of a bully victim will determine the perspectives of trainee teachers regarding the consequences, coping ability, likelihood that the victim will ask for help, advice allocated, and the extent to which specified behaviours are viewed as bullying. A sample of 100 trainee teachers were recruited from a 3rd year BA Education course, forming two independent groups. A questionnaire consisting of four bully scenarios was devised to consider four bully forms (physical, name calling, social exclusion, sexual bullying). Closed and open questions followed each text. For 50 per cent of the sample, the scenario bully victim was male, and female for the remaining 50. The findings will be discussed and recommendations for practice made.

Type A behaviour patterns and sales performance in a face-to-face and tele-sales environment

A JENKINS, University of Glamorgan

This study investigates the relationship between Type A behaviour pattern and sales performance. It was conducted in two retail environments (telesales and face-to-face) in five agencies. Four hypotheses were formulated. A questionnaire measuring behaviour type pattern was administered to a sample of forty travel consultants. Two-way analysis of variance showed that sales performance was significantly higher in each of the departments for the Type A behaviour group. There was no significant interaction. One implication for management, is that individuals prone to a Type A behaviour pattern may well be identified at the recruitment stage.

Is Seasonal Affective Disorder related to negative attributions?

R JOBE, University of Glamorgan

Background: Aaron Beck's theory of depression states that depressive disorders, regardless of sub-type, are a consequence of negative thought patterns. Marks and Hodges (1993) claimed that negative thinking styles and depressive attributions are significant in maintaining seasonal affective disorders.

Hypothesis: Subjects with seasonal disturbance in mood will have a more negative attributional style than those patients without a seasonal disturbance.

Method: The repeated measures sample of 70 undergraduates was tested in mid October and in mid December. The Seasonal Pattern Assessment Questionnaire (SPAQ) tested levels of seasonality, while the Beck's Depression Inventory (BDI) measured dysfunctional cognitions.

Results: A significant difference between self-reported levels of seasonality, and a significant correlation between the BDI and SPAQ scores were found.

Modifying the Brookover scale to reflect current assessment practices

SA JONES, University of Glamorgan

The use of the Brookover (1967) Self-Concept of Academic Ability scale, although documented as possessing construct validity and reliability, does not appear to reflect the practices within the national curriculum in the year 2000. Children's assessments are no longer measured in marks out of 10, but using various scales such as ABCD levels and raw scores. A modified version of the Brookover scale was designed for this study and incorporated the two core subjects of English and Mathematics. The format was made to appear child friendly with the inclusion of pictures. The sample consisted of 55 children, whose ages were 7, 8, 10 and 11. The scores of

the children on the modified Academic Self-Concept scale were correlated with standardised test scores in English and Mathematics. All correlations were significant at the 0.01 level of significance, reflecting previous correlations of 0.7 by Brookover (1967).

The Internal Voice: Oral musculature suppression and coding in threading of the hearing and the deaf

F MARRIOTT, University of Wales Swansea
The subvocalisation of deaf and hearing participants during tests of 'acoustic sensitivity' and 'homophone association' (with and without oral musculature suppression) was considered. The sample consisted of twelve deaf adults (all British Sign Language users) and twelve hearing reading-ability matched controls who were middle school children. ANOVA for test scores (transformed to ensure homogeneity of variance) revealed no evidence of subvocalisation in either group on either test. There was, however, an effect of level of hearing impairment on re-matching of homophone pairs only. This was present with and without suppression, suggesting that the least impaired deaf readers performed best, possibly as a result of increased orality and access to the English language. There was an effect of suppression in both groups and on both tests, suggesting a general distraction effect, rather than any suppression of subvocalisation. The implications for reading theory and the subvocalisation literature will be discussed.

Perceptions of ageing.

C MARTINS, University of Glamorgan
Self-perception of ageing was investigated in three Portuguese women (70, 80 and 90 years) and one 90 year old Welsh woman. The participants were interviewed using a semi-structured questionnaire to elicit their views on the experience of getting old. Analysis of the transcripts revealed themes which specified dimensions along which the individuals perspectives varied in their unique social constructs. These themes were of happiness and sadness, physical disabilities, cognitive preservation and impairment, being socially active and socially isolated, dependent and independent, and stigmatised or treated with respect. Major psychosocial factors implicit in successful ageing were identified as physical health, social support networks, maintenance of optimum cognitive functioning and emotional well-being. The positive and negative aspects of these factors interact reciprocally, guiding personal adjustment, coping attitudes and adaptive behaviour in a period of life characterised by a diversity of changes, disabilities and diseases. Individuals revealed a diversity of coping strategies and responses to similar life situations, emphasising the great heterogeneity present in ageing. Evidence of successful ageing contradicted the negative stereotypes and stigmatisation that portray old age as burdensome and ageing as a process of decline.

Mothers' experience of stillbirth

HJ MILTON, University of Glamorgan
The experience of stillbirth plunges mothers into a world of uncertainty. They want to know why it happened and frequently adopt causal explanations in order to account for the loss. Ten mothers who experienced stillbirth were interviewed regarding their experiences. Themes that emerged included explanations relating to biological foundations, the attribution of responsibility to the self (the mother) or to the medical carer, loss as punishment as opposed to loss as spiritual, and the medical profession as helpful versus unhelpful. Issues relating to bereavement counselling, completion or continuation, and expectations regarding delivery also emerged. Finally, mothers reported problems relating to views of the child as a real person rather than a pre-person. These were often connected to the coping strategies that were identified.

The Effect of Spatially Streaming Irrelevant Tones on Serial Recall.

S NAIK, Cardiff University
According to the changing-state hypothesis, the greater the degree of variability within a stream of irrelevant sound, the greater the disruption on serial recall tasks. This prediction was tested using the irrelevant sound paradigm. Stimuli consisted of auditorily-presented seven digit lists. Four conditions of irrelevant sound were employed during the rehearsal phase. The 'streaming' condition had three steady-state streams: a 131Hz tone presented to the left ear, a 208Hz tone to the right ear and a 165Hz tone to the central locus. In the 'changing' condition one stream was presented to the central locus. This stream contained tones of the same frequencies that were used in the 'streaming' condition. In the 'repeated' condition a 165Hz tone was presented repeatedly to the central locus. The fourth condition was a quiet control. Recall performance was statistically equivalent for the streaming and the repeated conditions. Recall was poorer in both of these conditions than in the changing condition, although for streaming the difference only approached significance. The results will be interpreted in light of an object-based working memory model.

Pongs and Perfumes: Personality, Pensiveness and Perception.

F REDMAN, University of Wales College of Medicine
Healthy volunteers completed Cloninger's Temperament and Character Inventory (TCI). In two separate 20 minute sessions they were exposed to a positively (lavender) and a negatively (butyric acid) valenced odour. During ambient exposure, participants rated the intensity and pleasantness of the odours at 0, 7, 14 and 20 minutes, while completing word search puzzles. Participants who scored high on novelty seeking as measured by the TCI perceived butyric acid to be less pleasant than participants who were low on this dimension. This effect was independent of perceived reductions in absolute intensity. This finding is consistent with Cloninger's account of novelty seeking as a personality feature. Participants who scored high on harm avoidance perceived reductions in the intensity of lavender. This was not the case for low 'harm avoiders'. This second finding is hard to reconcile with Cloninger's account. Participants found fewer words in the presence of butyric acid, and adaptation to the odours was independent of the general cognitive effects of positive and negative stimuli. Potential clinical applications for the TCI in malodorous contexts will be discussed.

Physical properties of an abrupt onset do not have an effect on the duration of the attentional blink

A SFIRI, University of Wales Bangor
In a rapid serial visual presentation (RSVP) task we asked participants to identify a pre-specified letter (target) which was 5 per cent larger than all other letters presented. It was found that the colour (green or red) of an abrupt onset letter which appeared first in the stimulus presentation did not have an effect on the subsequent identification of the target, as opposed to a grey abrupt onset which had the same colour as all other stimuli presented and therefore did not exhibit any attentional contrast. The data suggest that the level to which processing in stimulus-driven attentional capture proceeds is not determined by the salience of the stimulus. On the contrary, attentional capture by an abrupt onset seems to be a ballistic process that is unaffected by physical properties of the stimulus, and which constrains the availability of attention for identification of a subsequent target, thereby showing an attentional deficit similar to the Attentional Blink effect (Raymond and Shapiro, 1992).

Examining the relationship between self-esteem and prosocial behaviour

K STEER, Cardiff University
This study set out to explore the relationship between self-esteem and prosocial behaviour in primary school children. 28 children in a year 3 class of a Cardiff primary school completed a questionnaire which assessed their level of self-esteem and locus of control (the B/G Steem scale: Maines & Robinson, 1993). The class teacher also completed a questionnaire about each child, regarding their social behaviour in class (A.S.B.I. scale: Hogan *et al.*, 1992). Observations were also undertaken to supplement the questionnaire data. The researcher used the techniques detailed in studies into effective classroom research: event sampling and recording observed prosocial behaviour. With a small sample the results of the study are lacking in ecological validity and generalisability. With regard to self-esteem and prosocial behaviour, no significant relationship was found between the two. A relationship was found between levels of locus of control and displayed prosocial behaviour, suggesting that 'internal' children are more prosocial. No significant differences were found between the prosocial behaviour of boys and girls in the classroom.

Television viewing and perceptions of social reality

J THOMAS, University of Wales Institute Cardiff
Content analysis has shown that the version of reality portrayed on television is often very different to the version experienced by the viewer, both in the United States (Gerbner & Gross, 1976; Estep & MacDonald, 1985; National Television Violence Study Council 1996) and in the United Kingdom (Millwood, 1992; Gunter & Harrison, 1998). Numerous American studies have established that heavy viewers of television display a distorted view of social reality that is more in line with the television world than the 'real' world (Gerbner & Gross, 1976; Gross & Morgan, 1985; Potter, 1991). This study investigated whether heavy viewers of British television will also display distorted views of social reality, and that these distortions will be representative of the themes and trends of British television.

Users' mental models of the Internet and search techniques on the Worldwide Web.

E TURPIN, Cardiff University
As the Internet grows and develops its usability is becoming a key issue. The number of pages on the World Wide Web and those that are added to it each day provide a wealth of information for users to access, yet it is questionable whether this information is found easily or efficiently. This study elicited twenty-four participants' mental models of the Internet by means of an interview after four searching tasks had been completed. Differences were found in users' representations of the structure of the Internet and in the analogies they evoked in order to aid their descriptions. Differences were also found in the type of keywords that were used and the ability to generate new keyword searches or use further links. While detailed understanding of the Internet was not needed to search the Web, a detailed model about search engines increased searching efficiency.

Does class inclusion performance predict mathematical ability?

B WILLIAMS, University of Wales Institute Cardiff
Background: Piaget (1952) claimed that understanding class inclusion is an essential prerequisite for understanding addition and subtraction. According to Piaget, children cannot really understand these mathematical operations until they can solve the class inclusion problem, which occurs around 7 years of age. Hughes (1986), by contrast, argued that children actually

start school with considerable abilities in these areas. These abilities are most likely to be elicited by clear concrete problems. This may explain why children have great difficulties when they first encounter the formal, abstract code of mathematics.

Aims: Three questions were addressed in this study:

Does performance on the class inclusion task predict mathematical abilities?

Can children successfully do addition and subtraction without being able to solve the class inclusion problem?

Are concrete problems easier for children to understand and solve than abstract tasks?

Method: 13 7-year-old children were given two versions of a class inclusion task: the traditional Piagetian design (the abstract version), and a task similar to that used in McGarrigle's (1978) 'teddy's steps' study (the concrete version). The children were also given two sets of five sums: one set was presented in a formal, mathematical style (abstract version), while the other involved the use of a number line (concrete version).

Results: The main finding was that class inclusion performance did not predict performance on the mathematical tasks, contradicting Piaget's proposal. The results also showed that performance levels were much higher on the concrete version of the class inclusion task than on the abstract task, although this difference was not found between performance levels on the concrete and abstract sums.

Self-concept and parental education

K WILLIS, Cardiff University

The investigation aimed to test whether the relationship between self-concept and level of parental education that has been observed in America also holds in South Wales. It was

predicted that the self-concept of university students whose parents (particularly the primary caregiver) attended higher education would be higher than students whose parents had limited education. There were 121 participants (86 females and 35 males, all first year undergraduates at Cardiff University). Participants provided information about the highest level of education completed by both parents and completed a self-profile questionnaire based on Harter's (1985) Self-Perception Profile for Adolescents. It was found that the higher the level of education of the mother the less positive the self-concept of female students in the social domain and the male students in the physical appearance domain. The level of education of the father was not related to self-concept. The results provide only partial support for the American findings.

Is an Abrupt Onset enough to capture attention within the attentional blink?

C WOODS, University of Wales Bangor

When two items, surrounded by distractors, are presented within 100-450ms of each other, an identification deficit of the second will occur as a result of the phenomenon known as the attentional blink (Raymond, Shapiro & Arnell, 1992). Results from this experiment show, however, that if the second target is an abrupt onset (AO), the chances of correct detection are increased. The existence of an attentional cost factor between responses when the AO was the target, compared to when it was a distractor item were also found. These findings suggest that, in spite of AO presence failing to produce a significant detection enhancement, when present as the target the AO is capable of noticeably reducing the attentional blink effect.

Emotion within first person accounts of autism

A ZAHL, University of Wales Bangor

Autism is a pervasive developmental disorder that affects the whole lifestyle. It is characterised by severe socialisation problems, and a lack of both the recognition of emotional behaviour in others and the practice of emotional behaviours by the person with autism. Many people with autism have posted sites on the Internet detailing their lives and experiences with autism, and these were analysed with the aim of discovering patterns and themes of emotional experience within the subjective world of a person with autism. Grounded theory was used to analyse the contents of five web page accounts that were posted by people with high-functioning autism. Eight categories were discovered. A theory emerged whereby the major common feeling for autistics is one of alienation and the sense of being in a different reality to the majority of people who do not have autism.

The 2000 Annual Conference

The British Psychological Society Annual Conference, Winchester Guildhall, 13–16 April 2000

How bad will I feel if I don't? Anticipated regret, the theory of planned behaviour and exercise behaviour

C ABRAHAM, University of Sussex, P SHEERAN, University of Sheffield

Objective: Research by Richard, van der Pligt and de Vries has suggested that measures of anticipated regret enhance the capacity of the Theory of Planned Behaviour to predict intentions and behaviour. Previous work has, however, focused on behaviours in which one missed opportunity can have important implications (e.g. condom use) and has not clarified whether the effects of anticipated regret are independent of those of past behaviour. The present study considered whether these effects remain evident when the effects of past behaviour are controlled in relation to a qualitatively different kind of behaviour (exercising).

Method: An experimental manipulation ($n=70$) tested the effect of focusing upon regret on strength of intention to exercise. In addition, the predictive utility of anticipated regret was assessed by means of a longitudinal survey employing standard multi-item measures to predict reported exercise two-weeks later ($n=254$).

Results: The experimental manipulation demonstrated that focusing on regret strengthened exercise intentions but considering exercise intentions did not increase regret. The survey confirmed that anticipated regret explained an additional 5 per cent of the variance in intention strength, controlling TPB and past behaviour measures. Anticipated regret also promoted exercise by moderating the intention-behaviour relationship, controlling for past behaviour.

Conclusion: Anticipated regret appears to enhance the prediction of exercise intentions and the implementation of such intentions over and above that achieved by the TPB and past behaviour. It is, therefore, worth evaluating in the context of exercise promotion programmes.

Exploring 'passion' in academic and non-academic domains

C ALFELD-LIRO, Max Plank Institute for Human Development, J FREDRICKS, J ECCLES, University of Michigan

Objective: What is passion? How does it affect learning and engagement in school? In order to learn more about how passion is manifested in students and what structural features support passion, we drew from Jacquelyne Eccles' and colleagues' longitudinal survey study of child and adolescent development ($n=1179$).

Design: On average, students' interest in sports, music, and maths declined over time. Furthermore, students reported the highest levels of interest and involvement in sports and the lowest level in their favourite subject. Why were non-academic activities so much more interesting and engaging than academic activities?

Method: We suspected that we could learn more about 'passion' in these different domains by interviewing subgroups of talented (defined as high levels of interest and involvement) students in either an academic ($n=25$) or a non-academic ($n=41$) domain.

Results: There was more qualitative evidence of 'passion' among individuals talented in non-academic than those talented in academic domains. Some explanations that surfaced in the interviews include: (1) the issue of choice (voluntary activity versus non-voluntary classes); (2) schools are not structured to foster passion for learning (the academically-talented students reported several aspects of their schools that dampened their interest). **Conclusion:** In this paper, we explain the way that we define and measure 'passion'. We present both quantitative

(bar charts and line graphs of mean levels over time) and qualitative (themes and quotes) data. Finally, we conclude with five key findings about passion among adolescents and recommend several ways that we can create environments that foster passion for learning.

Predicting patients referred for primary care counselling

H ALLEN, R BAKER, P THOMAS, St Ann's Hospital, Poole, Dorset

Objective: To determine which patient attitudes, perceptions and symptomatology best predict referral to primary care counselling.

Design: By comparing patients who have seen/are seeing/waiting to see the practice counsellor, with those who have never seen the counsellor, it should be possible to determine patient characteristics associated with referral for counselling.

Method: All patients aged 16 or over consulting a health professional at their local surgery during a two-week period were approached. 556 patients (over 80 per cent) took part. Patients completed the SAD and GHQ12, and a self-report questionnaire elicited patients' perceptions of their problems, their attitudes to counselling, their ability to express emotions and their beliefs about stress.

Results: Using Discriminant Function Analysis, 83 per cent of patients referred for counselling were successfully discriminated by total number of anxiety and depression symptoms, and various patient attitudes and perceptions.

Significant correlations were found between patients referred and several variables including:

- disagreeing that 'I'm not the sort of person who needs counselling', and
- agreeing their problem was caused by stress

Significant correlations were also found between 'I'm not the sort of person who would need counselling' and

- agreeing you should sort out your own problems and
- 'if I had emotional problems I would keep quiet about them'.

Conclusion: Patients likely to be referred for counselling can be predicted. GPs and counsellors can be taught about patient attitudes, beliefs and symptomatology associated with referral, and about those patients who, although psychologically distressed are unlikely to be referred.

The psychology of touch in stress related eczema: A comparative study

C ANDERSON, Greenwich University

Objective: To evaluate the significance of psychological factors in overcoming physical symptom by increasing tactile contact between the mother and the eczema child. If this theory was correct then the medium used in contact would be of no consequence.

Design: Sample; 16 children aged between 3-7 years from the middle socio-economic class, born to professional working mothers and living in a family unit with the natural father, with one or more siblings. The eczema was atopic, non-responsive to usual therapy; there was no known cause, e.g. no bereavement, no birth, no home change; there was, however, a period or two of separation from the mother before the child was 3 years old.

Hypothesis 1. Increased tactile contact would strengthen the psychological attachment between mother and child, and improve the physiological symptoms of eczema.

Hypothesis 2. Massage by the mother to the child would improve the condition regardless of the medium, essential oils or prescribed cream used.

Nul hypothesis 1. Increased tactile contact between mother and child would not effect the physiological symptoms of eczema.

Nul hypothesis 2. The benefit of massage using essential oils would be greater than prescribed cream.

Method: In the experimental group, the children were counselled and massaged with essential oils by both the mother and aromatherapist on eight weekly sessions. A control group of children received the same treatment, counselling and massage without essential oils. The treatments were evaluated by means of: 1. Day-time irritation score. 2. Night-time disturbance scores (determined by the mother before and during the treatment). 3. General improvement scores (allocated two weeks after the treatment by GP, therapist, and mother). Subsequent general scores were taken at, one month, six months, one year and two years.

Results: Statistically significant improvement in the eczema in the two groups of children following therapy, but there was no significant improvement shown between the experimental and control group. Hypotheses 1 and 2 accepted. Nul hypotheses 1 and 2 rejected.

Conclusion: Therefore, although this result must be accepted with caution due to the small sample size, there is some evidence that counselling and tactile contact between mother and child benefits the symptoms of atopic eczema but no proof that essential oils are more beneficial than massage alone.

Occupational stress and coping strategies of junior doctors: Quantitative findings

AS ANTONIOU, MJ DAVIDSON, & C COOPER, UMIST

Objective: This study investigates the occupational stressors, personality characteristics and stress coping strategies in relation to the job satisfaction and mental/physical ill-health of a sample of Greek Junior Hospital Doctors (JHDs).

Design: The first stage of the study involved in-depth interviews with a random sample of 60 JHDs and in the second stage a questionnaire was constructed based on the results of the qualitative part of the study and on previous research in the area. **Method:** The sample consisted of 355 JHDs (193 males and 162 females) who completed the JHDs Specific Stressors Questionnaire and the Occupational Stress Indicator (OSI), including the dependent variables of job satisfaction, mental and physical ill-health, and the independent variables of sources of stress in the job, stress coping mechanisms, coronary-prone (Type A) behaviour, Locus of Control, demographics and attitudinal variables.

Results: Bivariate analysis revealed that there were significant differences between the two genders on certain aspects of the OSI. Multivariate analysis showed that job satisfaction was predicted by the demands of the profession, great volume of work and lack of power and influence. Mental and physical ill-health were predicted by Type A behaviour, relationships with patients and their relatives and demands of the profession.

Conclusion: Overall, JHDs presented significantly lower levels of job satisfaction and significantly higher levels of mental ill-health, Type A behaviour and sources of pressure than the normative population and other relevant samples. The findings are discussed and recommendations for stress prevention in the medical profession are given.

Efficacy of the theory of planned behaviour for informing health interventions

C ARMITAGE, University of Essex & M CONNER, University of Leeds

Objective: Relatively little research has investigated the ability of the theory of planned behaviour (TPB) to inform interventions. The aim of the present study was to apply Fishbein, Ajzen and Bandura's principles of attitude and behaviour change to reduce fat intake.

Design: Randomised controlled trial of two theory-based interventions, tested against provision of information only.

Method: Participants (n=800) were randomised into three intervention conditions: information, attitude change, and self-efficacy enhancement. TPB variables were assessed pre- and post-intervention.

Results: The data were analysed using MANOVA: intervention was the between-subjects factor with three levels, and 'time' was the within-subjects factor with two levels (i.e. pre- and post-intervention). Across all participants, theory-driven interventions significantly improved attitudes. Controlling for initial fat intake, the interventions significantly reduced proportion of fat intake by 1.38 per cent in high-fat consumers. **Conclusion:** From a public health perspective, the findings were encouraging: a 1 per cent reduction in the proportion of calories derived from fat would save 10,000 deaths per year in the US. However, many of the significant effects were unmediated by TPB variables. Further research is required to: (a) target interventions at consumer groups; (b) target variables that are more proximal determinants of behaviour; and (c) test the utility of alternative media.

Cognitive deficits in people with Type 2 diabetes: fact or methodological artefact?

KG ASIMAKOPOULOU, University of Hertfordshire, SE HAMPSON, University of Surrey & NJ MORRISH, North Beds. Diabetes Centre

Objective: The aim of the research was to examine whether people with Type 2 diabetes show deficits in their cognitive performance compared to people without diabetes but matched on several demographic and medical history variables. It was hypothesised that some cognitive impairment would be present in the sample with diabetes but when appropriate statistical and methodological control of confounds was accomplished the wide-ranging cognitive impairment associated with Type 2 diabetes that has been suggested in the literature would not be seen.

Design & Method: In a cross-sectional, matched-groups design, participants with or without diabetes (33 per group) were matched on age, gender and presence or absence of hypertension / heart conditions and were tested on a neuropsychological battery. Analysis of covariance controlling for age, premorbid IQ and depression where appropriate revealed statistically significant differences between the two groups on only two of thirteen tasks: verbal memory and mental flexibility ($p < .05$). A greater number of significant differences were obtained in the analysis of non statistically corrected data from an unmatched sample of people without diabetes compared to the diabetes sample.

Conclusion: These results suggest that although some limited cognitive deficit may be apparent in people with Type 2 diabetes, careful control of confounding factors needs to be achieved before pathologising cognitive findings. The need for longitudinal work and an appropriate selection of neuropsychological tests was also highlighted.

Working memory load and algebraic errors

P AYRES, University of New South Wales, Australia

Objective: Research into mental arithmetic has shown that working memory load affects both the retrieval of information as well as its storage. On problems which promote a heavy load, errors occur as a result of temporary information being lost or accessed incorrectly from long term memory. It is, therefore, proposed that systematic error clusters should occur throughout mathematics because of the intrinsic nature of problems. At points in a problem where the most storage and/or processing of information takes place, errors will more likely occur. This study tested this hypothesis in an area of elementary algebra.

Design: A problem-set consisting of bracket tasks such as $-3(2x-5) + 4(2-5x)$ was designed. The four operations in each task were counterbalanced over the problem-set in such a way, that if working memory load was constant

within problems, errors would occur randomly and be equally distributed.

Method: 229 grade 8 and 9 students completed the problem set and 20 students provided verbal protocols while problem solving.

Results: Students made significantly more errors during the expansion of the second bracket than the first. Furthermore, students made significantly more errors calculating the second operation within each bracket than the first operation. Verbal protocols showed that errors mainly occurred because students forgot information when calculating.

Conclusions: Through systematic elimination of possible causes of bias, such as procedural errors, the problem-size effect and interference, it was concluded that the error profiles discovered here were caused by matching uneven working memory loads.

Emotional processing and panic attacks

R BAKER, Bournemouth University

Objective: During the course of psychological therapy with panic disorder patients a number of unusual emotional coping styles were observed including lack of awareness of emotion, failure to connect emotions with life events, suppression of feelings and control of the expression of emotions.

Design: A case control design in which panic disorder patients were individually matched with control participants was chosen as an initial test of the validity of these clinical observations.

Method: 50 patients with a DSM III diagnosis of Panic Disorder were individually matched with normal individuals from Aberdeen (n=50) and London (n=250) on the basis of age and sex. Participants were given the Courtauld emotional control scale and additional questionnaire items relating to frequency and intensity of three emotions, recognition and labelling of emotional feelings and constructs about having and expressing positive and negative emotions.

Results: ANOVA using groups as independent variable and various emotional scores as dependent variables showed that panic disorder patients recorded significantly more emotional control of anger, depression and anxiety than all other groups. The use of correlations and discriminant function analysis suggested that three emotional processing items distinguished panic disorder patients from normal participants. **Conclusion:** Panic disorder patients show emotional processing differences to controls. The relationship of these findings to the development and maintenance of panic attacks is considered.

An evaluation of counselling in primary care

R BAKER, Bournemouth University, E BAKER, H ALLEN, Dorset Healthcare NHS Trust

Objective: To evaluate a Primary Care Counselling service with long-term follow-up, and to compare counselling to a control group.

Design: A longitudinal study measuring patients' symptoms before counselling, and at various points subsequent, for up to two years after counselling has been offered. The control group is a naturally occurring waiting list, where patients do not receive counselling.

Method: Questionnaires measuring psychiatric symptomatology, quality of life and self-esteem were completed by patients before the start of counselling, at three months (end of counselling) with follow up at six months, one year and two years. In practices participating, all patients referred to counselling were given questionnaires to complete. Questionnaires were received from 1784 patients. 265 have been followed for two years. This number will rise as more patients reach the two year period. For the waiting list, 81 patients were followed for approximately three months.

Results: Patients who receive counselling improve significantly more than patients on the waiting list. The main effect is seen in the first three months and this is highly clinically and statistically significant. This does not deteriorate throughout the long-term follow-up.

Neurobehavioural correlates of lateral bias and affect in infant chimpanzees

K BARD, University of Portsmouth

Objective: This study extends previous findings of population level asymmetries in lateral bias of multiple behavioural measures in infant chimpanzees and proposes that different neurobehavioural mechanisms are associated with different behavioural measures.

Design: A longitudinal design was employed to assess neonatal neurobehavioural integrity, lateral bias at three months, and lateral bias and affect at nine to ten months.

Method: Approximately half of the sample of chimpanzees (Pan troglodytes) was raised under standard nursery conditions (females n=9, males, n=11) and the other half were raised in a 'responsive care' nursery designed to promote species-typical chimpanzee development (females n=9, males n=8).

Results: Significant right biases were confirmed for hand-to-mouth self-calming behaviour. Significant left biases were found in grasping of objects (at nine to ten months). Hand-to-hand grasping, reflexive stepping, head posture, and defensive swipes were individually lateralised rather than population level biased. Neonatal neurobehavioural assessments were found to be significantly associated with lateral bias both at three months and at nine to ten months.

Emotional responses (e.g. arousal and positive affect) were significantly associated with lateral bias at three months and at nine to ten months. The lateral bias in touching/grasping objects at nine to ten months of age was positively correlated with Head bias by three months and with State Regulation at two days of age.

Conclusion: Rearing environment, gender, and emotional reactivity were found to influence lateral bias. These findings support the hypothesis that different asymmetric behaviours, even if lateralised to the same direction, may reflect different biological processes and different functional mechanisms.

Monitoring short-term memory

CP BEAMAN, University of Reading

Objective: The motivation for this study was to examine whether the pattern of recall in immediate serial recall alters if structured lists rather than unrelated lists are presented, an issue not currently addressed by mathematical/computational models of serial recall. If the system is sensitive to structure, a short-term memory monitoring device must be necessary.

Design: Three immediate serial recall experiments were conducted, varying item identity at a lexical level and the degree of repetition of items and sequences within each list.

Method: Participants were presented with either a single trial of each type of list or multiple trials with list types presented in quasi-random order.

Results: The results demonstrate that knowledge of the structure of a list affects performance if stimuli other than unrelated verbal lists are presented for immediate serial recall. Experiment 1 shows that participants are sensitive to the lexical identity (digits or letters) of to-be-recalled items after only a single presentation. Experiment 2 demonstrates that participants are sensitive to repeat structures within a list. Experiment 3 replicates this result and also shows that sensitivity to repeat structures interacts significantly with a secondary task (concurrent articulation) designed to interfere with encoding of the stimuli within short-term memory system.

Conclusion: Possible mechanisms are considered for monitoring short-term memory. It is concluded that mutual constraints exist between the type of cognitive architecture chosen to represent lists and the monitoring system that is capable of operating given a particular memory representation format.

Computational explorations of the irrelevant sound effect

CP BEAMAN, University of Reading

Objective: Although a number of current models

of immediate serial recall exist, only one published model (Neath, 1999, in press) incorporates simulations of the disruption of immediate serial recall by irrelevant background noise. This study explores a possible model of irrelevant sound effects derived from Neath (1999) and applies the results of the model to previously unconsidered data sets.

Background: The disruption of immediate serial recall by irrelevant background sound has informed the development of qualitative, verbal models of short-term memory (e.g. Baddeley, 1986; Jones, Beaman & Macken, 1996) but there has been little formal modelling of the effect.

Method: Studies by Neath (1999, in press) apply the feature model, a mathematical model of short-term memory (Nairne, 1990), to some basic data regarding the irrelevant sound effect. However, Neath's approach is ultimately limited by implicit assumptions regarding the nature of interference in short-term memory. Relaxing these assumptions allows for a wider application of a model of the irrelevant sound effect derived from that of Neath but not tied to the implementational detail of the feature model.

Conclusion: The new model fits not only the original data considered by Neath (1999, in press) but also empirical results concerning the effects of word-dose (Bridges & Jones, 1996) and token set size (Tremblay & Jones, 1998). It is concluded that the principles underlying the model provide a promising basis for further theoretical work.

Delusions as motivated beliefs

R BENTALL, University of Manchester

Controversy exists about whether delusions are products of the same processes responsible for normal beliefs and attitudes or, alternatively, are the product of neurocognitive abnormalities that make them qualitatively distinct from ordinary beliefs. Of course, these alternatives may not be as mutually exclusive as they at first appear. However, I argue that persecutory delusions, in particular, at least in part reflect motivational abnormalities. Evidence exists that persecutory delusions are associated with abnormal social-cognitive biases. Paranoid patients attend excessively to threat-related information, make abnormal attributions and (possibly) show deficits in their ability to infer the mental states of other people. It has also been shown that deluded patients in general 'jump to conclusions' in situations in which they are required to generate or test hypotheses. Using recent data, I argue that: (i) The attributional abnormalities of paranoid patients reflect abnormal self-representations. This observation is consistent with the hypothesis that paranoid ideation are a product of abnormal strategies for regulating self-esteem. (ii) Deluded patients' tendency to jump to conclusions may reflect abnormal epistemic needs (specifically, need for cognitive closure), rather than gross deficits in reasoning. (iii) At least some of these abnormalities may be products of early adverse experiences, as evidenced by patients' accounts of their family relationships, the high rates of trauma in the histories of psychotic patients, and cognitive abnormalities (especially over-general autobiographical memories) which probably reflect these kinds of experiences.

Advances in motivation research in sport and exercise

S BIDDLE, Loughborough University

The importance of identifying motivational determinants of an active lifestyle should be clear to those interested in psychology and health, and beyond. This symposium presents research in three contemporary areas of interest in the field of sport and exercise motivation. The overall aim of the symposium is to advance understanding through new empirical findings. First, the popular trans-theoretical model of behaviour change is reviewed in the context of physical activity and exercise. A systematic review method is adopted and conclusions are drawn from 71 independent samples. The model is critiqued and some commonly held assumptions are challenged. Two papers address the social-cognitive approach to motivation by drawing on a large data set of

young peoples' responses. First, a psychometric measure assessing the entity (fixed) and incremental nature of athletic beliefs is tested, and second, this measure is incorporated into a wider study of social cognitive predictors, including goal orientations, of amotivation (little or no motivation). The third area considered is that of attitude-intention relationships. Two papers address the entropic nature of this relationship, first through a self-determination theory approach, and second, through the effects of perceived behavioural control and past behaviour. Overall, the symposium provides new data to advance motivational findings in sport and exercise.

Physical activity – why bother? Predicting amotivation in young people

S BIDDLE, J WANG, N CHATZISARANTIS, Loughborough University

Objective: Identifying motivational determinants or correlates of physical activity participation in young people is a research priority. However, few studies have investigated the likely predictors of 'amotivation' (low or no motivation).

Design: Cross-sectional survey. **Method:** Male and female school pupils in Years 7, 8, and 9 (aged 12-15 years) were sampled from 49 schools throughout England (n=2969). After screening for outliers and missing data, the sample used for analysis comprised n=2875. Measures were taken of goal orientations (task, ego), beliefs about the nature of sport ability (incremental, entity), amotivation, and perceived sport competence (PC). Upper and lower quartile groups were analysed: those 'high' in PC (n=572) and those 'low' in PC (n=577).

Results: A full latent structural equation model was tested with the following hypothesised paths: incremental beliefs/task goal/amotivation; entity beliefs/ego goal ' amotivation; entity beliefs/amotivation. Goodness of fit for both high and low PC groups was good [highPC/lowPC]: CFI=.922/.901; RMSEA=.042/.052. Multi-group analysis showed a good fit (CFI=.9.08, RMSEA=.033). Amotivation was more strongly predicted for low PC (39.32 per cent) than for high PC (20.80 per cent) students.

Conclusion: Amotivation is predicted by a low task orientation and high entity beliefs, particularly for those low in perceived competence.

Motivational profiles of young people in physical activity: A cluster analysis

S BIDDLE, Loughborough University

Objective: Given the health-related benefits of a physically active lifestyle, identifying motivational determinants or correlates of physical activity participation in young people is a research priority. Recent research has identified the importance of social cognitive and self-perception variables in motivation. These were assessed with a view to identifying motivational profiles.

Design: To assess a number of motivational variables in a large sample, a cross-sectional survey design was chosen.

Method: Male and female school pupils in Years 7, 8, and 9 (aged 12-15 years) involved in a larger project were sampled from 49 schools throughout England (n=2969). After screening for outliers and missing data, the final sample comprised n=2510. Measures were taken of goal orientations (task, ego), beliefs about the nature of sport ability (incremental, entity), perceived locus of causality (PLOC: intrinsic, identified, introjected, external), amotivation, perceived sport competence (PC), physical self-worth (PSW), and physical activity participation.

Results: Cluster analysis revealed 5 motivational profiles when data were analysed using goals, sport ability beliefs, PLOC, amotivation, and PC. The clusters were labelled 'self-determined', 'highly motivated', 'moderately motivated externals', and 'amotivated'. Clusters often varied on PSW and physical activity and some showed gender and age differences.

Conclusion: Clear meaningful motivational profiles were identified yielding clusters suitable

for basing practical interventions for increasing physical activity motivation in young people.

Neuropsychological functioning and quality of life following ICD implantation

JL BIRKBY, CN HALLAS, Staffordshire University, C BUNDY, Manchester University, D CONNELLY, Cardio-thoracic Centre, Liverpool, C GARRETT, Manchester Royal Infirmary

Objective: To assess changes in neuropsychological functioning and quality of life in patients with implantable cardioverter defibrillators (ICD), and to compare the changes between ICD patients and medication maintained control patients.

Design & Method: This three-year prospective study has been developed on the basis of evidence from studies investigating the neuropsychological effects of CABG surgery. Although surgical techniques are being continually reviewed and modified, the risk of neuropsychological injury following CABG surgery remains high. Few studies, however, have examined long-term neuropsychological functioning following ICD implantation, which involves the induction of ventricular fibrillation, and therefore the risk of cerebral ischemia, during device testing. ICD patients are assessed by means of a comprehensive neuropsychological test battery one-day pre-operatively and at three, six and twelve months post-operatively. The assessment battery consists of tests of memory, psychomotor co-ordination and frontal lobe functioning. In addition, psychometric tests of mood status and quality of life are administered.

Results: Multiple regression techniques are utilised to evaluate the effect of previous cardiac arrest, the number and length of arrests during implantation and the number of post-operative device 'shocks' on neuropsychological outcomes.

Conclusion: Implications of this research are important for changes in pre-operative patient evaluation and the ICD implantation procedure, and more crucially for patient post-operative psychological support and evaluation.

Judgement and reasoning for future emotional events: A developmental perspective

SJ BISHOP, Institute of Psychiatry, London, T DALGLEISH, MRC Cognition and Brain Sciences Unit, Cambridge, W YULE, Institute of Psychiatry, London

Objective: To investigate developmental changes and individual differences in children's probability judgements and reason generation for emotional events.

Design: Children from three age groups produced self- and other-referenced probability judgements for negative and positive events and generated reasons for and against their future occurrence. Influences of age, anxiety and coping style were investigated.

Method: 117 primary school children, aged 5-7 years, 7-9 years and 9-11 years, judged the likelihood of events occurring to themselves or another child their age. Participants subsequently generated reasons as to why they would or would not experience certain of these events in the future. Measures of anxiety and coping style (avoidant versus vigilant) were administered.

Results: Median splits were conducted on anxiety and coping style. Judgement and reason scores were subjected, respectively, to reference (self, other) or reason type (pro, con) by valence by age group by anxiety level by coping style ANOVAs. Children produced significantly higher judgements for positive than negative events, higher self-referenced judgements for positive events and higher other-referenced judgements for negative events. The effect of valence decreased with age. This occurred later for children with avoidant coping styles. Children generated more pro reasons for positive events and more con reasons for negative events. This effect disappeared between age groups one and three, being apparent in age group two but only

within the high-anxious, avoidant subgroup.

Conclusion: Children demonstrate 'protective' biases in their judgements and reasoning regarding emotional events. These decrease with age, but this is moderated by coping style and anxiety.

Testing the validity of Vermunt's Inventory of Learning Styles (ILS) in a Scottish university setting

E BOYLE, T DUFFY, K DUNLEAVY, University of Paisley

Objective: The main aim of the current study was to test the integrated model of student learning implicit in Vermunt's Inventory of Learning Styles (ILS) with a sample of Scottish university students. A further aim was to establish whether different learning styles were associated with different academic outcomes.

Design: Factor analysis was used to establish whether the four distinct learning styles identified in Vermunt's Dutch sample, generalised across different educational cultures. Regression explored the inter-relationships between components of the ILS in more detail. Correlations between learning styles and academic outcome was also examined.

Method: A total of 473 2nd, 3rd and 4th year from a Social Studies department in a Scottish university took part. The ILS was administered to students during scheduled lecture slots.

Results: Exploratory factor analysis revealed three distinct learning styles corresponding to Vermunt's reproduction-directed and undirected styles of learning, and a style merged meaning-directed and application-directed learning. The use of deep processing strategies was associated both with self-regulation and external regulation. There was a low negative association between undirected learning style and academic success, while meaning directed learning style had a low positive association with academic success.

Conclusion: The current study supported Vermunt's integrated model of student learning but the merging and application directed learning styles, and the role of external regulation in promoting deep processing indicated that learning styles can be influenced by the demands of the learning environment. A modified version of the ILS may be helpful in Scottish universities in helping students become more effective learners.

Science and social influence: Some dilemmas for clinical psychology

M BOYLE, University of East London

Clinical psychology, and psychology in general, wish to become more influential in political and social policy. This lecture examines some of the problems we face in this area via discussion of (a) the major models of research-policy relationships and (b) the tension created by the need to communicate with policy makers in a comprehensible way while at the same time changing their conceptualisations of various issues. I argue that this problem is particularly severe for Clinical Psychology because of cultural influences on beliefs about 'abnormal' behaviour and because of our relative lack of success in delineating our own subject matter. Research and policy initiatives on psychosis and abortion will be used to illustrate these points. Finally, I outline some key questions we need to ask about both our research and our policy initiatives if we are to become more influential in ways we would wish to be.

How does work make us feel?

RB Briner, Birkbeck College, London

Objective: This paper has two aims: To provide a critical overview of approaches to understanding the links between work and affect and to consider other ways of accounting for the many and varied relationships between work and affect.

Background: While links between work and well-being have been widely studied our understanding remains very limited. More recent approaches have moved towards a more detailed consideration of work conditions and different

types of affective experience these may produce.

Method: Previous research on work and well-being has been dominated by the concepts of stress and satisfaction. Both of these concepts are theoretically underspecified, generate weak research designs, add little to our understanding of work behaviour, and have failed to advance our understanding of well-being. At the same time, we have only the simplest frameworks for describing which aspects of work may cause different kinds of affective reactions. By making distinctions between different kinds of affect (e.g. emotions, moods, emotionally-laden judgments) and different kinds of work experiences (e.g. task-related events, job characteristics) it is possible to map out numerous specific work-affect relationships and identify more specific theoretical approaches which help to explain how work produces affective experience. The study of these more specific processes will require more elaborate research designs which can explore everyday experience.

Conclusion: Different aspects of work make us feel many different kinds of things. Thus far we have failed to either adequately describe or explain such relationships. One way of extending our knowledge is to examine the more specific types of work-affect relationships which occur as ongoing processes on a daily basis.

Genealogically bewildered? Children genetically unrelated to their parents

P BRODERICK, I WALKER, P BOWEN, Murdoch University, Western Australia

Objective: The paper traces and critically analyses the origin, development, use, and acceptance of the concept of 'genealogical bewilderment' in the counseling of people who have used donated genetic material in medically assisted conception.

Background: Current psychological counselling in this area in most western societies is guided by the assumption that children without complete knowledge of their genetic heritage will suffer 'genealogical bewilderment': a state of confusion, uncertainty, and insecurity affecting mental health. First suggested as an explanation for mental health problems in adoptees in the early 1950s, the construct has been uncritically applied to any situation where knowledge of a child's genetic heritage is incomplete or inaccurate. **Method:** Using a sociology of science approach, the construct was traced from its inception in the early 1950s by a psychiatrist working with adopted children, to its current interpretation in psychological counselling with infertile people using donated genetic material. All relevant international literature was searched and recorded. The concept was followed and empirically evaluated as it developed and gained momentum and meaning, first in adoption, and more recently in medically assisted conception. **Conclusion:** The concept is poorly defined and understood. There is no evidence supporting the original claims of damaging consequences of 'genealogical bewilderment'. The concept should not be relied on in counselling, or in policy or legislation governing assisted reproduction practices. The paper also has implications for understanding psychology's understanding of 'parent' and 'family'.

Interactions between psychosocial and immune functioning of AIDS patients

A BURKE, L NEL, Rand Afrikaans University

Objective: The primary objective of this study was to identify the relationship between psychological variables (such as anger, depression, anxiety depression) and social factors on the one hand, and immune functioning on the other, as HIV seropositivity progresses into AIDS.

Design & Method: The study was primarily correlational and descriptive of nature as the object was to track 'normal' fluctuations in immune status. A total of 73 participants who were HIV positive participated in the study, which was conducted over a six-month period. The

participants were tested on three occasions. The first testing took place when they reported for the AIDS test and before these results were made known to them. The object of this was to get baseline information. The testing was then repeated twice, with a three-month period between each testing. The tests that were used included: The Mental Adjustment to HIV, Profile of mood states, The Family Environment Scale and immunological measures.

Results & Conclusion: Pearson correlations, Multiple Regression Analysis and Factor Analysis were performed. Significant correlations were found between the psychological factors and immune functioning. By means of the statistical analysis a model of the psychological and immunological interactions in HIV seropositivity was constructed.

Coping with child sexual abuse: Qualitative findings

K BURT, N FRUDE, Cardiff University

Objective: The aim of this study was to provide further knowledge about coping strategies used by 'resilient' female survivors of child sexual abuse.

Design: Qualitative analysis of semi-structured interviews with survivors of child sexual abuse were conducted to explore the coping strategies they used, both initially and in the long-term. This methodology was chosen because the sensitive nature of the topic makes objective testing impractical. The study aimed to uncover useful hypotheses about the relationship between coping strategies and resilience, while also addressing the individual meanings and perspectives of the survivors.

Method: 349 questionnaires were distributed to psychology undergraduate students attending Cardiff University. 249 returned their completed questionnaires, and of these, 213 were female. 11 female survivors who had experienced child sexual abuse volunteered to be interviewed. Each survivor was subsequently interviewed for approximately one to two hours.

Results: Results have revealed that resilient survivors who were classified as 'adjusted' according to psychometric tests, concentrated their efforts on one or two coping strategies, whereas the 'maladjusted' survivors used a broader diversity of strategies, both initially and in the long-term. The most common immediate coping strategies used by this cohort were 'resistance' and 'wishful thinking'. In contrast, the most prevalent long-term coping strategies were 'downward comparison' and 'minimisation'. However, analysis is currently in the preliminary stages.

Conclusion: Research investigating coping strategies is central to understanding the impact of child sexual abuse on survivors. More significantly, by identifying the coping strategies adopted by resilient survivors, important therapeutic insights may be provided.

Compensatory biases after in-group threat: Switching dimension or comparison out-group

M R CADINU, C REGGIORI, M CERCHIONI, University of Padova

Objective: Two studies were conducted to test the hypothesis that people receiving negative feedback with respect to the in-group would compensate for the threat by (a) enhancing the in-group on alternative dimensions, and (b) derogating a low status out-group in the area in which the feedback was provided.

Design: In both studies a 3 (feedback:positive/negative/no feedback) x 2 (target group:in-group/out-group) x 2 (dimension of comparison:professional/personality) mixed design was used to test the hypotheses outlined above.

Method: In Study 1, the 64 participants were volunteers for public emergency services belonging to one of two rival associations. Participants were given a bogus institutional report providing positive, negative or no feedback on their association on the dimension 'response time to an emergency call'. Later, they were asked to rate the in-group and out-group on a

series of professional dimensions and personality traits. In Study 2, 117 psychologists were provided with differential feedback concerning the level of professionalism of their in-group according to a survey allegedly testing the opinion of medical doctors.

Results: As predicted, in Study 1 participants in the negative feedback condition showed increased in-group favouritism in the personality area, but not in the professional domain. In Study 2, participants in the negative feedback condition again enhanced the in-group favourability along a series of personality traits and also derogated social workers on professional traits relevant to the feedback dimension.

Conclusion: Results are discussed in relation to a schema-maintenance model through compensation (Seta & Seta, 1993) and current theories of intergroup relations.

The development of a measure of individual differences in disgust

K CAVANAGH, GCL Davey, University of Sussex

Objective: In recent years there has been a growing interest in the role of disgust in the development and maintenance of a variety of psychological disorders. To date, the primary measures of disgust employed in experimental research have failed to address the notion of vulnerability to disgust as a trait comparable to those acknowledged in the other negative emotions. The primary objective of the present research is to develop a measure of individual differences in disgust for use in contemporary research.

Design: The study employed a factor analytic design.

Method: A new measure of disgust was constructed using items from widely used measures of anxiety adapted to apply to disgust. The study employed two waves of participants. The first wave included 327 students from the University of Sussex, the second wave included 220 students from the Open University. All participants completed a 30-item measure of disgust.

Results: The data from the first wave of participants was submitted to principle components factor analysis with varimax rotation which revealed an interpretable three dimensional fit to the data. The three factors were (1) disgust intensity, (2) disgust frequency, and (3) disgust sensitivity. Data from the second wave of participants was submitted to confirmatory factor analysis which supported this three-dimensional data structure.

Conclusion: The present research has indicated that vulnerability to disgust can be meaningfully measured in a way comparable to anxiety. The development of this measure has important implications for the study of individual differences in disgust and its role in the development and maintenance of psychopathology.

Entropic nature of attitude-intention relationships: 1. Identified regulation

N CHATZISARANTIS, S BIDDLE, Loughborough University, M HAGGER, University of Sheffield

Objective: The principle of correspondence, explicated by the theories of reasoned action and planned behaviour, limits the utility of these theories in explaining changes in attitude-intention 'causal' processes. Models that cannot explain changes in their variables are termed entropic models and literature suggests that such models must be studied as endogenous systems being influenced by more exogenous super-ordinate theories. The present study tests the entropic nature of the attitude-intention relationship. In addition, whether the introduction of variables related to self-determination theory can help explain the change, consistency, or stationarity, of the attitude-intention relationship is tested.

Design: A panel design assessing variables at two points in time, five weeks apart.

Method: School children aged 12 to 14 years ($n=140$) completed self-report measures of

attitudes, intentions, and identified regulation with respect to leisure-time physical activity.

Results: Results of structural equation modelling support the entropic nature of the attitude-intention relationship because auto-regressions of attitudes and intentions are less than unity and lagged effects of attitudes and intentions are zero. The introduction of self-determination theory does not help explain stationarity of the attitude-intention relationship.

Conclusion: The present study points out an additional boundary condition of the theories of reasoned action and planned behaviour – that of 'entropy'. It is also speculated that perceived behavioural control may explain changes over time in attitudes and intentions.

Are odours better cues for autobiographical memories?

S CHU, JJ DOWNES, University of Liverpool

Objective: It is a common belief that odours are especially powerful reminders of autobiographical experience. Many individuals report particularly vivid and detailed memories in response to olfactory cues, an effect which has come to be known as the Proust phenomenon. In this paper, we provide a formal exposition of this effect along with a plausible alternative, and test these hypotheses in two experiments.

Design: The same basic single-factor between-subject design is used in both experiments.

Method: Recall of an autobiographical event is cued initially by a verbal label (odour name) for a fixed period and is followed by a second recall attempt which is cued either by the same verbal label, the relevant odour (congruent odour), a different odour (incongruent odour) or a picture of the relevant stimulus. Experiment 1 focused on subjective ratings of memory quality following each retrieval while Experiment 2 utilised objective content analysis to determine the quantity of information retrieved in each recollection.

Results: In Experiment 1, comparisons of the amount of change in ratings after each retrieval attempt indicated that the greatest level of change occurred in the congruent odour condition on almost every ratings scale used. The results of the content analysis from Experiment 2 indicated that the increase in new detail emerging in subjects' recollections was greatest in the congruent odour condition as compared with all other conditions.

Conclusion: These experiments reveal that odour-cued autobiographical memories are reliably different in terms of qualitative ratings and reliably superior in the amount of detail which emerges.

Genetic factors in anorexia nervosa: The serotonin system, personality and behaviour

D COLLIER, Institute of Psychiatry, London

Objective: The purpose of this review is to evaluate the case for a role of genetic variation of components of the serotonin system in increasing the risk of developing anorexia nervosa.

Background: It is evident that susceptibility to anorexia nervosa has a heritable component, in addition to psychosocial risk factors. Twin and family studies provide evidence for this, with elevated monozygotic twin concordance and increased risk of anorexia in relatives. Family studies also indicate a cluster of personality and behavioural traits consisting of behavioural rigidity, emotional restraint, trait anxiety, harm avoidance, perfectionism, obsessiveness and diminished self-directedness. This is consistent with increased serotonergic activity. A mouse model of anorexia, the *anx* mouse, has serotonergic hyperinnervation of the hypothalamus, which results in failure to activate certain neurochemical pathways involved in feeding. We have identified a genetic polymorphism in the serotonin receptor gene 5-HT_{2A}, which is elevated in women with anorexia nervosa.

Method: We analysed all published genotype data from groups who have examined the 5-

HT_{2A} gene in anorexia nervosa. One study, which only published allele frequencies, was not included.

Conclusion: We found strong statistical evidence for a recessive role for genotypes of the 5-HT_{2A} gene in anorexia (Wald χ^2 25.43, 1 df, $P=0.0000005$). This is consistent with a role for the serotonin system in causing some of the personality and behavioural traits seen in anorexia. We are presently analysing specific personality traits in women with eating disorders using the temperament and character inventory (TCI) to further explore this hypothesis.

Emotion and psychological contract violation

N CONWAY, RB BRINER, Birkbeck College, London

Objective: Violation is a central construct in psychological contract theory, referring to occasions where an employee believes the organisation has failed to fulfil its promised obligations. Emotions play a fundamental role in the experience of violation, where violations are argued to result in intense emotional reactions. However, the role of emotion in violations is poorly understood, and has never been empirically researched. The objective of this paper is to investigate the emotional reactions to transgressions of psychological contracts and what moderates these reactions.

Design & Method: 45 employees completed a daily diary for two weeks. Participants reported at the end of each working day whether the organisation had transgressed (i.e. broken or exceeded) any promises on that particular day. If a transgressed promise was reported, participants completed an emotion checklist of how they felt immediately following the incident. At the end of the diary period an in-depth interview took place to discuss any incidents reported. Across the whole sample a total of 166 incidents were recorded, an average of 3.7 per participant.

Results: There is a great deal of variation in emotional reactions following violations of psychological contracts. Some violations result in negligible emotional reactions; for others the reaction is extreme. Analysis of the qualitative data suggest that employee sense-making behaviour following the incident are key in determining the emotions experienced.

Conclusion: Certain emotional episodes that work can be understood through psychological contract theory. The results imply the definition of psychological contract violations requires boundary conditions.

Perspectives on research in lesbian and gay psychology

A COYLE, Surrey University, I RIVERS, College of Ripon & York St John

Lesbian and gay psychology is a relatively recent arrival on the psychological landscape. It is, therefore, appropriate to review progress within key areas of this domain and to offer suggestions for its future development. The proposed symposium examines research in lesbian and gay psychology, with a focus on the implications of various research approaches for the advancement of this domain. The first two papers address qualitative and quantitative approaches and consider the contributions that these research traditions can make to the development of the knowledge base of lesbian and gay psychology. Both papers draw upon examples of research in the field which has used diverse qualitative and quantitative approaches, including work conducted by the presenters. Attention is paid to the diversity of approaches and the underlying assumptions within each tradition. The third and fourth papers deal with more specific issues. The third addresses the questions of how to secure diverse samples of lesbians and gay men and how to reach relatively inaccessible sectors of lesbian and gay (and related) populations. The presenters base their considerations upon their empirical work and suggest sampling strategies that have relevance beyond lesbian and gay psychology. The fourth paper explores how research in lesbian and gay

psychology can be used to refine existing psychological theories that fail to take account of the dynamics of lesbian and gay lives or to develop new theories. The presenter draws upon his research on gay men's sexual health and shows how this has been used for theory development

Not(es) in the methodological margins: Qualitative research in lesbian and gay psychology

A COYLE, University of Surrey

Objective: This paper critically reviews the contributions that qualitative approaches to research in lesbian and gay psychology can make and have made to the development of (knowledge within) the discipline.

Background: In recent years, qualitative research has ceased to be a marginal interest within psychology and is gaining increasing acceptance. However, lesbian and gay psychology in Britain has long been associated with qualitative research. The important roles which qualitative approaches can fulfil within lesbian and gay psychology are examined. These include exploring poorly charted areas of lesbian and gay lives, attending to context, refining existing theory and developing new theory that is sensitive to the specificities and complexities of lesbian and gay experiences.

Method: The issues raised in this paper are explored with reference to diverse qualitative work – using a range of methods – undertaken within lesbian and gay psychology in Britain and the US. The epistemologies of lesbian and gay psychology are examined and the implications for research approaches are considered. While the potential benefits of qualitative research in lesbian and gay psychology are reviewed, it is noted that qualitative methods should not be assumed to be inherently superior to quantitative methods.

Conclusion: Lesbian and gay psychology should continue to use qualitative research methods to expand the development of its knowledge and theoretical base. However, it should not ally itself exclusively with these methods. Instead, both qualitative and quantitative approaches should be employed as both can extend knowledge, although in different ways.

Two-group or not to group? Multiple group membership, decategorisation, and intergroup bias

RJ CRISP, University of Birmingham

Objective: Two studies are reported that test the potential for multiple categorisation to lead to reductions in intergroup bias via 'decategorisation'. Whilst previous work into multiple categorisation has generally only explored the effects of making an additional one dimension of group membership salient, here five additional dimensions were made salient.

Relative to a baseline level of bias in a two-group context, reductions in bias were predicted when multiple dimensions of categorisation were made salient simultaneously. These reductions were predicted as a result of decategorisation – the weakening of perceivers' dichotomous cognitive representation of the intergroup context.

Design: A 3 (categorisation: simple/multiple in-group/multiple out-group) x 2 (target group: in-group/out-group) mixed design was employed. To operationalise multiple categorisation, a cover story was provided regarding a previous survey of groups that were equally as important and inclusive as the target groups.

Method: In two studies (both n=60) undergraduate participants were encouraged to process either one or multiple dimensions of categorisation. Traditional 'pencil-and-paper' measures were employed as well as memory-based measures of group structure and intergroup bias (e.g. differential recall of positive and negative trait adjectives).

Results: In both studies Analysis of Variance revealed a reduction in intergroup bias (and a corresponding weakening of the intergroup structure) in multiple category conditions. Mediation analysis suggested that

decategorisation explained this effect.

Conclusion: Multiple categorisation does seem to be able to reduce intergroup bias if enough dimensions are made salient to promote an abandonment of categorisation as a cue for evaluative judgements.

Social categorisation and category representation: Explorations in stereotyping and bias

RJ CRISP, University of Birmingham,
A VOICI, Università di Padova

The role of social categorisation and category representation is explored in relation to stereotyping, prejudice, and discrimination. In efforts to understand the underlying psychological causes of prejudicial attitudes and behaviours in society, social psychologists have long drawn on theorising and research from cognitive psychology to provide social cognitive models of the processes involved in inter- and intra-group perception. The categorisation process is a fundamental psychological mechanism that helps us understand a complex social environment, and when applied to person perception, a number of testable and replicable effects have been demonstrated. The five papers in this symposium give an overview of current trends in this area and explore where and how future work should develop. In the first paper issues of social category representation are directly assessed. Alternative theoretical explanations of the 'out-group homogeneity effect' are evaluated and evidence for cognitive and motivational mediators of the effect uncovered. The second paper goes on to discuss several experiments that test whether perceivers cognitively represent majority or minority groups as comprised of separate subgroups or individuals. In the third paper the implications of perceived inter- and intra-group similarity are considered for both stereotypicality and intergroup bias. The penultimate paper continues on this theme to explore the implications of ingroup threat for intergroup bias. In the last paper, several experiments are reported that show how reductions in intergroup bias can be achieved as a direct result of intervening at the level of the cognitive representation of the intergroup context.

Exploring gay men's perceptions of health promotion using focus group research

M CROSSLEY, University of Manchester

Background: Recently emerging evidence indicates that some gay men/men who have sex with men (MWSWM) are continuing to engage in unsafe sexual practices despite over a decade of health education/promotion. Accordingly, there have been recent attempts to 'revamp' health prevention programmes as a means of encouraging participation. One way of doing this has been through the development of innovative community-based health prevention programmes. These programmes attempt to regenerate social networks and supportive environments as an alternative to the gay 'commercial scene'. Drawing on one such community-based project, the 'Armistead' project, a sexual health and HIV prevention service for gay men and MWSWM in Liverpool, North-West England, the main objective of this paper is to explore perceptions of health promotion from the 'clients' point of view.

Design & Method: The paper draws on an independent evaluation of the Armistead project conducted by the author for Southport and Formby NHS Trust. In evaluating this project, the technique of triangulated methodology was used. This paper focuses in depth on themes emerging from a focus group held with clients.

Results & Conclusion: Four emergent themes are discussed in detail in this paper: (1) General perceptions of the project; (2) Problems with health promotion campaigns directed specifically at gay men; (3) Problems with health promotion in general; and (4) Implications of the project being health authority (government) funded. These themes and issues are explored in the broader context of research literature relating to

gay men's sexual practices and identities in contemporary society. Implications for health promotion are discussed.

Imagination, delusion and hallucinations

G CURRIE, Flinders University,
Adelaide/University of Nottingham

Chris Frith has argued that a loss of the sense of agency is central to schizophrenia. This suggests a connection between hallucinations and delusions on the one hand, and the misidentification of the subject's imaginings as perceptions and beliefs on the other. In particular, understanding the mechanisms that underlie imagination may help us to explain the puzzling phenomena of thought insertion and withdrawal. Frith sometimes states his argument in terms of a loss of metarepresentational capacity in schizophrenia. I argue that this formulation is unhelpful.

Multiple factors in the aetiology of delusions

M DAVIES, University of Oxford

There seem to be four steps in the aetiology of a monothematic and circumscribed delusion following brain injury. First, there is a cognitive deficit resulting from the brain injury and this gives rise to a perceptual, affective or other experiential anomaly. Second, on the basis of this anomalous experience a particular hypothesis is generated. Third, this hypothesis is adopted and maintained as a belief despite the fact that it is inconsistent with many other things that the subject believes. Fourth, despite the adoption and maintenance if the delusional hypothesis there is not a major upheaval in the subject's belief system. I suggest some factors that might be involved in these four steps, outline the application of the four-step account to a variety of delusions resulting from brain injury, and sketch possible extensions of the account to schizophrenic delusions.

Philosophy of psychology 1970-2000

M DAVIES, University of Oxford

Objective: To argue for a particular conception of the relationship between philosophy and the sciences of the mind; to review some major themes in philosophy of psychology over the last 30 years; and to identify directions for future research.

Background: Taking 1970 as the starting point for the period under review is, to a considerable extent, arbitrary. But the 1970s saw the publication of many of the works that continue to set the agenda for philosophy of psychology. Introducing a major anthology on philosophy of psychology in 1980, Block noted that conceptual issues in psychology are not very far removed from 'conceptual issues about the mind that philosophers have long discussed'. But there is still a question about the relationship between philosophy and the empirical investigation of the mind.

Key Points: The conception of the relationship between philosophy and the sciences of the mind that is defended is one that avoids both cognitive scientism and philosophical isolationism. This preferred conception of the inter-disciplinary relationship corresponds to a particular conception of the inter-level relationship between our descriptions of ourselves as conscious, thinking subjects and the kinds of descriptions that figure in information-processing psychology. The inter-level relationship is one of interaction without reduction. This conception of the inter-disciplinary and inter-level relationships is illustrated with examples: arguments for the language of thought hypothesis; the appeal to tacit knowledge in theories of meaning; and the apparent threat to folk psychology posed by connectionism.

Conclusions: Philosophy may sometimes play an agenda-setting role for science and, conversely, empirical findings are apt to lead to conceptual renegotiation. But in cases where theories are relatively under-developed, a pooling

of effort without regard to disciplinary differences is sometimes an appropriate methodology. Illustrations are provided from recent work on everyday psychological understanding and on delusions.

The effects of smoking and abstinence from smoking on antisaccades

L DAWKINS, J POWELL, R DAVIS, Goldsmiths College

Objective: To investigate the effects of smoking and abstinence from smoking on the antisaccadic eye movement task which tests the ability to suppress a reflexive saccade and to generate a voluntary saccade in the direction opposite to a peripherally appearing stimulus.

Design: Participants completed both the antisaccade task and the visually-guided reflexive saccade task (as a comparison) within a mixed within-between-subjects design. Number correct, peak velocities and reaction times were computed.

Method: 31 smokers were tested twice; (a) after abstaining from smoking for ten hours; and (b) just after smoking a cigarette. Order of testing was counterbalanced. Thirty non-smokers were tested at the same time points.

Results: Repeated measures analysis of variance with planned contrasts showed that: (i) there were no significant differences between smokers and non-smokers or smoking phase (abstinent vs. smoking) on any of the reflexive saccade parameters; (ii) smokers made significantly fewer correct antisaccades than non-smokers when abstinent but not after smoking; and (iii) antisaccade peak velocity and reaction time did not differ between smokers and non-smokers or by smoking phase.

Conclusion: These data indicate that abstinent smokers have a specific deficit in the ability to inhibit a reflexive response rather than a global oculomotor deficit. Similar impairments are commonly observed in schizophrenia and these have been attributed to dysfunctional prefrontal cortex and/or dopamine transmission. Since cigarette smoking is known to release dopamine directly, it is postulated that the increased antisaccade error rate may be due to a rebound reduction in dopamine activity in the prefrontal cortex.

Adhering to therapeutic exercise for low back pain

S DEAN, University of Southampton, JA WEINMAN, GKT-Guy's Hospital & University of London, S PAYNE, University of Southampton, JA SMITH, Birkbeck College, University of London

Objective: To explore patient and physiotherapist perceptions of low back pain, activity and exercises, with particular regard to treatment adherence.

Design: A qualitative study using semi structured interviews.

Method: Nine patients, receiving physiotherapy for low back pain, and eight physiotherapists, with an average of eight years' experience of treating back pain, consented to participate. Patient interviews focused on their back pain experience, general activity and their reasons for adopting, or not, prescribed exercises. Physiotherapist interviews centred on how back treatment and exercise therapy was delivered and what strategies, if any, were employed to promote adherence. Interpretative Phenomenological Analysis was used to explore transcribed data.

Results: A major theme emerged concerning low back pain interpretation. There were contrasting accounts with patients describing 'personal theories of cause' whilst physiotherapists objectified back pain. This 'objectification' extended to providing evidence of treatment effectiveness in order to convince patients to adhere. All participants shared the 'time management' theme. This identified the importance of creating lifestyle space for regular exercise – establishing a routine being crucial for long term adherence. A physiotherapist specific theme, 'role dilemma' was revealed by accounts of the therapeutic relationship. Physiotherapists

are directive, clearly defining their role and what is expected from their patients, which conflicts with aims for patient self-management and autonomy.

Conclusion: Components of Leventhal's Self Regulatory Model provides a theoretical framework for explaining participant accounts. The emergent themes reveal possible determinants of non-adherence and strategies for facilitating adherence.

Recovery of cognitive functioning of alcoholics following a residential treatment programme

D DOHERTY, C KIERAN, University of Ulster

Objective: The objective of this paper was to investigate the recovery of cognitive functions in alcoholics over a six-month period following an addiction treatment program.

Design: The study followed a repeated measures design.

Method: The test battery included neuropsychological and cognitive tasks and was administered to alcoholics at the beginning of treatment with the further tests occurring at six weeks, 12 weeks, and six months. Participants included alcoholics who had participated in one (n=61), two (n=30) or all three (n=17) of the repeated tests. A matched non-alcoholic control group (n=30) was administered the test battery on one occasion to assess optimal performance.

Results: Paired sample t-tests were employed to assess recovery in alcoholics between the test intervals. Independent sample t-tests were used to compare the performance of alcoholics with controls. Results showed that alcoholics exhibited functional recovery during the six-month period on the majority of tasks. Significant recovery occurred within the 12-week period and was maintained over six months. However, performance had still not reached optimal levels in all tasks by the six-month period.

Effects of unstructured written disclosure versus guided disclosure on mood and content of trauma narratives in a healthy student sample

E DUNCAN, Glasgow Caledonian University, K ECCLES, Glasgow Caledonian University, Y GIDRON, Ben-Gurion University

Objective: To investigate whether a new Guided-Disclosure Protocol (GDP) can facilitate organised trauma narratives and promote more positive mood across writing days in comparison to a traditional unstructured ventilation writing task.

Method: Using a randomised comparison design 40 students were assigned to one of two expressive writing assignment groups.

Participants in the control group received instructions typical of standard laboratory writing tasks, that is, they were instructed to write about their 'deepest thoughts and feelings' in relation to a traumatic event. In contrast the experimental group were given the GDP instructing them to describe the event firstly in chronological order, then to describe their thoughts and feelings at the time of the event, its immediate impact and finally to write about present day thoughts and feelings and future coping ability.

Results: It was hypothesised that participants following the GDP would report less negative mood across writing days and produce more organised explicit accounts of their trauma which would contain a higher frequency of positive affect and insight/acceptance words, in comparison to controls.

Conclusion: Positive findings from this preliminary study would lend support to this new form of writing. It is argued that structured writing assignments, such as the GDP, go beyond traditional ventilation methods in attempting to shift the encoding of traumatic memories from an implicit, uncontrolled somato-sensory memory to an explicit, controlled and cognitive memory.

The influence of menstrual cycle symptoms on eating behaviour

L DYE, University of Leeds

Objective: The aim of this paper is to consider whether certain commonly experienced menstrual cycle symptoms can lead to alterations of food intake in women during the menstrual cycle. Data are considered from two studies which demonstrate clear patterns of menstrual cycle symptom reporting and different patterns of food intake during the menstrual cycle in high and low restrained women.

Design: A retrospective and prospective questionnaire and interview design was employed.

Method: A retrospective survey of 635 women provides data on different patterns of symptom reporting between high and low restrained females. A prospective study of 60 women (30 high restrainers, 30 low restrainers) is also presented. Dietary intake (24 hour recall) and daily symptom checklists were obtained once a week for a complete menstrual cycle.

Results: Clear patterns of symptom reporting during the menstrual cycle were observed both retrospectively and prospectively. High restrainers showed different levels and profiles of symptom reporting than low restrainers, particularly with respect to weight related menstrual cycle symptoms. Food intake also differed between the two groups both in terms of kcals consumed and cyclicity of intake.

Conclusion: The coincidence of particular symptoms and level of food intake suggest that highly restrained women may adjust their intake in response to physical and psychological symptoms related to the menstrual cycle. The implication of this yo-yo effect for eating behaviour and psychological well-being are discussed.

The cortisol response to awakening predicts self-reported cold symptoms

S EDWARDS, F HUCKLEBRIDGE, P EVANS, A CLOW, University of Westminster

Objective: Salivary free cortisol (indicative of hypothalamic-pituitary-adrenal axis secretory activity) increases two- to three-fold about 30 minutes post-awakening (the awakening response). Cortisol has potent immunomodulatory effects and it has been suggested that this cortisol awakening response may function to alter the balance of the immune system. This study aimed to investigate the association between individual differences in the awakening cortisol response and health.

Design & Method: Saliva samples were collected from healthy subjects (n=33) on two consecutive days at set time points synchronised to awakening (immediately following awakening then three further samples at 15-minute intervals). Self-reported cold symptoms were recorded daily for each subject for the following 10 weeks. We analysed the awakening cortisol data both in terms of a dynamic measure, reflecting area under the cortisol curve in relation to the first awakening sample, as well as an absolute mean, measured by area under the cortisol curve with reference to zero.

Results: The dynamic of the awakening cortisol response (but not the absolute levels of cortisol) was related to the mean number of cold symptoms accumulating over 2, 5 and 10 weeks ($r=.393$, $p<0.024$; $r=.450$, $p<0.009$; $r=.424$, $p<0.014$ respectively).

Conclusion: We conclude that the awakening cortisol response may play an important role in controlling the balance of the immune system and that this has a direct impact on cold symptom reporting.

The cognitive neuropsychiatry approach to delusions of misidentification

H ELLIS, Cardiff University

There are four Delusional Misidentification Syndromes (paraprosopia, intermetamorphosis, Fregoli and Capgras) each of which involves the

belief that changes have occurred in the appearance of others. These beliefs may be predicated upon dysfunctions at different stages within the face processing system and these possibilities are explored. The Capgras delusion (the belief that significant others have been replaced by imposters) cannot easily be accommodated within any extant face recognition model and is examined in greater detail. The anomalous experiences of those with DMS, however, cannot fully explain the delusions: it may be necessary to posit a further disorder in those mechanisms that support attribution processes.

Magnetic resonance imaging correlates of prepulse inhibition in first-episode psychosis

U ETTINGER, V KUMARI, X CHITNIS, A SUMICH, D FANNON, W SONI, S O'CEALLAIGH, V DOKU, T SHARMA, Institute of Psychiatry

Objective: Prepulse inhibition (PPI), i.e. the reduction of startle in response to a powerful sensory stimulus if preceded immediately by a weak sensory stimulus, is known to be deficient in schizophrenia. The structural neural correlates of PPI have not yet been explored in human beings. This study investigated the structural correlates of deficient PPI in first episode psychosis using magnetic resonance imaging (MRI).

Design & Method: MRI measurements of the thalamus, caudate, amygdala, hippocampus, cortical regions and cerebrum were obtained from 11 patients scanned early within their first psychotic episode. PPI of the eye blink reflex was measured using three prepulse-to-pulse intervals (30, 60, and 120ms). The prepulse stimulus consisted of a 20-ms presentation of 85dB (A) white noise and the pulse of 115dB (A), both above a background noise of 70dB (A). The prepulse was presented equally often left, right and binaurally.

Results: PPI at 30ms was negatively correlated with right thalamic and various cortical volumes. PPI at 120ms was positively correlated with right hippocampal, right caudate, left and right prefrontal, and left premotor cortical volumes, as well as with left and right hemispheric volumes.

Conclusion: These – albeit preliminary – findings suggest that cerebral volumes may critically determine PPI, and support the involvement of hippocampus, thalamus and cortical regions in human PPI. These data warrant replication using a larger sample of patients and a group of healthy controls.

Background beliefs in Bayesian reasoning

J St BT EVANS, SE HANDLEY, N PERHAM, University of Plymouth, V THOMPSON, University of Saskatchewan, Canada

Objective: Most cognitive research claiming errors in Bayesian reasoning, such as base rate neglect, has presented explicit statistics unrelated to the participants' actual prior beliefs. The objective of the present study was to determine the influence of information implicitly provided by background beliefs compared with the equivalent information explicitly presented.

Method: Five experiments are reported involving a total of 327 participants. All problems involved scenarios about student societies in an imaginary university comprised of four faculties. In Experiment 1 (n=40), participants rated the likelihood of students from a given faculty belonging to one of a number of named societies as well as converse probability in order to establish a database of beliefs. In Experiment 2 (n=140) and Experiment 3 (n=60) participants were asked to estimate posterior probabilities of a students' faculty membership given explicit information about base rate probabilities, and students' society membership, but requiring the diagnosticity of the data to be supplied implicitly from background beliefs. Experiments 4 (n=50) and 5 (n=47) again involved posterior probability judgements, but were now arranged so that base rate values were supplied by background belief

while the diagnosticity of evidence was made explicit.

Results: Experiments 2 and 3 showed that participants were influenced both by the implicit diagnosticity of evidence and, to a significant but lesser extent, by the explicit level of base rate given. Experiments 4 and 5 showed significant influence of implicit rates.

Conclusion: Overall, our results confirm that participants are more influenced by specific evidence than by base rates in posterior probability judgements. However, we have found evidence that explicit base rate information is used, contrary to common claims in the literature. We have also shown that participants take appropriate account of actual prior beliefs in their response to experimental problems of this kind.

Exercise as therapy: 'It's just not clinical psychology'!

G FAULKNER, S BIDDLE, Loughborough University

Objective: Exercise has been suggested as an effective adjunct treatment for a range of mental health conditions. This study explored the perceptions of exercise held by course directors of D.Clin.Psy. training programmes in England.

Design: Given the exploratory nature of the study, a qualitative design using semi-structured interviews was considered most appropriate.

Method: The course director for each doctoral programme in clinical psychology (n=21) was invited to participate in a telephone interview. Sixteen were interviewed. In addition, two assistant directors and two lecturers also participated in interviews. Interviews ranged from 20 to 65 minutes.

Results: While the majority of participants held favourable attitudes regarding exercise, this was related more to exercise being seen as a positive lifestyle activity worth encouraging rather than exercise being recommended as an adjunctive treatment for mental health problems. Inductive analysis identified four themes that underpinned such a response: a lack of awareness of the evidence regarding exercise and mental health, the perceived 'simplicity' of exercise interventions, a practical adherence to a mind/body dichotomy, and the incompatibility of exercise with traditional models of understanding and treating clinical conditions.

Conclusion: Despite a sound evidence base on the relationship between exercise and mental health, the barriers highlighted in this study will continue to hinder the consideration of exercise as a common therapeutic adjunct at the present time. Further research must examine how such barriers can be overcome in addition to improving the diffusion of evidence to mental health professionals.

Gender, culture and emotions

AH FISCHER, University of Amsterdam

Objective & Background: Studies on gender differences in emotion have generally shown that women express and experience many emotions more intensely than do men. However, most of this research has used primarily white, middle-class subjects from Western countries. I review the results of a series of recent studies that suggest that there is cultural variation in this pattern: gender differences in individualistic cultures are larger than gender differences in collectivistic cultures.

Method: I critically discuss two explanations for these findings. The first explanation focuses on the function of gender roles in relation to emotion. Gender roles are assumed to be reflected in emotion-specific scripts, affecting both appraisals of emotion antecedents and regulation strategies. This explanation assumes that gender-specific rules have a greater impact than more general cultural display rules (e.g. 'you should not express negative emotions in public'). The second explanation is concerned with the influence of cultural display rules.

Conclusion: I argue that such rules are more important and salient in collectivist cultures, thereby overriding gender-specific display rules.

Sampling in lesbian and gay research: Challenges in achieving diversity

J FISH, Loughborough University, H PLATZER, Southampton University

Objective: This paper reviews the limitations of much research in lesbian and gay psychology that arise from the use of sampling approaches which fail to secure samples that reflect the diversity of these populations. Alternative sampling strategies are outlined which help to address this problem.

Background: Among researchers conducting both qualitative and quantitative work with lesbian and gay populations, there is a growing dissatisfaction with standard sampling methods. The samples that have been used in much research to date have tended to be highly educated, from professional occupational groups and under-representative of minority ethnic groups and older people. Participants also readily tend to self-define as lesbian or gay and have a high degree of affiliation to lesbian and gay communities. There are sampling challenges to be met, not only in accessing those who have been overlooked in much existing research but also in finding ways of assessing diversity.

Method: The discussion of sampling draws upon a review of the literature and two studies which have used very different, non-standard sampling strategies, i.e. a large-scale questionnaire-based survey of lesbians and health care and a qualitative interview study of the mental health care experiences of a group of lesbians, gay men and bisexuals.

Conclusion: Preliminary findings from these studies indicate the value of innovative sampling strategies in securing diverse participants from traditionally inaccessible sectors of lesbian, gay and related populations. Suggestions are offered for the further development of sampling in this domain.

The effects of age related differences in arousal on working memory functioning

J FISK, Edge Hill College of Higher Education

Objective: Previous studies suggest that age-related increases in arousal levels are associated with some aspects of cognitive decline in late adulthood. The present study seeks to replicate the existence of age-related differences in arousal and to examine the extent to which these impact working memory functioning.

Design: Multivariate Analysis of Variance was utilised with various aspects of working memory as dependent variables, age between participants, and arousal as a covariate.

Method: Participants were 43 younger (mean 24 years, range 20-33) and 39 older persons (mean 67 years, range 59-81). Measures of working memory functioning as well as a self-report measure of psychological arousal were taken.

Results: Older participants reported significantly higher levels of arousal. Arousal was significantly correlated with word span, spatial memory, and computation span. The correlation with reading span was marginally below statistical significance. Higher levels of arousal were associated with lower levels of performance on the other measures. Each of the above four measures generated significant age-related differences. Statistical control for the effects of age-related differences in arousal reduced the age-related variance by 46 per cent (for word span), 23 per cent (reading span) 26 per cent (computation span) and 16 per cent (spatial memory).

Conclusion: Self-report arousal levels do appear to increase in old age. While this increase may underpin some of the age-related decline in cognitive functioning the effects due to arousal were modest (accounting for only a quarter of the age related variance in the general measures of working memory functioning (computation and reading span)).

Challenging and developing theory through psychological research with gay men

P FLOWERS, Glasgow Caledonian University

Objective: This paper aims to demonstrate the potential of research in lesbian and gay psychology to challenge and revise existing psychological theory in a way that reflects lesbian and gay experience.

Background: Lesbian and gay experiences of particular life events are too often interpreted within ill-fitting psychological theories, developed from an assumption of universal heterosexuality, that fail to take account of the different dynamics and complexities of lesbian and gay lives. There is, therefore, a need to elaborate these theories or, if necessary, to devise new theories.

Traditional theoretical accounts of gay men's sexual decision-making present a static, linear model of sexual decision-making, privileging disease avoidance (i.e. a health rationality) while neglecting the social context of sexual conduct. In contrast, engaging with gay men's accounts of their lives produces a rich, complex, experiential perspective that embeds sexual health within the wider social context, providing a basis for theoretical development.

Method: The paper draws upon a study in which interpretative phenomenological analysis was employed to examine sexual health within the wider context of gay men's lives ($n=59$). In contrast to previous theoretical accounts, a plurality of differing, yet coherent, 'rationalities' emerged (e.g., the symbolic meaning of semen exchange as an expression of intimacy), each impacting upon sexual conduct.

Conclusion: Adopting an inductive approach to understanding gay men's sexual health provided useful findings for theories of health and health promotion. Moreover, these 'grounded' understandings provide a model for developing theory in lesbian and gay psychology.

What every new lecturer needs to know

A GALE, University of Portsmouth

Objective: This talk gives practical advice on how to be successful as a psychology lecturer.

Method: This is done by covering a number of topics of importance to a new academic. Departmental organisation and ethos are discussed, bearing in mind personal experience of a taxonomy of departmental heads, their personal styles, and indeed, some heads I have known! The concept of collegiality, its motives and what sustains it are reflected on. Attitudes towards students and what they can achieve in spite of other temptations are explored; different departments seem to treat students in different ways, notwithstanding the fact that psychology departments are friendly places. Hints are given about running successful lectures, stimulating practical classes and stage-managing tutorials. A number of relevant questions are addressed including: What has been lost from honours degrees because of the tendency to swamp final year students in enormous classes? How can you be a good personal tutor, so that the student remembers you long after they have left the university? What about your career as an original scientist and scholar? How do you make choices between teaching, research and administration? What are the delights of acting as PhD supervisor, grantholder and person manager? How can you be an external examiner and also protect students from other examiners? Some of us work in hostile environments; how can we all get the better of career bureaucrats and sustain the values we hold dear? I say good riddance to some of the bad and wicked things which are no more, rejoice about some current good practices, and reflect with nostalgic sadness on many of the excellent ways of teaching and learning that have been lost under modern pressures.

Paradoxical results in context-dependent learning

T GARGIULO, M BRISTOW, University of North London, A RICHARDSON, Quest International, Ashford, N MARLOW, University of North London

Objective: In this study we explored the effect of context dependent odours on subsequent recall of visual stimuli. Previous research has demonstrated that successful learning of target stimuli is dependent on both the stimuli to be learned and the context in which the stimulus is presented. In this study we investigated whether the learning of a visual stimulus is enhanced by the co-presentation of an appropriate odour during both the learning and recognition phase.

Design: A one-way between subject design was adopted.

Method: 50 subjects were recruited to participate in the study. The dependent variable was the number of times the subject correctly identified the target stimulus during the recognition phase. The independent variable (IV) was the type of odour used during the learning and recognition phases. The IV had three levels: firstly, an appropriate odour co-presented with the target visual stimulus and the same odour presented during the recognition phase. Secondly, an inappropriate odour co-presented with the visual stimulus during the learning phase and a different (and appropriate) odour presented during the recognition phase. Finally, in a control condition no odour was used either in the learning or the recognition phase.

Results: Analysis of the results indicate that, counter to our initial hypothesis, co-presentation of an odour during the learning and recognition phase of the experiment significantly decreased successful recognition of the target stimulus.

Conclusion: The discussion focuses on integrating these results within the framework of context dependent learning.

Investigating awareness of memory functioning following stroke

D GILLESPIE, A BOWEN, J FOSTER, University of Manchester

Objective: To determine the proportion of stroke patients in a rehabilitation setting who under- or over-estimate their memory functioning and to compare their performance with a neurologically-healthy control group. To determine whether unawareness of memory status can be explained by a general deficit of judgement.

Design: An observational, cross-sectional comparison of stroke patients and controls.

Method: At one month post-stroke, a consecutive sample of patients admitted to a stroke rehabilitation ward provide estimates of (a) future performance and (b) actual attainment on all sub-tests of the 'Doors & People' memory test, and complete a test of judgement ability (the Cognitive Estimates Test). A control group, with similar age and pre-morbid general intellectual ability distributions, complete the same assessments.

Results: Two measures of awareness are produced – type 1, awareness of future performance (ratio of predicted score to actual score) and type 2, awareness of actual attainment (ratio of estimated attainment to actual score). The first is essentially a measure of memory self-efficacy and the second of memory self-monitoring. The two groups are compared. Correlational analysis determines the relationship between scores on the Cognitive Estimates Test and types 1 and 2 awareness.

Conclusion: Patients who sustain brain damage sometimes lack awareness of their impairments, representing a potential obstacle to successful rehabilitation. This study investigates the extent of this phenomenon in a rehabilitation setting, and whether it is related to a more general deficit of judgement.

The trauma of war and its effects on civilian and military males and females in Croatia

AJ GOLDEN, University College London, PM KENEALY, Roehampton Institute London

Objective: To evaluate the experiences of psychological distress caused by war in Croatia and the role of mediating cognitive variables of avoidance and intrusion.

Design: A factorial design was employed.

Method: 85 participants aged 18-68 years were divided into four groups: (1) 25 civilian females; (2) 13 military females; (3) 13 civilian males; and (4) 34 military males living in Poreč, Zagreb, Petrinja, Split, Dubrovnik and Šibenik. Participants completed the Impact of Events Scale (IES – 15); the General Health Questionnaire (GHQ – 28); Beck's Hopelessness Scale (BHS – 20); and a War Related Experience Scale (WAREX – 25+4). This scale included an open-ended section for personal reflection of traumatic events.

Results: Results obtained using ANOVA suggested that overall, females experienced significantly more distress than males. Military females experienced most distress while unexpectedly military males experienced the least. Females scored significantly higher on total subjective distress, avoidance and intrusion (IES), psychological dysfunction (depression, anxiety, physical well being) (GHQ) and hopelessness (BHS) while military females had impaired social functioning (GHQ) and higher intrusion (IES) compared to others. Content and discriminant function analyses suggested that death and combat related traumas (military males) were mentioned most frequently while least mentioned were survival traumas (civilian females) and refugee traumas (military males).

Conclusion: Psychological distress caused by war was strongly influenced by both exposure to traumatic events and mediating variables of avoidance and intrusion. Further research is now required to assess psychological distress at different intervals post-trauma in civilian/military males and females.

A neuropsychological model of model of psychotic cognitive dysfunction

J GRAY, Institute of Psychiatry

Eysenck pioneered the application of experimental psychological concepts to psychiatric disorder, linking them to specified brain systems, and extending them to variation in normal personality. A comparable neuropsychological model is proposed to account for positive symptoms in acute schizophrenia. These symptoms are treated as arising from disruption in the influence of past experience upon current information processing. This disruption reflects malfunction in the connection between (1) limbic structures (entorhinal cortex, hippocampal formation and subicular area) that act as a comparator (comparing current stimulus input to input predicted on the basis of past regularities) and (2) structures in the basal ganglia (the nucleus accumbens and its dopaminergic innervation from nucleus A 10) concerned with motor programming. Data from animal experiments and schizophrenic patients supporting the model are reviewed. Additional experiments have explored the model with two groups of normal individuals putatively high in susceptibility to psychosis: those scoring high on questionnaire measures of schizotypy, and relatives of schizophrenic probands. Performance of the former on relevant experimental tests resembles that of schizophrenic patients, but performance of the latter is very different. The model and its testing has been further extended in a number of ways: by formulating it in neural-network terms; by extending its putative neural basis to perceptual systems, via the projection from the nucleus accumbens to the nucleus reticularis thalami; by developing functional imaging paradigms with which to study the human brain during relevant experimental tests; and by linking the model to the distinction between automatic and controlled processing.

Informal arguments: Individual and distributed cognition

DW GREEN, University College London

Objective: This paper reviews recent research on informal arguments in relationship to decision-making, opinion and discovery and proposes the theoretical notion of an argument model as a way to link both individual cognition and distributed cognition.

Background: In many circumstances, it is impossible to apply classical decision theory and so in real life, informal arguments (comprising minimally a claim and a reason) pervade decision-making and opinion-forming. Without a compelling reason for their choices, individuals may withhold reaching any decision. A theory of human cognition should apply both to individual decision-making and to the decision-making and discovery processes in groups. Extending the theory of mental models provides one way to achieve this aim.

Method: Experimental research shows that naive individuals can identify arguments in texts. Decisions are also sensitive to presented arguments and to arguments that undermine them. The structure of arguments is important. Such effects are observed both within-individuals and within-groups. Arguments are, therefore, causally-relevant to decisions. Other research shows that it is the relative strength of arguments pro and con some position (rather than the relative number of such arguments) that is critical. These data reinforce the importance of the structure of arguments because relative strength reflects both direct and indirect arguments for some position.

Conclusion: The results of these studies are consistent with the proposal that in reaching an opinion or a decision, individuals and groups construct an argument model. In such a model the relative strength of arguments is decisive.

Psychological well-being and activity levels during pregnancy

H GROSS, P CLARKE, E ROUSHAM, Loughborough University

Objective: To carry out an exploratory investigation of activity levels during pregnancy and relate these to birth outcome, psychological health and reported activities, including attitudes to exercise.

Design: A longitudinal study involving repeated measures of daily activity and psychological well-being. Design chosen in order to monitor possible change over time.

Method: Participants were selected from women attending antenatal clinic for booking visits according to three criteria; nulliparity, non-smoking, low-risk pregnancy. Complete data (five visits) was collected for 57 women who remained in the study for the whole period. The study involved home visits by the researcher every five to six weeks up to six weeks post-natally. At each visit, the participants were asked to wear an activity monitor for three days, to complete an activity diary and interview schedule. In addition, they completed the EPI on the first visit, the EPDS and FHLC inventories on each visit and STAI, MAMA and Perceived Support Questionnaire on every other visit. Women also completed a self-efficacy checklist.

Results: Preliminary analysis of activity monitor recordings indicates that mean activity levels changed during pregnancy, reducing towards the end. Findings on activity are related to psychological measures and to birth outcome including labour and delivery.

Conclusion: The physiological data provides useful baseline material for use by health professionals. Evidence for any relationship between psychological measures and activity should enhance understanding of behaviour and experience during pregnancy, with a view to providing appropriate health advice or intervention.

Physical, psychological and exercise factors predicting fitness and self-esteem

A GUPPY, Middlesex University, C SALE, Liverpool John Moores University

Objective: To assess the roles of gender, personality, and physical attributes (height and weight) in the association between reported habitual exercise patterns and subjective ratings of physical fitness and self-esteem.

Design: A cross-sectional, self-completion questionnaire survey of 180 postgraduate students was performed.

Method: The questionnaire contained scales measuring self-esteem, mastery, extraversion and neuroticism. Additionally, single item measures of reported habitual physical activity and perceived fitness were included in the questionnaire along with reported height and weight which were used to calculate Body Mass Index (BMI).

Results: In predicting reported habitual physical activity, only age and gender were strong contributors to the equation, with no significant effects due to personality or BMI. Over 60 per cent of the variance in perceived physical fitness was predicted in the next Multiple Regression Analysis, with habitual activity being the strongest predictor. More than 40 per cent of the variance in self-esteem was predicted in the final regression analysis with neuroticism and mastery being the strongest predictors.

Conclusion: Although associations existed between psychological and physical factors, perceived fitness and mental well-being were most clearly predicted by measure within their respective domains. It is suggested that the use of repeated measures surveys and the incorporation of physiological and biochemical indicators in the follow-up phase of the research provides important methodological progress.

Entropic nature of attitude-intention relationships: II. PBC and past behaviour

M HAGGER, University of Sheffield, S BIDDLE, N CHATZISARANTIS, Loughborough University

Objective: Controlling for perceived behavioural control (PBC) may help explain the instability of the attitude-intention relationship over time. In addition, past involvement with the behaviour may account for the attitude-intention and intention-behaviour relationships.

Design: A panel design with measures of attitude, intention and PBC at two points in time, four weeks apart. Prior behaviour was measured at time 1 and current behaviour measured at time 2.

Method: School children aged 12-14 years (n=70) completed inventories to assess the psychological measures. Relationships between the study variables were analysed using path analysis.

Results: PBC was shown to be a direct predictor of attitudes at both time points, but not across time. Instead, an indirect lagged relationship between PBC and attitude was observed, mediated by time 1 attitude and intention and time 2 behaviour. The addition of past behaviour at time 1 resulted in attenuating the attitude-intention and intention-behaviour relationships.

Conclusion: PBC assists in explaining attitudes instantaneously and across time, via the mediation of current attitudes and behaviour. The introduction of past behaviour largely accounts for the effects of the cognitions across time, but does not attenuate the PBC-attitude relationship at time 2. The instantaneous influence of PBC on attitudes at time 2 is related to self-perception theory and cognitive dissonance theory in terms of inferring changes in attitude.

Quality of life for women following myocardial infarction

M HANLEY, University College Northampton, D SYKES, Queen's University Belfast

Objective: The quality of life (QoL) achieved by women following myocardial infarction (MI) has

been inadequately explored in the research literature. The current paper presents findings from the Northern Ireland Cardiac Outcome Study (NICOS) documenting gender differences in QoL post MI and exploring potential mediators of variations in outcome.

Design & Method: In a longitudinal study of 287 cardiac patients (204 males and 83 females), QoL was assessed at 1 and 12 months following discharge from coronary care.

Results: Multivariate analyses revealed that at one year post MI women experienced poorer physical functioning ($p=.001$) and more pain ($p<.05$), were less able to fulfil their social roles as a result of physical limitations ($p<.05$), and were more depressed than their male counterparts ($p=.01$). Women were also less likely to attend hospital-based cardiac rehabilitation programmes ($p<.05$). Regression analyses suggested that such deficits in functioning would appear to be associated with social factors such as family environment, quality of the marital relationship and personal factors rather than severity of the MI.

Conclusion: In order to provide optimal rehabilitation programmes for female cardiac patients more consideration needs to be directed toward addressing the mediators of poor outcome, recognising that rehabilitation may also necessitate the involvement of the patient's wider social milieu to achieve a successful outcome.

Perceptions of problem alcohol use as a predictor of relapse in people who misuse alcohol

SM HARPER, JB DAVIES, University of Strathclyde

Objective: This research examines the variability in the self-reported information provided by people who abuse alcohol. A methodology was devised, based on the principles of Signal Detection Theory, that examines variability in self-report in terms of sensitivity and response bias. It was hypothesised that these concepts would predict who would succeed in treatment for alcohol problems and who would drop-out. Further, that the method would provide a means of quantifying the effects of treatment.

Design: Participants were tested at the beginning of a four-week intensive course of treatment (n=34). Those who did not relapse were also tested at the end of treatment (n=16). A matched non-treatment control group was tested twice with a four-week interval (n=12).

Method: Participants received an intensive course of treatment for alcohol-related problems as out-patients. A Signal Detection paradigm was employed with custom written vignettes presented as stimuli. Signals were operationally defined using DSM-IV criteria for substance abuse/dependence. Participants were asked to read 40 vignettes and rate on a four-point confidence scale how sure they were each vignette represented problem or non-problem drinking.

Results: Signal Detection analyses demonstrated that the method could predict who would drop out of treatment ($p>0.01$) in terms of response bias scores and could quantify the effects of treatment ($p>0.05$) in terms of increased sensitivity scores.

Conclusion: The varying self-reports of symptoms from problem alcohol users may be more usefully conceptualised in terms of sensitivity and response bias than in terms of memory or 'truth'. Furthermore, such a conceptualisation provides useful levels of prediction in an applied clinical setting and has implications for evaluating treatment efficacy.

Using cognitive mapping to understand emotional experience at work

C HARRIS, K DANIELS, University of Sheffield, R BRINER, University of London

Objective: The aim of the paper is to illustrate how qualitative cognitive mapping methods can be used to explore mental models of causes, nature and consequences of emotions in the work place.

Background: Cognitive maps are pictorial

representations of what is known or believed (Fiol & Huff 1992). There are three reasons for studying mental models of emotional experiences at work. First, recent theoretical frameworks emphasise the causal importance of mental models in the development of emotions (e.g. Power & Dalgleish, 1998). Second, Lazarus (1999) has alluded to the importance of sense-making of emotional experiences. Third, perceptions of risks to emotional well-being will influence behaviour toward those risks (cf. Weick, 1969, Slovic, 1987, Douglas et al., 1982). Indeed, understanding mental models of risks to well-being can inform risk communication and management (Daniels, 1996a).

Method: We present an empirical study of the development of a method to elicit mental models of emotional experience (n=46 from eight organisations). We outline the theoretical rationale underlying a mental models approach to emotions, and show how the cognitive maps are related to a range of social, cultural, organisational and psychological factors, including well-being.

Conclusion: Using the cognitive maps and case studies of the participating organisations, we illustrate how understanding mental models of emotional experience at work can: challenge inappropriate mental models; encourage managers to minimise the risks that their employees are exposed to; and aid the development and implementation of intervention programmes.

Taking the 'deception' out of lying: The role of cognition in lying

A HEATH, Brunel University

Objective: The poster describes work in progress that applies the source monitoring (SM) framework to interpersonal deception. Memories derived from internal origin have characteristics that distinguish them from memories derived from external origin. Forms of deception that involve the recall of external (real) and internal (fabricated) memories should be distinguishable by the application of SM criteria. Other variables considered to play a role are individual differences in imagery vividness, and preparation time (delayed versus immediate recall).

Design & Method: Undergraduate participants provide two oral accounts – an autobiographical event memory and a fabricated one, presented in a videotaped interview situation. The interactive paradigm is less artificial than many used in previous studies. Personal accounts are also more engaging for participants than types of lie employed in previous work. Furthermore, a sample of both truthful and deceptive behaviour allows behavioural comparisons to be made.

Results & Conclusion: Linguistic analyses using SM criteria are expected to find that low imagers (LI) true and fabricated accounts can be reliably distinguished, but that high imagers (HI) fabricated accounts will be more similar to their real accounts. Consequently HI will be judged by others as more credible than LI. Instructions to use SM criteria should also improve judges' accuracy at detecting deception in LI, though not in HI. The opportunity to make behavioural comparisons should improve overall accuracy. The effect of preparation is expected to reduce the utility of SM criteria in LI; accounts that are subject to rehearsal will be more 'internal-like' regardless of truth status or imagery ability. The usefulness of SM as a theoretical framework to explain individual differences in deception is discussed.

Short-term memory for serial order: Data, model and brain

R HENSON, Institute of Neurology

Objective: This paper reviews recent theoretical, empirical, computational and neuroanatomical investigations of verbal short-term memory.

Background: How do we repeat back a novel series of items in the correct order? Like many psychological phenomena, closer inspection of this ability – our short-term memory for serial order – raises many theoretical issues. In particular, though psychologists have long been

aware of the problem of serial order, the recent development of computational models has allowed more focused debate.

Method: Three means of representing serial order are identified: interitem associations, ordinal representations, and positional representations. Analyses of the errors people make when they misrecall sequences favour positional representations. Three types of positional representations are distinguished: temporal position, absolute position, and relative position. Error data are again useful, in this case favouring representations of relative position. An example of a relative positional model – the Start-End Model – is outlined, which codes position relative to markers at the start and end of a sequence. One problem with this model however concerns its requirement to predict the end of a sequence. A formally equivalent coding of relative position is described, in which multiple oscillators of different frequencies compete to best represent a sequence, that overcomes this problem. The manipulation of temporal grouping in a recent neuroimaging study suggests that these oscillators may lie in left dorsal premotor cortex, an area previously associated with temporal sequencing.

Conclusion: The combination of psychological data, computational modelling and behaviour-brain mappings can provide new light on old issues.

The impact of acquired brain injury on families and carers

J HESLIN, J POWELL, Goldsmiths College, University of London

Objective: To evaluate the impact of acquired brain injury (ABI) on the social and psychological functioning of carers, and to determine whether this varies depending on carer's kinship to the person with ABI.

Design: 38 carers (25 spouses, 13 parents/other family members) were assessed just after their relative was discharged from in-patient rehabilitation, and then 3-6 and 12 months post-discharge.

Method: Interview and questionnaire techniques assessed mood, perceived burden, locus of control and coping strategies. Carers also rated the time they spent in various social roles (Family Life, Leisure, Caring, and Employment) both currently and before the ABI.

Results: Carers showed highly significant changes in all four social role domains from pre- to post-ABI, with little recovery to pre-ABI levels over 12 months. Changes were greater for spouses than for parents/other family members, and their perceived burden was also greater. Elevated levels of both anxiety and depression were reported, but did not differ as a function of kinship status and showed little change over time. Anxiety correlated highly with perceived burden throughout, whilst locus of control correlated with anxiety and with perceived burden at some, though not all, assessment points.

Conclusion: Caring for someone with ABI strongly affects both involvement in a range of social roles and psychological well-being. Impact varies by type of kinship and in relation to locus of control. Interrelationships between these various aspects of functioning are complex, but the present findings highlight the importance of assessing the needs of carers as well as patients.

Personality and ability attributes in selecting air traffic control trainees

RE HICKS, Bond University, Australia

Objective: The primary objective of the paper is to report results of a study examining the relationship between personality and ability attributes as predictors of success in air traffic control training.

Design: The design of this study involved analysis of archival selection and training data held on air traffic control trainees. Scores of trainees on ability and personality measures were compared with subsequent training performance and final field ratings (required before licencing as an air traffic controller). This design is the conventional predictive validity

design. The design allowed a comparison to be made of the relative effectiveness of the ability and personality scores.

Method: The participants in the study were 90 air traffic control trainees who completed selection testing programs and subsequent Australian government training courses conducted over the period 1994-1997. Tests included those assessing general reasoning, numerical, spatial, and other aptitudes. A single overall ability predictor score was available. Questionnaire scores available included those from the Occupational Personality Questionnaire; a single measure of personality attributes was developed in this study using results on the OPQ. Criterion results included in-course training marks, and final field-practicum ratings.

Results: Correlation analyses demonstrated that Abilities correlated more with training course success but that Personality attributes correlated more with actual final field rating performance. The combination of ability and personality attributes, however, yielded significantly higher results than either ability measures or personality attributes used alone.

Conclusion: Measures of personality attributes can contribute to subsequent air traffic control training success and should be considered for use in the selection process.

The Asthma Navigator™ – helping patients whose attitudes may place them 'at risk'

RE HICKS, Bond University, Australia;
G HARRIS, Health Explorers Pty Ltd, Australia

Objective: The primary objective of this paper is to describe the development and early validation of a new health questionnaire, the *Asthma Navigator™*. The *Asthma Navigator™* was developed to identify patients' beliefs, feelings and attitudes related to their asthma and to indicate the extent to which the patient's health might be considered to be 'at risk'.

Design: Qualitative and quantitative approaches were used. First focus interviewing groups were conducted and major attitudinal themes identified. A pilot questionnaire was developed and vetted by experts and a final questionnaire developed. This questionnaire was administered to a random sample across three States of people with asthma. Ongoing studies involve analysis of before and after results on the questionnaire and comparisons with changes in relevant health indicators.

Method: Based on focus interviewing of 70 patients with asthma several dimensions of beliefs and attitudes were identified, and items then written for the pilot questionnaire. After review by an expert panel and field testing, the questionnaire was administered to more than 360 patients with asthma in three Australian cities. The results were factor-analysed. The questionnaire is being used in pre- and post-testing in an ongoing doctor-patient asthma partnership study now in operation for over twelve months.

Results: Factor analysis has identified three factors underlying the questionnaire: attitudes towards asthma acceptance, medication beliefs, and feelings about the doctor-patient relationship. Reliability (alpha) coefficients for the four streams, ten dimensions and the three identified actor-dimensions ranged from 0.62 to 0.94 (mean 0.73), and split-half coefficients from 0.65 to 0.94 (mean 0.73). Ongoing studies of the questionnaire have shown stability over nine months in control group member scores, versus marked improvements in scores of members of the treatment (partnership) groups and related improvements in their medical/health-indicator scores.

Conclusion: Attitudes about asthma can be measured reliably through the *Asthma Navigator™* and its use in the doctor-patient relationship can help improve health outcomes.

Empathy and psychological adjustment in Chinese children with asthma

R HO-MINGTANG, Dept of Community Medicine & Unit for Behavioural Sciences, Hong Kong

Objective: Little is known about adjustment of children with chronic illness in non-western culture. The approach to studying chronically ill children has been pathology oriented. Less is known about whether there is interference with development of processes seen as maturational such as empathy. The present study investigated the relationship between empathy and parent-rated psychological adjustment in Hong Kong Chinese children with asthma between the age of six to nine years.

Design: Case-control study.

Method: 45 mother-child pairs with asthma were compared with equal number of healthy counterparts on their level of psychological adjustment and empathic attitude. Measures included the Index of Empathy for Children and Adolescents and Personal Adjustment and Role skills Scale III. Parents' empathic tendency was also measured by using Questionnaire Measure of Empathic Tendency. All measures were administered in Chinese.

Results: Children with asthma were less psychologically adjusted than the healthy children. Empathy increases with age in asthmatic children but not the healthy ones. No relationship was found between parents and children's empathic tendency. Number of siblings was found to be positively related to psychological adjustment. Moreover, opposite to their healthy counterparts in the present study, the empathic tendency of children with asthma was found to be positively related to their age.

The impact of acute childhood encephalopathy on development: The example of severe malaria

PA HOLDING, KEMRI Centre for Geographic Medicine Research, Kenya, J STEVENSON, University of Southampton, N PESHU, K MARSH, KEMRI Centre for Geographic Medicine Research, Kenya

Objective: Severe malaria with impaired consciousness is the most common acute encephalopathy in Sub-Saharan Africa, and yet little is known of its effect upon the longer term development of survivors. Information concerning cognitive/behavioural sequelae were sought to inform carers regarding the developmental problems these children can be expected to encounter, the forms of support required, and to plan for possible preventative measures.

Design: The performance of matched pairs of children (survivors of severe malaria with impaired consciousness and community controls) was compared on a wide range of tasks. These were developed to take into account both potential neurological impairments and the particular social and cultural background of the children being assessed.

Method: 87 pairs of children were assessed at six years old (after over three years post discharge). Case children were selected from detailed hospital records, and control children were identified from a community database. Tasks included information processing, language, attention, visuo-motor speed, achievement and behaviour. The presence of cognitive impairment was then related to potential prognostic indicators.

Results: Whilst impairment of information processing appears to be concentrated in a minority of survivors of cerebral malaria, there are indications that the development of executive functions may be affected in a greater number of children. The odds ratio associated with the development of cognitive impairment following severe malaria with impaired consciousness was found to be 4.48, (95 per cent CI (1.22,16.47)). Targets for intervention in clinical management were suggested.

Geniuses: What can we learn from them?

MJA HOWE, University of Exeter

Objective: This paper examines some of the ways in which insights gained by studying geniuses can be applied to the lives of ordinary adults and young people.

Background: Although the achievements of geniuses have been immensely influential, the possibility that ordinary people have much to learn from geniuses has been largely ignored. **Method:** Geniuses have been widely regarded as being strikingly different from other people, but in some ways they are not all dissimilar to others. Consequently, knowledge of the experiences and the activities that have enabled geniuses to gain their remarkable capabilities provides valuable insights into ways of extending expertise in unexceptional men and women.

Conclusion: Many geniuses engage in extensive training, are capable of concentrating on problems for lengthy periods, and have a firm sense of direction. Observations such as these should encourage learners to discard certain self-restricting beliefs. These include the view that certain innately talented individuals have no need for arduous training regimes, and assumption that those people who do not acquire skills readily have little chance of ever excelling.

The readability of 2D and 3D bar charts: An application for Weber's law?

BM HUGHES, LSB College, Dublin

Objective: To assess the comparative readability of 2-dimensional (2D) and 3-dimensional (3D) bar charts, and to compute the corresponding Weber's constants and just-noticeable-differences (jnds). It was predicted that the jnd for 3D charts would be the larger.

Design: 36 bar charts (18 2D and 18 3D) were prepared for individual phased presentation on an overhead projector. The charts were designed to allow the method of constant stimuli to be used to compute jnds. As such, each chart contained two bars: one of standard size (25 units), and a second that varied in size from 24 to 26 units in increments of 0.25 units (1 per cent of the standard). In all cases, charts were created using the default settings on Microsoft Graph 97 Chart, a feature of Microsoft Word 97.

Method: 57 undergraduate psychology students were exposed to the 36 charts (in a random sequence) for three-second periods separated by three-second intervals. Participants recorded comparative size judgements for each chart.

Results: Multivariate analyses revealed an advantage in accuracy (in the order of magnitude of approximately 10 per cent) for 2D rather than 3D bar charts, after controlling for gender, age, and use of corrective lenses. The computed Weber's constants for these judgements were similar to those computed for visual intensity over 100 years ago, but – as predicted – the jnd for 3D charts was the larger.

Conclusion: Further evidence in favour of 2D bar charts is apparent. Furthermore, the use of traditional psychophysical approaches in assessing graphical aids would appear to be justified.

Daily stress-coping and daily cortisol secretion in males attending an IVF clinic.

KM HURST, University of Hull, L DYE, University of Leeds, AJ RUTHERFORD, The General Infirmary at Leeds

Objective: The objective of this research is to establish differences in the self-reported daily stress-coping behaviours of male IVF clinic attendees, and to determine whether there are differences in their daily cortisol secretion. It is hypothesised that the biopsychological interface may be a contributing factor in certain forms of human male subfertility, via cross-communication between the HPA and HPG axes.

Design: The study uses a mixed design, with between group comparisons (fertile and non-fertile) of daily stress-coping and cortisol, and within-participant comparisons across the study.

The rationale is based upon literature linking daily stress-coping to health outcomes, and the considerable variations of normal baseline hormonal measures between participants.

Method: Participants (n=39) were recruited from an IVF clinic, approximately half with suspected male factor subfertility, and half without a male factor. Self-report measures of the frequency and severity of daily stressors (The Daily Stress Inventory), and the daily use of coping behaviours (The Daily Coping Assessment) were collected. Each day participants provided four within-day samples of salivary cortisol for radio-immuno-assay, to determine cortisol secretion. At the end of the study, participants provided a semen sample, to determine whether a male factor was implicated in the couple's subfertility.

Results: Analyses revealed differences between the daily stress-coping profiles of males with and without a male factor implicated in the aetiology of the couples' subfertility. Analysis revealed within-participant associations between cortisol levels and their fertility status.

Conclusion: The possible interaction of stress and coping with psychoneuro-endocrinological factors in male subfertility are discussed.

Social interaction in computer-mediated communication

C ILSLEY, Goldsmiths College, University of London

Objective: This research looks at the potential impact of the social use of computer-mediated communication (CMC) on interaction within groups, particularly social influence processes. **Hypothesis:** The medium in which discussion takes place will have a significant effect on both subsequent attitude change and on the style of discussion.

Design: A partially repeated measures design was used (due to time constraints), comparing three types of communication – face-to-face (FTF), computer conferencing (CMC), and computer-based 'chat room' (RTC) – with attitude change post discussion as a dependent variable. The RTC condition has features of both FTF and CMC conditions (the anonymity of CMC with the immediate feedback of FTF).

Method: Participants – 50 1st-year psychology undergraduates in small groups, with each group taking part in discussions in two of the three formats. Topics selected to allow freedom of discussion within groups, with attitude measures taken pre- and post-discussion.

Results: A repeated measures ANOVA showed significant attitude change on one topic, but no interaction with discussion format. Content analysis of discussions showed CMC discussions were more formal, impersonal and task-oriented, whereas FTF and RTC discussions tended to be more informal, personal and wide-ranging.

Conclusion: The amount of feedback individuals receive is a key issue in terms of how they interact, more so perhaps than other social context cues previously thought to be important. A clear view of the potential impact of CMC can only come from a clear consideration of the various forms CMC can take, rather than viewing it as a unitary concept.

Models in mind: The case of reasoning

P JOHNSON-LAIRD, Princeton University

Objective: The aim of the paper is to answer the question: how do people reason?

Background: Throughout the 20th century, psychologists have studied how people reason. Only in the last 30 years have they proposed theories of the process.

Method: The paper argues that reasoning is a process in which individuals envisage the possibilities compatible with the premises. They represent each possibility in a mental model. Hence, they consider that a conclusion is possibly true if it holds in at least one model of the premises, and that it is necessarily true if it holds in all the models of the premises. Conversely, they reject a conclusion as invalid (not necessarily true given the premises) if they can construct a counterexample to it, i.e. a model of the premises in which the conclusion is false.

And they estimate the probability of a conclusion from the proportion of models in which the conclusion holds. The talk describes a computer implementation of the model theory, and it presents evidence corroborating the theory from studies of various sorts of deductive reasoning. **Conclusion:** The model theory provides a unified account of deductive and probabilistic reasoning – at least when probabilities are inferred from a knowledge of the different ways in which events might occur. The theory may be wrong, but at least it accounts for its own demise: it will be overturned by the discovery of robust counter examples.

Behaviour and health outcomes

M JOHNSTON, St. Andrews University

Objective: To examine the models that have been used to explain outcomes of disease, especially activity limitations.

Background: A large number of the measures currently used to assess health outcomes of disease or of treatment are psychological or behavioural. It follows that the development of methods of measurement, predictive variables and interventions to enhance these outcomes benefit from psychological inputs. However, the field is dominated by biomedical models exemplified by the WHO ICIDH and ICIDH2 models. This paper argues for a review of the use of these models in the light of psychological evidence and theory.

Method: Evidence from a number of studies is reported. Using data from stroke and MI patients to test the WHO ICIDH model, we have found little support for the model as an explanation of activity limitations. Further, studies with various patient groups, including stroke and joint surgery, demonstrate the importance of control cognitions in predicting activity limitations. Several methods of integrating these findings with the WHO approach are examined, including additive, mediating and moderating models. It is argued that a model where impairment moderates psychological processes may be the most appropriate.

Conclusion: Studies of disease-related activity limitations can be dominated by a biomedical model. Models which are predominantly psychological and where biomedical factors are seen to moderate these processes could usefully be explored.

To what extent do cognitions and emotions predict recovery from stroke?

M JOHNSTON, St. Andrews University,
V MORRISON, Bangor University,
B POLLARD, St. Andrews University,
R MacWALTER, University of Dundee

Objective: There is ample evidence that cognitive and emotional variables predict recovery from disabling conditions. Experimental studies demonstrated that manipulating either emotions or cognitions has the expected effects in changing disability. However, it is unclear whether these are separate effects or if emotions mediate the effects of cognitions (or vice versa). The current study examines prediction of three-year disability outcomes from measures of emotional state and control cognitions in the first year following acute stroke.

Design: A prospective study of a sample of stroke patients.

Method: Measures were obtained in hospital, one month after discharge and six months after discharge in a cohort of 101 patients. Demographic, clinical and psychological measures were used to predict functional recovery after three years, allowing for initial levels of performance, in the 40 patients available.

Results: Both emotional and cognitive measures predicted functional limitations when demographic and clinical variables had been accounted for. However, while control cognitions continued to predict functional outcomes when emotions had been accounted for, the reverse was not true for emotional state when cognitions had entered the equations.

Conclusion: The results suggest a stronger role

for cognitive than emotional predictors. The implications of these results for theory and for intervention are discussed.

Type-specific reactions to stress: A review of theory and research evidence using the Myers-Briggs Type Indicator

B KENDALL, Oxford Psychologists Press

Objective: This paper reviews the theory and evidence relating personality, as measured using the Myers-Briggs Type Indicator (MBTI), to the stress process. The theory predicts that individuals of different personality 'types' will be predisposed to react differentially to specific environmental conditions. Furthermore, it is predicted that each 'type' will react to and cope with stress in characteristic ways.

Background: The MBTI sorts people according to four sets of preferences related to style of perception (S-N), decision making (T-F) and general orientation to the world (E-I and J-P), thus dividing the population into 16 personality 'types', each denoted by a four-letter combination. According to type theory, the four-letter type stands for a complex set of dynamic relations between the different aspects of personality, one consequence of which is the type-specific response to stress.

Method: Despite the popularity of the MBTI in occupational settings, and the wide interest in stress processes, these two domains of research have remained relatively separate. Where stress research has incorporated measures of personality, these have tended to be specific, often narrowly defined aspects of personality, rather than a more encompassing model of personality such as MBTI. This paper reviews several empirical studies examining type theory in relation to the stress process, including differences in stress 'triggers', coping strategies, and rates of burnout and cardiovascular disease.

Conclusion: Incorporating the MBTI personality structure within survey-based studies of stress and coping would enhance our understanding both of the structure and development of personality, and of the stress process more generally.

Enhancement of cognitive performance by single doses of Ginkgo biloba

D KENNEDY, A SCHOLEY, University of Northumbria, K WESNES, Cognitive Drug Research Ltd

Objective: Long-term administration of extracts from the ancient tree Ginkgo biloba are known to have beneficial effects on aspects of health and psychological performance. This study examined the possibility that there may be measurable improvements in cognitive function following a single dose of Ginkgo.

Design: A placebo-controlled, double-blind, balanced, crossover design was utilised.

Method: 20 participants received 120, 240 and 360mg of a standardised extract of Ginkgo (GK 501, Pharmaton SA) or a placebo. The order in which they received each dose was determined by random allocation to a position on a Latin Square table of treatment order. For each participant, the doses were administered on different days, separated by a seven-day wash-out period. On each study day participants' performance on the Cognitive Drug Research (CDR) computerised cognitive assessment battery was measured immediately prior to dosing and at 1, 2.5, 4 and 6 hours following treatment.

Results: Data were collapsed into four aspects of cognitive performance which have previously been derived by factor analysis of CDR subtests. There were a number of significant improvements in these measures following Ginkgo administration. The most striking of these was a significant enhancement of the 'speed of attention' factor following administration of both 240 and 360 mg of the extract. This effect had developed by 2.5 hours and was still evident at 6 hours.

Conclusion: In addition to the health benefits of chronic administration of Ginkgo biloba, it

appears that single doses of the extract are capable of sustained enhancement of aspects of cognitive performance.

Enhancement of cognitive performance by single doses of ginseng

D KENNEDY, A SCHOLEY, University of Northumbria, K WESNES, Cognitive Drug Research Ltd

Objective: 'Ginseng' is generally taken to refer to the dried root of the plant species Panax which has been used for several millennia in Chinese medicine as a tonic, restorative or prophylactic agent. The possibility of acute cognitive benefits following single doses of ginseng has received sparse attention and was the focus of the present study.

Design: The study utilised a placebo-controlled, double-blind, balanced, crossover design.

Method: 20 participants received 200, 400 and 600mg of a standardised extract of ginseng (G115, Pharmaton SA) or a placebo, on separate days. The order in which they received each dose was pseudo-random, following a Latin Squares design. For each participant doses were administered on different days, each separated by a seven-day wash-out period. Cognitive performance was assessed using the Cognitive Drug Research (CDR) computerised test battery immediately prior to treatment and at 1, 2.5, 4 and 6 hours thereafter.

Results: The primary outcome measures were four aspects of cognitive performance which have previously been derived by factor analysis of CDR subtests and a further factor which was derived from memory accuracy scores. There were a number of significant changes in these measures following ginseng administration. In particular both the 'Quality of Memory' factor and the 'Secondary Memory' factors were significantly improved by the 400mg dose of ginseng at all test times.

Conclusion: These data provide comprehensive evidence that single doses of ginseng are capable of a continued and coherent improvement in aspects of memory.

How stress slows the wound healing

J KIECOLT-GLASER, R GLASER, P MARUCHA, R MACCALLUM, B LASKOWSKI, W MALARKEY, Ohio State College of Medicine

Objective: Recent studies from our lab have assessed relationships between psychological stress and the secretion of proinflammatory cytokines at an actual wound site, providing in vivo data on the development of local immune responses that are central in the early stages of wound repair. These studies addressed the impact of stress and relaxation on local immune responses at wound sites.

Design & Method: To study the dynamics of inflammation, skin blisters were induced on the forearm by suction. After removal of the blister roofs, a plastic template was taped to the arm, and the wells were filled with autologous serum in buffer. Samples were aspirated from blister chamber wells at 5 and 22 hours after wounding.

Results: Women who reported greater stress demonstrated significantly lower production of two key cytokines at woundsites; additionally, subjects who were low producers of both cytokines reported more stress and negative affect, and they had higher levels of salivary cortisol than those who were high cytokine producers. A further study suggests that a relaxation intervention can enhance recruitment of cells to wound sites.

Conclusion: Consistent with the evidence that stress delays wound healing, these data suggest a possible mechanism: psychological stress has measurable consequences for proinflammatory cytokine production in the local wound environment.

Stress, personal relationships, and immune function: Translating social support into health

JK KIECOLT-GLASER, Ohio State College of Medicine

Objective: The link between personal relationships and immune function is one of the most robust findings in the psychoneuroimmunology literature.

Background: The disruption or loss of close relationships has been linked to the dysregulation of immune and endocrine function, including dementia spousal caregiving, separation and divorce, troubled marital relationships, loneliness, and social isolation.

Method: This presentation describes studies on close personal relationships from our research program in psychoneuroimmunology, with a particular focus on newer data that address aspects of the marital relationship as moderators of immune and endocrine function. In addition, data linking stress to alterations in vaccine responses, risk for infectious disease, and wound healing will be discussed.

Conclusion: Supportive personal relationships have been associated better health, and immune and endocrine function likely serve as important pathways. In addition, however, abrasive relationships may provoke larger and more frequent adverse immunological, endocrinological, and cardiovascular changes, and deserve further study.

Working in higher education: The relationship between working conditions and psychological health

G KINMAN, F JONES, University of Hertfordshire

Objective: There is evidence to suggest that working conditions for academics have changed considerably, but little is known about the nature and extent of stressors and strains experienced by the workforce. This study aimed to identify and examine: (a) sources of pressure relevant to UK academics; (b) perceptions of recent structural change; (c) the relationship between these factors, psychological health and job satisfaction.

Design: A cross-sectional survey was used.

Method: 782 respondents (44 per cent female) working full-time in UK Universities completed questionnaire-based measures of sources of job-related pressure, perceptions of recent changes in working conditions, and job satisfaction specifically developed for this study. The GHQ-12 was used to assess psychological health.

Results: Compared to occupational studies of a similar nature, low levels of psychological health were found (53 per cent achieved GHQ 'caseness') although a considerable degree of job satisfaction was also revealed. Examination of the data using factor analysis and a series of multiple regression analyses indicated that perceived conflict between work and home and perceptions of change towards a more bureaucratic and less participative management model were the most significant predictors of low levels of psychological health for both male and female academics.

Conclusion: A number of specific job-related factors are associated with low levels of psychological health in UK lecturers. Such research can inform more precisely-targeted stress management interventions, and also help develop policy and practice relating to structural changes in the workplace. Further work is needed to seek explanations for, and implications of, the comparatively high levels of psychological ill-health found in this study.

Decision processes of accurate and inaccurate eyewitnesses

W KNELLER, University of Southampton, A MEMON, University of Aberdeen, S STEVENAGE, University of Southampton

Objective: The decision making strategies of eyewitnesses were tested for their predictive qualities in determining the accuracy of identifications from simultaneous and sequential lineups.

Design: A 2 x 2 between subjects design was

utilised, where the factors were lineup presentation mode (simultaneous or sequential) and the presence of the target in the lineup (present or absent).

Method: 72 participants (age range 16 to 40 years) served as witnesses to a video-taped scenario which depicted a man acting suspiciously in a car park. Participants were presented with one of four experimental lineup presentations. Data regarding the cognitive processes utilised by the participant were collected via a self-reported questionnaire.

Results: Consistent with previous research, the sequential presentation resulted in an equivalent number of correct identifications compared to the simultaneous lineup but reduced false identification rates. In addition, sequential lineups were found to be associated with the use of absolute strategies, while simultaneous lineups were associated with both relative and absolute strategies. Finally accurate identifications were more likely to be the result of an absolute strategy, whilst incorrect identifications were more likely to be associated with the use of relative strategies.

Conclusion: The results would suggest that the mode of lineup presentation and the decision strategy used are not, as previously thought, mutually exclusive. However, the results do suggest that the decision strategy used could be predictive of the accuracy of the identification.

The development of motivational orientations in co-operative and competitive classrooms

O KOELLER, Max Plank Institute for Human Development, Germany

Objective: According to Ames and Archer (1988; see also Anderman & Anderman, 1999) students' perceptions of goal structures in their classrooms influence their adoption of goal orientations. When teachers emphasise improvement, effort, and learning for intrinsic reasons, students are likely to adopt personal learning goals rather than performance goals.

Design: Prior studies, however, (a) did primarily focus on the perceived instructional context ignoring the 'real context' beyond individual perceptions and (b) were often restricted to teachers' goals, not considering the goal orientations of the classmates.

Method: Data of n=2524 German 7th graders from 153 classes were thus analysed to predict changes in goal orientations over one school year. In order to separate effects of the perceived classroom environment and the 'real' environment, both the individual scores of the co-operation and competitiveness scales and their class-averages were used as predictors of ego and task orientation at the end of grade 7.

Results: Beyond the stability coefficient of $B=.34$, the perceived competitiveness of the classmates predicted ego-orientation at the end of grade 7. Concerning task orientation, both the perceived classroom climate as well as the 'real' climate predicted task orientation at the end of grade 7. Students who assessed their classmates as more co-operative ($B=.22$) as well as those belonging to a class of more co-operative classmates ($B=.22$) had higher task orientation at the end of grade 7.

Conclusion: The findings show that task orientation increases in co-operative settings while ego orientation increases in competitive settings.

Protecting dignity, respecting difference: The Yin and Yang of equal opportunities

J KREMER, Queen's University Belfast

Objective: The successful implementation of an equal opportunities programme in the workplace often hinges on the balancing of two issues, the protection of individual rights and dignity along with the need to accommodate and respect differences in identity. At first glance it may be tempting to consider these two domains as mutually exclusive, the former representing the shady side of equal opportunities work, i.e. the policing of harassment (the yin), with the latter presenting a somewhat sunnier vista, the

celebration of diversity (the yang). Not surprisingly, in the real world these two fields cannot be conveniently fenced but instead they overlap. It is hoped to demonstrate how practical interventions in the workplace can be developed so as to accommodate both protection and respect. As for the role of psychology, it is further argued that the discipline is uniquely placed to utilise techniques which can meet both these concerns.

Method: Drawing on experiences gained while working with public and private sector organisations in Northern Ireland, a number of case studies are used to illustrate the inadequacies of traditional remedies for dealing with the protection of dignity at work, and the potential for alternative interventions, including those which raise awareness of basic psychological processes underpinning prejudice and unfair discrimination.

Results: The efficacy of informal, non-adversarial approaches to interpersonal problems are considered, alongside methods for reviewing and addressing wider cultural issues in organisations associated with exclusion and partisanship. Examples of programmes which endeavour to tackle problems at the individual, the interpersonal and the organisational level are outlined and evaluated.

Conclusion: The paper endeavours to demonstrate psychology's potential for promoting positive organisational change and offers a number of proposals as to how this type of work may be facilitated.

Making money out of psychology: Can we predict economic behaviour?

S LEA, University of Exeter

Objective: How does psychology interact with the economic world? How should it interact with the economic world? Why are the academic links between the disciplines of psychology and economics relatively weak? Why don't we psychologists use our psychological knowledge to predict economic behaviour, and so make ourselves rich? This lecture explores these fundamental questions about economic psychology.

Background: Economics and psychology share some philosophical origins, and they draw on some common bodies of theory. But they have little to do with each other; and when they do, they take radically different approaches and often reach different conclusions.

Method: 1. Economics is driven by theory, specifically by the theory of rational self-interest. Modern psychology has largely discarded grand theories, and is driven much more strongly by data. 2. Where economics and psychology do come together, psychologists tend to be employed by organisations and commercial bodies, to pursue their interests, which are often opposed to the interests of wider communities. 3. It is impossible to 'make money out of psychology' by using psychological knowledge to predict other people's economic behaviour, because the predictions can become known to other economic actors. This example illustrates a general limitation on psychological science. 4. It may be possible to derive greater happiness from what money one has, by predicting one's own economic behaviour.

Conclusion: Psychologists have been wrong to neglect economic behaviour; it constitutes a large part of what people do, and studying it illuminates general points of psychological theory.

The role of familiarity in expert face recognition

E LEE, S STEVENAGE, University of Southampton

Objective: Recognition of upright and inverted faces, which were either personally familiar or unfamiliar to participants, was tested to determine whether expertise might be located at an item level rather than at a category level. It was predicted that expert recognition (of familiar faces) would be more disrupted by inversion than novice recognition (of unfamiliar faces).

Design: A speeded familiarity task was used in a

2 x 2 repeated-measures design, in which orientation and facial familiarity were manipulated within subjects. Performance was measured using speed and accuracy of response.

Method: 44 black-and-white photographs were used depicting 22 faces of well-known staff in each of two departments (set A and set B). Participants were drawn from each department so that half of the participants were familiar with set A faces, and half were familiar with set B faces. Faces were presented either upright or inverted and remained in view until a speeded familiarity decision had been made. Speed and accuracy were recorded. After testing, participants rated each face for familiarity and data were removed for any face that was unexpectedly not recognised.

Results: Analysis of response times and error rates was conducted for both participants and items. As predicted, recognition of familiar faces, was more disrupted by inversion, than recognition of unfamiliar faces. Furthermore, inversion reduced the accuracy of experts to below that of novices.

Conclusion: Expertise with a subset of faces, rather than with faces per se, has been shown to be more vulnerable to disruption by inversion. This is discussed with reference to the different processing strategies adopted by experts and novices.

The Santa Clara Strength of Religious Faith Questionnaire: Confirmatory factor analysis

C LEWIS, M SHEVLIN, C McGUCKIN, University of Ulster, M NAVRÁTIL, Czech Academy of Science

Objective: Within contemporary psychology there is increasing interest in the role of religion on behaviour and psychological functioning. Such interest can be attested to by the growth in the number of pertinent books and articles that have been published and also the development of new self-report measures of religiosity. The Santa Clara Strength of Religious Faith Questionnaire is one such recently developed measure. It is a brief self-report measure comprising ten items that were designed to measure strength of religious faith regardless of religious denomination or affiliation. Although Plante and Boccaccini (1997a, 1997b) have provided some preliminary evidence for the reliability and validity of the scale, the factor structure of the scale has not yet been examined.

Design: The aim of the present paper was to confirm the factor structure of the scale. The hypothesised one-factor model was tested using confirmatory factor analytic methods.

Method: Data from a sample of Northern Irish University students were examined using confirmatory factor analytic methods.

Results: A one-factor model was tested and accepted on the basis of fit statistics, therefore supporting the hypothesised unidimensional structure of the scale.

Conclusion: The present results provide further evidence that the Santa Clara Strength of Religious Faith Questionnaire is psychometrically sound and therefore it can be recommended for further use by researchers interested in the construct of strength of religious faith.

Can food affect performance?

A LLUCH, L DYE, J BLUNDELL, University of Leeds

Objective: The effects of food on performance is controversial and evidence to date is conflicting. This paper presents a review of data from a number of studies which examine the effects of carbohydrate (CHO) and fat on cognitive performance.

Design: All data presented were collected using fully repeated measures designs.

Method: Cognitive performance (e.g. memory, reaction time, vigilance, grammatical reasoning, spatial processing) was measured using computerised test batteries, before and after a nutritional challenge. Visual analogue scales to assess subjective states were also administered. The nutritional challenges reviewed are high and low fat/CHO variants of snacks, drinks and

meals. Sample sizes ranged from 12-20, and consisted of both genders, with varied dietary restraint levels and habitual diets. Time of day of testing varied between studies.

Results: Selective effects of macronutrients were observed on cognitive performance and subjective states. When effects on performance were detected these were task specific and varied according to the characteristics of participants. Different effects were observed at different times of day.

Conclusion: Macronutrients can affect cognitive performance on a range of tasks and can influence subjective state. Time of day appears to modify the effects of CHO and fat. Certain participant characteristics influence response to these macronutrients.

How implicit is implicit memory? An investigation of the word stem completion test

E LOVEMAN, Southampton Institute, H VAN HOOFF, Portsmouth University

Objective: As part of a series of experiments investigating implicit memory during anaesthesia, an auditory version of the word stem completion test was used to assess the effects of two retention periods and the extent of any contamination of explicit memory processes on priming.

Design: The study used a 2 (study; heard, not heard) x 2 (test delay; immediate, 24 hour) x 2 (test instruction; exclusion, no exclusion) mixed factorial design. Study conditions were manipulated within subjects, and test conditions between subjects. Forty participants were pseudo randomly allocated to test conditions. In the exclusion conditions participants were asked that in the case they explicitly recalled a word to think of an alternative and any recalled were removed and the analysis undertaken on any remaining 'hits'.

Results: T tests showed that in all test conditions words previously heard were offered as completions more often than words not presented (all p's <0.05). Reliable priming was observed over a 24 hour delay, and was not different from the immediate test condition. The use of exclusion instructions did not affect priming, nor did it interact with test delay.

Conclusion: These results suggest that in both the immediate and delayed test conditions priming was not contaminated by explicit memory, and is robust over a 24 hour delay.

Pleasure, guilt and secretory immunoglobulin A (sIgA)

G LOWE, J GREENMAN, University of Hull

Objective: We examined the links between sIgA (one index of immuno-competence) and indices of pleasure and guilt in people's lives, to see whether sIgA levels were higher in those who report high pleasure and low guilt.

Design: A correlational design was used to determine the strength of the relationship between sIgA levels and self-reported ratings of pleasure and guilt.

Method: Saliva samples were collected from 30 student volunteers (16 men and 14 women) and assayed for sIgA. Participants listed their pleasurable activities and rated each in terms of both (a) pleasure and (b) guilt. They also indicated how much overall pleasure and guilt they currently felt in their own everyday lives.

Results: The number of pleasures listed ranged from 6 to 20. The mean Pleasure/Guilt ratio was 14.3. The mean overall (Life) Pleasure rating was 71.9, and the mean overall (Life) Guilt rating was 29.7. The mean sIgA level was 67.8 ug/ml. Pearson correlations were positive between sIgA concentration and Pleasure/Guilt rating ratio ($r=.71, p<.01$), and between sIgA concentration and overall Life/Pleasure ratio ($r=.65, p<.01$), but negative ($r=-.45, p=.10$) between sIgA concentration and overall Life Guilt.

Conclusion: These results suggest that those who report high pleasure and low guilt have enhanced immune system function. Such observations, together with previous findings, provide empirical support for the increasingly held notion that pleasures are good, and guilt is

bad, for health; and that these positive and negative effects are likely to be mediated by up-regulation and down-regulation of immune function.

Ageing and tests of dorsolateral and ventromedial prefrontal dysfunction

S MacPHERSON, University of Aberdeen

Objective: The frontal lobe hypothesis of ageing proposes that cognitive changes due to normal adult ageing are due to deterioration of the frontal lobes of the brain. However, despite the evidence in favour of the involvement of the frontal lobes in age-associated cognitive decline, the behavioural and cognitive deficits

demonstrated by older adults do not parallel the typical clinical picture presented by patients with frontal lobe damage. Studies have demonstrated that the frontal lobes can be subdivided into at least two distinct regions: the dorsolateral prefrontal cortex and the ventromedial prefrontal cortex. However, the current neuropsychological models of normal ageing have failed to consider this possible subdivision of the frontal lobes and assume that there is a uniform decline. The aim of this study is to outline and test the hypothesis that it is only the dorsolateral prefrontal functions that deteriorate with age, leaving the ventromedial prefrontal functions intact.

Method: 90 healthy participants ranging from 20 to 80 years performed three tasks of executive function and working memory, tasks sensitive to dorsolateral prefrontal dysfunction; and three tasks of emotion and social decision making, tasks sensitive to ventromedial prefrontal dysfunction.

Conclusion: If it is only the dorsolateral prefrontal cortex that deteriorates with age, age effects should only be found on the 'dorsolateral' tasks and not the 'ventromedial' tasks. These findings would support the hypothesis that differences between the behaviour of older adults and patients with frontal lobe damage are the result of damage to distinct regions of the frontal lobes.

Redefining health psychology: Matarazzo revisited

MR McDERMOTT, University of East London

Objective: To critically discuss the predominant definition of health psychology and argue for the adoption of a more parsimonious and focused one.

Background: The much cited definition of health psychology published by Matarazzo in 1980 in volume 35 of the American Psychologist (see p.815) has been appropriated extensively by this new and emerging subdiscipline. However, criticism of it has been sparse. A relatively much under-cited definition of 'behavioural health' which appeared in the same article (p.807) constitutes a compelling alternative.

Method: In this paper it is contended that Matarazzo's definition of health psychology is over-inclusive since it encompasses any topic connected with 'health'. Such inclusivity may be detrimental to the well-being and longevity of health psychology since such a broad definition does not allow for the subject area to distinguish itself from clinical psychology and behavioural medicine. Health psychology is in danger of being subsumed by clinical psychology, many practitioners of the latter in the UK now calling themselves 'clinical health psychologists'. For health psychology to emerge fully and remain a discrete subdiscipline in psychology, it must define its territory more precisely. A way forward for health psychology is offered by reformulating it in terms of the relatively much under-cited definition of 'behavioural health' as published by Matarazzo in his seminal 1980 article.

Conclusion: Such a reformulation leads to the conclusion that health psychology's legitimate and singular domain of activity, both in terms of research and practice, should focus on the psychology of illness prevention and health promotion in already 'healthy' individuals, that is to say upon primary interventions, rather than upon secondary or rehabilitative ones, the latter

being addressed sufficiently already by clinical psychology colleagues.

The effects of burnout on neurocognitive performance

S McINERNEY, Trinity College Dublin

Objective: The hypothesis that burnout would be predictive of performance deficits on a number of neuropsychological tests was examined in a group of psychiatric nurses. The relationship between burnout and anxiety was investigated.

Design: The neurocognitive tests measured visual memory, verbal memory and attention. The burnout measure used was the Maslach Burnout Inventory (MBI) which had three subscales; Emotional exhaustion, De-personalisation and Personal Accomplishment. The State-Trait Anxiety Inventory (STAI) provided a measure of participants anxiety levels.

Method: Participants (n=45) completed the MBI, the STAI and then their performance on a number of neurocognitive tests from the Cambridge Neuropsychological Test Automated Battery (CANTAB) was examined. Participants were recruited by the nurse in charge of each ward or by the experimenter.

Results: Correlation and multiple regression analysis were conducted between the burnout subscales and the results of the neuropsychological tests and also between burnout subscales and both state and trait anxiety. No overall significant relationship was found between neurocognitive performance and burnout. The levels of burnout were in the moderate range so the population was not 'burnt out'. From the regression analysis it was found that trait anxiety variable was significantly predictive of emotional exhaustion, depersonalisation and also of decreased personal accomplishment.

Conclusion: The lack of an effect on cognitive performance is possibly due to the low scores on the MBI. The fact that the trait anxiety variable was predictive of all three of the burnout subscales suggests that predisposition towards anxiety may be a trait among people who become burnt out.

A content analysis of socio-economic variation in attitudes to bowel cancer screening

K McKAFFERY, L FINCHAM, M NADEL, J WARDLE, UCL

Objective: The aim of the study was to investigate socio-economic variation in attitudes to bowel cancer screening.

Design: The study took place within the context of a multicentre randomised controlled trial of the efficacy of flexible sigmoidoscopy (FS) screening for bowel cancer in which a clear gradient in uptake of screening by SES was observed. A qualitative methodology was employed to enable respondents to explain their beliefs in their own terms rather than those imposed by the researcher and to enhance quantitative data collected on predictors of participation.

Method: Semi-structured, in-depth interviews were conducted with a sample of 293 adults aged 55-64 who declined screening. Open-ended questions were used to elicit reasons for non participation in FS. The sample was selected at random and stratified by gender and SES.

Results: Data analysis was conducted in two stages. First, a content analysis was carried out on the data to identify key differences by deprivation group. Fear emerged as an important theme among more deprived respondents, as did avoidant attitudes, such as not wanting to know about illness. In the second stage, fear and avoidant attitudes were examined in greater depth to obtain a richer more contextualised understanding of the various ideas and meanings underpinning each theme.

Conclusion: The findings help us understand why people elect not to participate in screening, and identify areas to target to assist people to make an informed and supported decision to accept or decline screening in the future.

Assessing the quality of life of older people in residential settings

K MCKEE, S BARNES, University of Sheffield

Objective: Research into the topic of quality of life (QoL) has recently increased, particularly as it relates to older people. The purpose of the present study was to use different methodological approaches to measuring QoL in older people, to assess their utility, and examine associations between the different operationalisations of the QoL construct.

Design: A cross-sectional, multi-method design was employed, to enable correlational analysis of associations between different measures of QoL.

Method: 60 older people (65+ years), residents in a nursing home, were recruited into the study. QoL was assessed via three methodologies and associated instruments: observational assessment, using an adaptation of Dementia Care Mapping (DCM); structured interview assessment, using the Schedule for the Evaluation of Individual Quality of Life (SEIQoL-DW); and proxy assessment, using the Pleasant Events Schedule (PES-AD) and the Apparent Emotion Scales (AES).

Results: ANOVA demonstrated a strong association between levels of well-being and behavioural activity, as assessed through DCM. Using partial correlational analysis to control for dependency levels, well-being was highly associated ($p < .001$) with active social interaction, involvement in recreation, and levels of enjoyment from activities. Well-being was also significantly associated with QoL as assessed by the SEIQoL-DW, although relatively few of the participants could complete the latter assessment.

Conclusion: Results demonstrate strong concurrent validity for a coherent QoL construct grounded in social and recreational activity. If replicated in a larger, more representative sample, these findings should be used to influence future care policies to maximise the well-being of residents in nursing homes.

The effects of alcohol on mood and performance the morning after a normal nights' drinking

A MCKINNEY, C KIERAN, University of Ulster

Objective: The present study examined the effects of alcohol consumption on mood and mental performance the morning after a normal nights' drinking. The studies that have investigated the Carry-over or the Hangover hypothesis attribute any observed performance impairment in sober social drinkers, to the residual effects of recent drinking.

Design: A within subjects, repeated measures, study was employed.

Method: 48 participants (15 male and 33 female) completed a battery of objective cognitive tasks and subjective measures of sleep quality, mood and anxiety when no alcohol had been consumed in the previous 24 hours and again when alcohol had been consumed during the previous evening.

Results: Data for each task were analysed using a mixed factorial ANOVA comprised of the within subject factor of state of testing (hangover/no hangover) and between subject factors of order of testing and time of testing (9am, 11am, 1pm). The results indicate effects for subjective measures of mood, sleep and anxiety the morning after alcohol consumption. The performance measures revealed evidence for impaired performance the morning after alcohol consumption on some but not all tasks.

Conclusion: The pattern of results suggests that mood and performance are differentially influenced the morning after a normal nights' drinking however these effects can not be attributed to the presence of alcohol in the blood.

Sustained attention and impulsivity in anorexia and bulimia nervosa

J MACHAN, Rochdale NHS Trust, JK FOSTER, R CALAM, University of Manchester

Objective: A large battery of neuropsychological tests was administered to women with formal eating disorders. Test results were compared with those of individuals dieting to lose weight and a non-eating disordered control group, to determine whether cognitive impairment was associated with eating pathology.

Design: The tests were divided into several cognitive domains, after previous research: Vigilance, Focus/Execute, Verbal, Memory and Visuospatial domains were examined. Impulsivity was considered separately since the two eating disordered groups were expected to perform differently.

Method: 19 anorexic, 20 bulimic, 21 dieting and 21 control participants were tested. The eating disordered individuals were drawn mainly from patients referred to the Clinical Psychology and Psychiatry departments at Birch Hill Hospital, Rochdale. All met DSM IV diagnostic criteria for anorexia or bulimia nervosa.

Results: A number of tests differentiated between the eating disordered and non-eating disordered groups. However, when levels of concomitant anxiety and depression were controlled for, many of the significant group effects disappeared. Sustained attention continued to discriminate between subject groups, with the two eating disordered groups performing poorly but for apparently different reasons: the anorexics were slow and seemed overly cautious whilst the bulimics made a lot of errors. Bulimics and dieters both showed evidence of high impulsivity as reflected in fast, inaccurate performance on the Matching Familiar Figures Test.

Conclusion: Anorexic and bulimic individuals may experience problems on tests of sustained attention because of underlying personality traits: anorexics may be more reflective and hyper-controlled leading to slow responding, whilst bulimics may be more impulsive and hypo-controlled leading to fast but error-prone performance.

Beyond the premises given: Contexts and consequences in conditional reasoning

K MANKTELOW, N FAIRLEY, University of Wolverhampton, DE OVER, University of Sunderland

This paper reviews work in progress on a range of mediating aspects of drawing inferences with conditional sentences in the 'practical' domains of causal and deontic reasoning.

Background: Interest in practical, as opposed to theoretical, reasoning has increased in recent years largely as a consequence of research into deontic versions of the Wason selection task. This paper reports current extensions of such work and their theoretical consequences.

Method: Causal and deontic reasoning have much in common: for instance, Fairley, Manktelow and Over (1999) showed that perspective effects hitherto thought characteristic of deontic problems could be found in causal problems too, and could be readily explained in terms of the same kinds of mental models. Subsequent studies showed that implicit negations of the antecedent (p) part of causal and deontic conditionals varied in their effect on inference: some of these not-p items were treated as if they were equivalent to the given p case. We also report studies into varying the stated effects of the consequences of drawing the conclusion specified in the consequent (q).

Conclusion: The findings of these studies are discussed as providing insights into the ways in which the vague notion of 'context effects' on reasoning can be unpacked. Subjective perceptions of condition relations in practical inference and putative superordinate principles seem significant in the framing of arguments. Implications and questions for major theories of reasoning are drawn.

If anxious reactions are automatic, how can they be changed through awareness?

W MANSELL, University of Oxford

Objective: To review the evidence that automatic processes in anxiety can be modified through changes in conscious appraisal.

Background: The panic attacks, intrusive thoughts and flashbacks involved in certain anxiety disorders are experienced as involuntary, are difficult to control, and lead to considerable distress. Also, experimental research has shown anxiety to be associated with biases in automatic cognitive processes. As a result of these observations, several theorists have suggested that automatic processes need to be addressed through prolonged exposure and habituation to triggering stimuli. In contrast, a functional account would suggest that modifying the consciously accessible higher order goals and beliefs which motivate automatic processes should lead to effective change.

Method: Clinical and experimental evidence for the effects of changing conscious appraisal on automatic processes is reviewed.

Conclusion: Accessing consciously accessible beliefs and goals, as in cognitive therapy, may be a valuable route to modifying automatic processes. The evidence is consistent with this proposal, although no studies have provided the necessary methodology to provide a full test. The role of real and imagined exposure in the treatment of anxiety disorders is also discussed.

Lucid periods in Alzheimer's Disease: Fact or fiction?

E MANSFIELD, Birkbeck College

Objective: To investigate whether lucid or rational periods occur in sufferers of Alzheimer's Disease.

Design: An extensive literature review revealed nothing, a view confirmed by prominent psychogeriatricians. Therefore a quantitative study (Experiment 1) was undertaken to ascertain the existence of lucid periods, followed by a qualitative study (Experiment 2), using grounded theory techniques. Grounded theory methodology being considered most appropriate to explore the categories and properties of lucidity, due to the study's exploratory nature.

Method: Experiment 1 employed the use of a short questionnaire which was completed by carers (n=90) attending six Alzheimer's Disease carers groups around London. Permission was sought beforehand from group secretaries and members were informed of the voluntary nature of the study. Due to the paucity of literature, Experiment 2 was undertaken utilising semi-structured interview data supplied by four carers. Carers were contacted via carers groups and personal contacts.

Results: Experiment 1 confirmed the existence of lucid periods in Alzheimer's Disease. Experiment 2 examined the emergent properties and categories of lucidity. This revealed three major categories of lucidity, those of conversation, the re-emergence of former skills such as piano playing and regaining parts of the sufferer's former character or personality. As the analysis developed a fourth category emerged from the data, that of social performance which is a façade of lucidity, incorporating both speech and behaviour.

Conclusion: This initial study has developed a model of lucidity in sufferers of Alzheimer's Disease and indicated areas for further productive research.

Social appraisal and emotion

ASR MANSTEAD, University of Amsterdam

Objective: I argue that established models of the way in which emotions are related to cognitive appraisals fail to take sufficient account of social factors, and I sketch a model of the appraisal process that incorporates such factors.

Background: The object of appraisal is frequently not simply an event in which other persons are or are not directly involved. It is often the case that the behaviours, thoughts or feelings of other persons in the emotional situation are appraised in addition to the appraisal of the event

per se.

Method: The appraisal of others' reactions to the emotional event is what I call social appraisal. I argue that social appraisal is constitutive of the emotion process, in the sense that it can influence both the perception of coping potential and the way in which the appraisal process unfolds over time. I illustrate this argument by drawing on different lines of theory and evidence, ranging from laboratory research on facial expression to cross-cultural research on the experience and communication of emotion.

Conclusion: Social appraisal is an important feature of the emotion process, despite being neglected by most emotion researchers.

The role of planning in the intention-behaviour link

G MARKS, D HOUSTON, University of Kent at Canterbury

Objective: The theory of planned behaviour (Ajzen, 1985, 1991) suggests that intentions and perceived behavioural control are the proximal determinants of behaviour. Sutton (1998) has shown that intention and perceived behavioural control typically account for around 50 per cent of the variance in behaviour. It was hypothesised that a measure of planning would help to account for the variance left unexplained by the theory of planned behaviour.

Design: A longitudinal survey design was used to investigate the work and child care intentions of first-time mothers.

Method: At Time 1, 275 women were asked to complete a questionnaire investigating their work and child care intentions, the traditional components of the theory of planned behaviour, and planning. Their behaviour was measured at Time 2, six months after the birth of their child.

Results: Multinomial logistic regression showed that intentions and perceived behavioural control accounted for 49.6 per cent of the variance. Adding a measure of planning produced a model that accounted for 53.6 per cent of the variance and which was significantly different from the model based only on intentions and perceived behavioural control ($X^2(2) = 17.55, p < .001$).

Conclusion: A measure of planning improves the ability to account for variance in behaviour. The possibility that an increase in the amount of planning may be an indicator that intentions have become more definite, or that they are linked to individual differences in the amount of planning which people perform, are discussed.

Transtheoretical model of behaviour change in exercise: Synthesis and critique

S MARSHALL, T GORELY, S BIDDLE, Loughborough University

Objective: To present an integrative review and critical examination of research evidence addressing the application of the Transtheoretical model of behaviour change (TTM) to exercise and physical activity.

Background: Methodological inconsistencies between primary studies using the TTM make it difficult for narrative reviews to draw accurate conclusions about the validity of the model's core constructs.

Method: Relevant studies were located using the computerised databases of Sport Discus, PsychLit, MedLine and UnCover, as well as manual searches of selected journals and personal archives. Included studies focused on physical activity or exercise and at least one of the core constructs addressed in the TTM, namely stages of change, decisional balance, self-efficacy, and the processes of change.

Conclusion: 68 published articles and abstracts representing 71 independent samples were located. Designs included cross-sectional (n=57), quasi-experimental (n=8), prospective-naturalistic (n=5), and a randomised controlled trial (n=1). Sixteen variations of stage measure were identified and only four samples had measures on all core constructs. Few longitudinal data are available to validate the temporal nature of stage progression and consistent qualitative differences between stages were not evident. Insufficient validity and reliability data and lack of instrument

standardisation may contribute to the conflicting evidence. It remains unclear as to whether individuals follow a staged progression of behaviour change or simply lie at different points along an underlying continuum.

A qualitative account of participants' experiences of mindfulness-based cognitive therapy for depression

O MASON, University of Birmingham

Objective: Mindfulness-based cognitive therapy is a group intervention that has been shown to help previously depressed clients avoid subsequent relapse. This study set out to explore their accounts of mindfulness meditation in the mental health context.

Design & Method: Eight participants were interviewed who had experienced at least two episodes of depression, often in combination with other physical and mental health difficulties. Grounded theory techniques were used to identify several categories that combine to describe the ways in which their mental health difficulties arose as well as their experiences of MBCT.

Results & Conclusion: The theory that emerged from 'constant comparison' against codes and concepts derived from their interviews suggested a number of linked categories that 'make sense' of the similarities and diversities among participants' accounts. Common themes of a change to one's health and well-being led many to experience depressed mood and depressive thinking, often reaching 'breaking point' and making a cry for help. The context of the course often determined their expectations – some expecting a 'miracle cure' or possessing extreme pessimism. The theory identified several important areas of therapeutic change, called 'coming to terms' by several participants. These included the development of mindfulness skills (including relaxation), an attitude of acceptance and 'living in the moment'. For many the process of change was facilitated by identification with, and the support of the group. For some, continuing practice had led to a revision of their attitude to life, increased awareness of their personal 'warning signs' of depression, and a continued commitment to practice mindfulness in one form or another.

Origins of bullying and victimisation in the peer group: Role diversity and stability

C MONKS, PK SMITH, Goldsmiths College, London

Objective: To examine use, reliability and stability of participant roles in bullying in young children.

Design: Interviews with and observations of children in reception/year 1 classes: 19 children aged 4-5 years, then 104 children aged 4 to 6 years.

Method: Cartoon test depicting six participant roles; refined for use with the larger sample to include four roles (Bully, Victim, Defender, Outsider). Observations of aggressive bullying behaviour in the playground. Reliability from within-class agreement on roles. Stability from test-retest agreement over one week and two months.

Results: Most children could nominate peers for Bully, Victim and Defender, but there was reliability only for ringleader Bully and Victim. Stability was moderately high for Bully and Victim over one week, but only for Bully over two months. Few observations were made of bullying/aggression; play fighting correlated positively with bullying nominations and Bullies were observed in more play fighting.

Conclusion: As young as 4 to 6 years, Bully and Victim roles are reliably nominated; however, none of the other four Participant Roles identified in 12-13 year olds (Salmivalli et al., 1996) and 7 to 10-year-olds (Sutton, Smith & Swettenham, 1999), are reliable at this age. The role of the Bully is already rather stable; although at this age the term Bullying may be used in an over-inclusive, covering general aggression. Victim status is not stable over a two month period at

this age, although it is by middle childhood for many children (Boulton & Smith 1994). We conclude with a proposal for a developmental model for bully/victim relationships in school peer groups.

Compliance with treatment, insight and locus of control in first-onset psychosis

KD MORGAN, G HUTCHINSON, K ORR, P DAZZAN, S VEARNALS, M SHARPLEY, C MORGAN, J SALVO, J MacCABE, R MALLET, A DAVID, J LEFF, RM MURRAY, Institute of Psychiatry, London

Objective: Non-compliance with medication presents a major clinical problem for the treatment of illnesses such as schizophrenia. A lack of illness awareness (insight) in psychosis is considered a primary factor in non-compliance. We investigated whether other psychological factors such as; self-esteem, perceived locus of control and general cognitive functioning are also related to treatment compliance.

Design: Patients were assessed soon after their first contact with psychiatric services as part of the ongoing AESOP (London) first-onset psychosis study.

Method: A consecutive series of 60 first-onset psychosis patients (mean age 29; 38 per cent female, 62 per cent male) were rated on The Schedule for the Assessment of Insight which allows treatment compliance to be assessed according to each patient's expressed opinion about their need for treatment. Compliance is also rated through an interview with the patient's primary nurse. Other patient assessments employed a number of psychological instruments including Rotter's Internal-External Locus of Control Scale and Robson's Self Esteem Self-Report Questionnaire. The Wechsler Adult Intelligence Scale (Revised) was used to assess general cognitive functioning.

Results: A stepwise regression analysis showed non-compliance was predicted by a lack of illness awareness and having a more internally perceived locus of control (R square =0.410, $p < 0.001$). No other factors were significantly related to compliance.

Conclusion: In addition to a lack of illness awareness, the more internal an individual's locus of control was perceived, the less compliant they were likely to be. This finding, if replicated, may have implications about the nature of the patient-practitioner relationship and the management of psychosis.

Illness representations, mood and cognitive deficits in stroke patients

MP MORTHLAND, M JOHNSTON, University of St Andrews, R MacWALTER, University of Dundee

Objective: Previous research has found that recovery from stroke is predicted by perceptions of control and cognitive deficits (attention control). The aims of this study are to examine whether these constructs tap shared variance by investigating whether cognitive deficits are related to (a) illness representations and (b) mood.

Design: This study is cross-sectional.

Method: 36 men and 20 women who passed screening tests for communication and for orientation were assessed one year following stroke on measures of cognitive deficit [4 WAIS-R subtests: vocabulary, comprehension, block design, digit span; Mini Mental State Questionnaire (MMSE); Trails; Star Cancellation; National Adult Reading Test (NART); and Test of Everyday Attention (TEA)(elevator counting, elevator counting with distraction)], illness representations [Illness Perception Questionnaire (IPQ); Recovery Locus of Control (RLOC)] and mood [Hospital Anxiety and Depression Scale (HADS)].

Results: Cognitive deficits were identified using 2 general [estimated WAIS Full Scale IQ minus NART; MMSE] and 7 estimates of specific deficits. None of these measures was related to perceptions of control over recovery (RLOC).

However, patients with cognitive deficits scored higher on IPQ consequences and control/cure. Further, patients with cognitive deficits were more anxious and depressed.

Conclusion: These results suggest that perceptions of control and attention control act independently in predicting recovery from disability. However, illness representations and mood may predict stroke outcomes because they share variance with measures of cognitive deficit. These hypotheses are being investigated in a longitudinal study.

Males and younger women and women and security: Is this a sex or gender effect?

S MOORE, M BRISTOW, University of North London

Objective: Research by evolutionary psychologists has indicated that there is a difference between males and females in their preference for certain features in their partner or in a relationship. For example, men tend to report a preference for youth and vitality in their potential partner whilst women have tended to report a preference for financial and emotional security. What has been less well investigated is whether these observed effects are due to sex or differences in the individuals perceived gender role.

Design: Correlational.

Method: 108 undergraduate subjects participated in the research. There were four independent variables (IV) in this study: sex of the subjects, masculinity, femininity and androgyny. The perceived gender roles of masculinity, femininity and androgyny were quantified using the Bem sex role inventory. Subjects were asked to rank 15 traits about their preferred partner. The 15 traits were: Sense of Humour, Intelligence, Smart Appearance, Sociability, Caring, Honesty, Sexiness, Slimness, Fitness, Financial Security, Work Professionalism, Older, Younger, and Assertiveness. The rating of each trait acted as a dependent variable in the subsequent analysis.

Results: Analysis of the results revealed that the hypothesised relationship between males and females in relation to partner and relationship preferences existed. For example men were significantly more likely to prefer partners younger than them, 'fit' and 'sexy'. Women, in contrast, were significantly more likely to prefer resources in a potential partner. More interestingly the analysis showed that some partner preferences were significantly related to the subjects' perceived gender roles. For example, in both male and females there is a significant inverse relationship between the preference for an older partner and the subjects level of self reported masculinity.

Conclusion: The discussion focuses on interpreting significance of the relationships between perceived gender and partner preferences in relation to evolutionary psychology.

'Goodies' and 'Baddies' in screen violence: Moral justification in the mediation of emotional responses

S MOORE, University of North London

Objective: This paper challenges the suggestion that it is only justified violence that has an effect on audiences. It proposes that unjustified screen violence also impacts on viewers behaviour.

Design: A mixed Anova design was utilised. It allowed the researchers to investigate pre and post experimental changes as well as between group effects.

Method: 36 undergraduate participants were selected via opportunity sampling (mean age = 24), with 20 male and 16 female. Three tapes, five minutes long were selected, each depicting differing real violent footage. Each film had both a justified and unjustified violence introduction sheet which was read prior to watching the clip. Participants were randomly allocated to either the justified or unjustified violence conditions and viewed the three films. Heart rates were monitored throughout and attitude scales were completed after each video.

Results: Manipulation of the moral perception of the violence was achieved for each group ($F(1,32) = 5.973$ $P < 0.05$). There were no effects of film order. Viewers of the unjustified violence showed significant increases in pre- to post film heart rates compared to the justified violence viewers ($F(1,32) = 5.35$ $p < 0.005$). The unjustified violence participants rated those films as being more violent and more involving than the justified participants but these were not significant.

Conclusion: These findings challenge previous research findings and suggest that unjustified violence portrayed in the media also has the potential to impact viewers attitudes and behaviour.

How emotion modulates the learning rate

SC MOORE, MR OAKSFORD, Cardiff University

Objective: The research that is reported in this poster concerns how the emotional state may change the rate at which participants learn to make a categorical discrimination with practice.

Design & Method: Two tasks were used with reaction time as the index of performance. In the first, participants judged the associative strength between exemplars within a category in a word association task. The second examined participants' ability to locate and identify a particular feature on a visual discrimination task. Before completing each task participants went through either a positive, neutral or negative mood induction procedure. The same tasks and mood induction procedure were then completed over four consecutive days. One-week later, participants then completed the two tasks, without the mood induction procedure, so that retention could be evaluated.

Results: Both tasks showed a reduction in reaction time consistent with the power law of learning and this was robust one week later. These data further suggests that the Emotion State modulated the rate at which the both tasks were learnt over the four days. For the visual discrimination task, the negative group learnt faster than the positive and the neutral groups. For the word association task, both positive and negative groups learnt faster than the neutral group.

Conclusion: This study suggests that the learning rate, over a series of days, is effected by the emotion state. These data are discussed in relation to studies that show emotion modulates long-term memory and how emotion may modulate aspects of visual processing.

Personality and work stress: Differential responses to change and context

P MOYLE, Oxford Psychologist Press

This symposium brings together five papers, each concerned with individual differences in responses to stress. The first four papers describe survey research in which aspects of personality were measured, and their influence on work perceptions and affective outcomes were examined using multiple regression analyses. Personality traits included in these studies were extraversion, neuroticism, Type A behaviour, social desirability and locus of control. The work pressures examined included work demands, lack of discretion, work-family conflict, and person-organization value congruence, whilst the outcomes encompassed measures of both physical and psychological health. The final paper presents a practitioner perspective. In this paper a model of personality, based on the Myers-Briggs Type Indicator (MBTI) is presented. Type theory predicts both the kind of environmental demands that different individuals will experience as stressful, and the style of response that they are likely to adopt when under stress. Although this theory is widely applied in workplace interventions, particularly in the context of management development, it is not a structure that has received much attention from occupational stress researchers. It is intended that the symposium draws together research and practitioner approaches to the understanding of individual differences in the stress process. The

discussion focuses on ways in which survey research might inform workplace and individual interventions, and in which current practice might inform future research directions.

Social comparisons and quality of life in persons with severe neurological disability

R MURRELL, P KENEALY, Roehampton Institute London, JG BEAUMONT, Royal Hospital for Neuro-Disability, Putney

Objective: To determine whether social comparisons are used when individuals with severe neurological disability evaluate their quality of life (QoL).

Design: A factorial design was used.

Method: 23 residents with severe neurological disability associated with late-stage multiple sclerosis (n=16) and other neuro-degenerative diseases (n=7) took part in the semi-structured social comparison interviews. Person-centred QoL was assessed using the SEIQoL-DW and QoL 'generally' visual analogue scale ratings. Information concerning significant life changes occurring at the time of assessment was also recorded.

Results: Analyses using ANOVA suggested there was a significant interaction between evaluation strategy and life change; individuals who made comparisons with their own past in order to rate their present QoL 'generally' obtained significantly lower ratings than those who refrained from making this comparison. When life changes were experienced at the time of assessment, QoL evaluations remained highest when comparisons were made with one's own past ($F(1, 22)=11.09, p<0.05$). This finding remained significant when individuals with MS were considered independently ($F(1, 15)=5.74, p<0.05$).

Conclusion: Social comparisons may serve positive or negative functions when used by persons with severe neurological disability to evaluate their QoL. The use of social comparisons should, therefore, be monitored closely in future QoL assessments with similar clinical populations.

Female advantage in location memory using ecologically valid measures

N NEAVE, C HAMILTON, L HUTTON, University of Northumbria, P GALLAGHER, A PICKERING, University of Newcastle

Objective: A female advantage at finding objects within an array has been established. One explanation assumes that females have engaged in correspondingly greater gathering/foraging activities throughout hominid evolution. However, previous research has only used culturally-relevant, gender-stereotyped stimuli presented in contrived laboratory settings. It is difficult to see the ecological validity of such methods. We aimed to test the 'Gathering Hypothesis' using the identification of real plants within naturalistic arrays.

Design: Independent-subjects. Method: 25 males and 27 females participated. In three indoor tasks, and two outdoor tasks, participants were firstly shown a target plant. They then had to locate examples of the target in an array of other plants. The indoor arrays were small and contrived, while the outdoor arrays were larger, more complex, and naturalistic.

Results: All analyses were one-way analysis of covariance (ANCOVA) with gardening interest/plant knowledge acting as covariates. In the three indoor tasks, females found the targets faster than the males (significantly so for one task). In the more complex outdoor tasks, both sexes took longer to find the targets, but in one task females made significantly fewer errors. The female advantage could not be explained by a speed/accuracy trade-off as females tended to be quicker and more accurate overall.

Conclusion: This preliminary study is the first to use ecologically valid stimuli to test predictions generated by the 'Gathering Hypothesis'. It provides evidence that females may outperform males when locating natural objects within an array.

Scaling the ivory tower: The pleasures and pitfalls of entering academia

P NEWLANDS, Glasgow Caledonian University

Objectives: The talk attempts to give practical advice aimed at postgraduates and new lecturers, based on recent personal experience of a year in a research lecturer post following a PhD and the experiences of other new lecturers.

Method: Topics covered include development of teaching and research skills, and handling new responsibilities and extra curricular activities. The goal of this session is also to stimulate interactive discussion of the issues that face a new lecturer in making the most out of their first post. Within these main areas, examples are discussed from the presenter's first year as a lecturer, 1998-1999, as well as from the experiences of a number of other new lecturers who were surveyed on various aspects of their job. These include integration of research into lectures, assessment, advising and supervising students, and the availability and effectiveness of going on teaching courses. Research issues include how to balance quantity and quality in article submission, priorities given to obtaining external funding, the impact of the RAE on career progression, and the importance of choosing a coherent programme of research. The particular pleasures and perils of each of these issues are discussed and tips for those who are starting out in the profession are given.

The pleasures and perils of being a new academic

P NEWLANDS, Glasgow Caledonian University

This symposium addresses many of the issues which face new academics in relation to teaching and research, and how to balance both of these activities in the light of the increasing pressure from the Research and Teaching Quality Assessments. Five years ago, collaboration between the Psychology-Postgraduate Affairs Group and the Society's Scientific Affairs Board led to the publication of the document *So you want to do a PhD?*. For some, this does not necessarily lead to life as an academic, but many, having completed their PhD, go on to obtain their first post in academia. This symposium is aimed at what happens then! However, it is by no means aimed only at those who have completed a PhD, but at anyone who currently juggles teaching and research or may do in the future. The first paper by Tony Gale covers a wide range of issues concerning new lecturers, from those that arise day-to-day to those which affect career development in the long-term. Rhona Sharpe then outlines strategies for both preparing to teach and teaching effectively from her perspective of psychology lecturer turned educational developer. Another important aspect of teaching is assessment and Steve Newstead's paper discusses this topic from the perspective both of assessing work and of having your own performance assessed. A new lecturer not only juggles teaching with research but also has many different demands to cope with concerning research alone. Darren Van Laar focuses on these, covering areas including finding time for research, research grants and collaboration with colleagues. Finally, Jon Sutton, a new research lecturer, discusses his experiences of teaching and research and how he has integrated them in the first year of his post. Jon provides some warnings and tips for aspiring lecturers on many aspects of the job. There is an opportunity for a general discussion of issues raised by the speakers following this paper.

On assessing and being assessed

S NEWSTEAD, University of Plymouth

Objective: Two of the central concerns that new lecturers have are addressed: those of assessing students, and of being evaluated by students and outside assessors.

Method: In this presentation I wish to place these two fears into context. I argue that while

these are indeed problematic, they are no more so for new lecturers than for more experienced ones. With respect to assessment of students, new lecturers are often worried about the standards they adopt, and how well these calibrate with their colleagues. Research suggests that markers are indeed unreliable, but that the degree of reliability is unrelated to experience. Indeed, new lecturers (and even students) show similar levels of unreliability to experienced external examiners. New lecturers are also concerned about the different marking standards that might apply to different pieces of work. There is evidence that standards do vary. For example, continuously assessed work consistently attracts higher average marks than do formal examinations. Again, however, this is the case for both experienced and inexperienced markers. An increasing worry for new lecturers is that of how to cope with plagiarism and other forms of cheating, for example copying from the internet. There is evidence that cheating is widespread and that new forms of electronic cheating are increasingly being used. However, it must be acknowledged that a lecturer – however experienced – cannot expect to notice every instance of this. With respect to being assessed, there is little to be feared from student evaluations. Most of the evidence suggests that these are realistic and fair – and that new, enthusiastic lecturers perform at least as well as their more experienced counterparts. New lecturers also worry about their teaching and research being evaluated in subject reviews and the Research Assessment Exercise. In the current climate, this cannot be avoided, but it is arguably more stressful to lecturers who have been in the system for some time. Younger lecturers tend to be treated with some sympathy in assessments of both teaching and research.

Work-family conflict and women's well-being: The role of locus of control

NM NOOR, International Islamic University, Malaysia

Objective: The increase in the number of women entering the paid labour force has prompted researchers to examine the extent to which simultaneous occupancy of work and family roles may influence their well-being. In the present study, the relationship between work-family conflict, locus of control, and women's well-being, is examined. Work-family conflict was predicted to impinge negatively on women's well-being, and the three possible pathways that locus of control (i.e. direct effect, mediator effect, and moderator effect) could influence the relationship, were also tested out.

Design & Method: A sample of 302 employed, married Malaysian women with children were selected from several work organisations.

Results: The results of the regression analyses showed that work-family conflict predicted both job satisfaction and GHQ scores; whereas work-family conflict was negatively related to job satisfaction, it was positively associated with symptoms of distress. There was evidence for all three possible roles of locus of control on the relationship between work-family conflict and well-being, but this varied according to the outcome measure that was used. While both moderator and mediator effects of locus of control were simultaneously observed in the relationship between work-family conflict and job satisfaction, only the direct effect of locus of control was found in the prediction of GHQ.

Conclusion: These findings are consistent with the general literature on work-family conflict and well-being, and provided support that locus of control can also influence this relationship directly, as a moderator or a mediator.

Does testosterone affect cognitive function in normal men?

D O'CONNOR, University of Manchester, J ARCHER, University of Central Lancashire, FCW WU, Manchester Royal Infirmary

Objective: The effect of testosterone (T) on sexual function in men is well established.

However, less is known about its effects on cognitive function. In this study, it is hypothesised that T may have an activational effect on cognition similar to that of oestrogen in women. **Design:** A single-blind, placebo-controlled design was employed in this study. **Method:** 30 healthy young men were randomised into one of two treatment regimens: (1) Active: receiving 200mg of T enanthate (IM) weekly for eight weeks (raising T levels into the supraphysiological range) or (2) Placebo: receiving 200mg of sodium chloride (IM) weekly for eight weeks. Both groups underwent a battery of neuropsychological tests (Block Design Test, Grooved Pegboard, Trail-Making Test, Controlled Oral Word Association Test (COWAT), Rey Auditory-Verbal Learning Test) at baseline, at weeks four and eight during treatment. **Results:** Preliminary analysis indicates that by week four, Block Design scores significantly decreased, whilst COWAT scores increased in the active group compared to that of the placebo group. No significant changes were found for the other tests. **Conclusion:** The results offer support to the hypothesis that increased T has a differential effect on cognition function in normal men, inhibiting spatial abilities while improving verbal fluency. It is likely that this occurs through testosterone's aromatisation to oestrogen. These findings may be relevant for T replacement therapy and hormonal male contraception.

Inference and therapy in Obsessive-Compulsive Disorder (OCD)

K O'CONNOR, S ROBILLARD, Centre de Recherche Fernand-Segui

Objective: In current cognitive therapy (CT) emphasis is placed on confronting the client's aberrant appraisal of otherwise normal 'intrusions'. But in OCD with overt rituals, such intrusions ('my hands may be dirty') also form the key conditionals for subsequent reasoning about consequences (e.g. 'If my hands are dirty, then I'll infect everyone'). Although the intrusive thoughts refer to possible events (hands can be dirty), occurrence in the client is not supported by evidence but by a personal narrative. This study compares the current CT which addresses only secondary appraisals with an approach which treats primary intrusions as maladaptive inference processes (Inference Based Approach (IBA)).

Design: 20 people diagnosed with DSM-IV criteria as OCD with overt compulsions were randomly allocated to either CT or IBA, both therapies were individually administered by trained psychologists and lasted 20 sessions. **Method:** Participants were recruited from announcements in the local Montreal media and diagnosed by two clinicians using a structured interview. Clinical ratings included daily self-report record of strength of primary and secondary OCD convictions, degree of anxiety and confidence in exposure to OCD situations. **Results:** At the end of treatment, both groups showed overall equal reduction in compulsive behaviours and in associated anxiety. IBA however produced a greater reduction than CT in ratings that the initial intrusion (or premise) was probable. **Conclusion:** IBA may be particularly helpful where initial intrusions (or premise) are bizarre or when obsessional convictions are strong as in the case of overvalued ideas.

Cognitive vulnerability, future directed thinking, hopelessness and parasuicide

R O'CONNOR, H CONNERY, University of Strathclyde

Objective: Parasuicides differ from non-parasuicides in terms of patterns of future directed thinking and hopelessness. Specifically, parasuicides are impaired in their ability to generate future positive thoughts but do not differ from non-parasuicides in levels of future negative thinking. How negative cognitive style is related to future thinking or hopelessness has yet to be determined. This paper aimed to investigate the contribution of negative cognitive style and future

directed thinking to levels of hopelessness, in parasuicides and matched controls.

Design: A cross-sectional design was employed. **Method:** 20 parasuicides and 20 matched hospital controls were assessed the day following an episode of deliberate self-harm, on measures of hopelessness, depression, anxiety, cognitive vulnerability and future directed thinking.

Results: Tests of difference suggested that the parasuicides differed from hospital controls on measures of depression, hopelessness and negative cognitive style in the predicted direction. All psychological correlates were regressed, to predict hopelessness scores in the total sample. Future directed thinking, depression and negative cognitive style explained 70.5 per cent of the hopelessness variance. Future directed thinking was not correlated with either depression or negative cognitive style whereas negative cognitive style was correlated with depression and hopelessness.

Conclusion: The future directed thinking effect was partially replicated. Future positive thinking contributes to hopelessness independently of depression and does not seem to be associated with cognitive vulnerability, however cognitive vulnerability contributes independently to hopelessness. These findings have considerable implications for therapeutic interventions and are discussed in the light of ongoing research investigating the pathways to parasuicide.

The General Attitudes to Ageing Scale: Getting old or growing older?

A O'HANLON, P COLEMAN, University of Southampton

Objective: The General Attitudes to Ageing Scale was developed to measure the degree of favourability with which adults viewed their own prospective old age. The main objective of the current research was to examine the psychometric properties of this newly developed scale further with four distinct sample groups: health club users (n=145), bingo players (n=52), church attenders (n=118) and high street shoppers (n=344).

Design: A cross sectional questionnaire design was employed.

Method: Participants completed the questionnaire in their own homes. Other measures used included the Anxiety about Ageing Questionnaire (Lasher & Faulkender, 1992), the Ageing Opinion Survey (Kafer et al., 1980), the Facts on Ageing Quiz (Palmore, 1977), the Attitudes towards Dependency Scale and measures of current health.

Results: Results indicate that the General Attitudes to Ageing Scale does have good internal consistency (alphas .81-.86) and external validity (r values .2-.6). The scale also has five interpretable factor structures explaining over 60 per cent of the variance in scores. Finally, a large proportion of the variance in attitudinal scores was explained by the level of danger or threat being associated with the experience of own old age.

Conclusion: The General Attitudes to Ageing Scale is a promising measure of people's attitudes to their own old age. Understanding the predictors and consequences of these attitudes are urgent issues needing further research.

Exploring attitudes to own old age via the worldwide web

A O'HANLON, PG. COLEMAN, University of Southampton

Objective: The aim of this research was to use the worldwide web to explore people's thoughts, fears and hopes for their own old age. The paucity of research exploring the subjective experience of ageing is surprising given that people's appraisal of their own prospective old age may impact upon their current health and also the quality of relationships.

Design: Two groups of participants were invited to complete a questionnaire. **Method:** The first group of participants were recruited via mainstream electronic bulletin boards and discussion groups. Participants (n=291) from many countries completed the questionnaire online. Given the potential for

sampling biases, a second local group of participants (n=48) completed a paper version of the same questionnaire. Themes were identified using the approach of 'physical sorting' (Hammersley & Atkinson, 1983).

Results: Results indicate: (1) that the majority of participants were ambivalent about their own old age rather than being anxious or fearful; (2) that concerns centred around issues of dependency, time running out and identity; and (3) that people were generally positive about having warm relationships with others into later life and also more time for social activities. No significant differences in responses were found between sample groups.

Conclusion: To bring quality of life to increased longevity we need to understand the way people perceive their own prospective old age. Although having some limitations, the world wide web offers a very useful tool for researchers in the social sciences.

Achievement motivation and engagement in different domains

S O'NEILL, Keele University

Previous research in achievement motivation has tended to focus on individuals' engagement in primarily academic activities (e.g. reading, maths, problem-solving tasks, etc.). The implications of this research are now broadly incorporated in wider contexts which embrace activities such as music and sports. However, these diverse interests have not always resulted in the recognition of parallel concepts or differentiated notions. Thus, the overall aim of the symposium is to explore theoretical and methodological issues associated with achievement motivation research in academic and non-academic contexts. In order to achieve this aim, the symposium is made up of contributions from an international team of researchers from the UK, Germany, and North America who are involved in the study of achievement motivation and engagement across a variety of domains. The symposium generates discussion and ideas which represent international approaches to current research in this area. In addition to the contributions from individual papers, the symposium benefits from the involvement of Professor Jacquelynne Eccles from the University of Michigan who acts as Chair and Discussant. Professor Eccles is a leading expert in the area of achievement motivation research in different domains and co-author of the chapter 'Motivation to Succeed' in the most recent Handbook of Child Psychology. Professor Eccles is recipient of a BPS Visiting Fellow Award (1999-2000) and is attending the Annual Conference as part of her programme of research visits in the UK.

Children's subjective task values and engagement in music

S O'NEILL, K RYAN, M BOULTON, J SLOBODA, Keele University

Objective: Previous research has demonstrated that subjective task values are important predictors of young people's activity choices. Subjective task values include: (1) interest in, enjoyment of, the activity; (2) perceived importance of being good at, or involved in, the activity; (3) perceived usefulness of the activity for short- and long-term goals; and (4) the cost of engaging in an activity. Even children who have relatively little experience in a particular domain such as instrumental music appear to have just as reliable and differentiated self-concepts and task values for this domain as for domains in which they have considerably more experience. However, more research is needed to explore the relationship between children's subjective task values and actual engagement in musical activities.

Design: The present study examines children's subjective task values and levels of engagement in music based on the Expectancy-Value theory of achievement motivation proposed by Eccles and her colleagues.

Method: The study involved the administration of a questionnaire to 1200 children (aged 11-12) from 36 primary schools in the UK. **Results:** The results, which are in the process of

being analysed, are presented and discussed. A pilot study revealed a high level of internal consistency and test-retest reliability on the items used to measure the motivational constructs. **Conclusion:** The findings contribute to our understanding of the motivational barriers to children's engagement in music and the reasons why so many young people are not participating in music and why those who begin so often give up.

Probabilities and polarity biases in conditional inference

M OAKSFORD, Cardiff University,
N CHATER, J LARKIN, University of Warwick

Objective: To test the predictions of a probabilistic computational level model of conditional inference that can explain polarity biases in conditional inference (e.g. J.St.BT Evans, 1993).

Design: Polarity biases are observed when J.St.BT Evans' (1972) negations paradigm is used in tasks where people draw inferences from a conditional premise, e.g. if not p then q, and a categorical premise, e.g. p. People appear biased to accept inferences with a negative conclusion. Our probabilistic model assumes that negations define higher probability categories than their affirmative counterparts (Oaksford & Stenning, 1992), e.g. $P(\text{not-dog}) > P(\text{dog})$ and assume that people endorse inferences in proportion to the conditional probability of the conclusion given the categorical premise. Three experiments vary the probabilities of the antecedent p ($P\{p\}$) and consequent q ($P\{q\}$) of a conditional rule to test whether they mimic the effects of negations by producing a high probability conclusion effect.

Method: Experiment 1 used 30 undergraduate participants, Experiment 2, 25 and Experiment 3, 20. Abstract materials were used in Experiments 1 and 2 with probabilities being introduced in a brief scenario. Experiment 3 used materials pre-tested for probability of occurrence.

Results: All three experiments revealed a high probability conclusion effect analogous to negative conclusion bias.

Conclusion: These results are consistent with the view that people bring their everyday probabilistic reasoning strategies into the laboratory which creates the semblance of biased and irrational reasoning when compared to the standard provided by formal logic.

Emotions and distributed cognition

K OATLEY, University of Toronto

Objective: Much progress has been made on understanding emotions in individuals, but we need better understandings of the social role of emotions: of how they function when cognition is distributed among people.

Background: Previous theoretical and empirical studies have indicated that the emotional system functions to monitor and co-ordinate goals and plans. Specific emotions (anxiety, happiness, anger, etc.) have specific functions. They provide outline structures, or scripts, for social relationships. So, what are our principal social goals?

Method: I propose three broad social goals for humans and other primates: (a) attachment which has the goal of protection from harm from predators and conspecifics and an emotional tone of anxiety; (b) affiliation which has the goal of co-operation and an emotional tone of happy affection; and (c) assertion which has the goal of improving status in hierarchies or competitive arrangements and an emotional tone of anger. These social goals are evolutionary given, not immediate causes of behaviour. Such causes are urges prompted by specific emotions, which occur as people move in the three-dimensional space of the primary goals. Emotions either maintain focus on one of them (e.g. anxiety maintains a focus on safety), or switch focus (e.g. anger prompts a conflict following an insult to self esteem). I offer some empirical results that bear on these proposals.

Conclusion: Emotions have their major functions in social life: this framework of social goals and immediate emotions offers a deep structure for such functions.

Stereotype change: The effects of dimensionality on group central tendency and dispersion

S PAOLINI, M HEWSTONE, Cardiff University

Objective: Despite the growing interest in group perceived variability, research on stereotype change has focused on central tendency rather than on perceived variability. Three studies attended to this oversight by investigating the effects of exposure to a group member on measures of group central tendency and dispersion and explored the potential moderators and mediators of change for these two different forms of stereotyping.

Design: Direct and indirect manipulations of target and stereotype dimensionality were employed in three between-subjects factorial designs: (i) 2 (target dimensionality: moderate/high) x 2 (target deviance: moderate/high); (ii) 2 (target dimensionality: low/high) x 2 (stereotype dimensionality: low/high); (iii) 2 (cognitive orientation: simple/complex) x 2 (stereotype activation: simple/complex). Each study contained also a no-information base-line.

Method: Sixth-form students formed an impression of a deviant accountant by reading behavioural information which varied in terms of number of underlying stereotype-relevant dimensions (i-ii) or by endorsing a simple/complex cognitive orientation (iii). Participants then rated the group on traits which varied in terms of number of underlying stereotype-relevant dimensions (ii) or after activation of a simple/complex group schemata (iii).

Results: For central tendency, reduced stereotyping and change were found in conditions with simplest target dimensionality or orientation; for dispersion, in conditions which combined highest target dimensionality (orientation) with highest stereotype dimensionality (activation).

Conclusion: Consistent with an exemplar-based model, exposure to one deviant group member was sufficient to produce stereotype change, but different types of exposure were necessary to affect different forms of stereotyping. Theoretical and pragmatic implications of exposure dimensionality are discussed.

Job perceptions, personality traits and affective well-being: A six-year follow-up study

K PARKES, University of Oxford

Objective: At a time of widespread organizational re-structuring, the effects of work changes and the roles of individual differences in moderating responses to such changes, merit investigation. The aim of this longitudinal study was to examine job perceptions and personality traits as predictors of changes in anxiety and job satisfaction in a civil service group (n=221).

Design & Method: Perceived demand and discretion, anxiety, and two satisfaction measures, were assessed on two occasions (T1 and T2) separated by six years, during which time organisational and job-related changes occurred. Repeated-measures analyses were carried out in three stages.

Results: (i) Significant overall decreases in job demand, and increases in discretion were found from T1 to T2; workload satisfaction increased significantly, but general satisfaction decreased, and anxiety increased marginally. (ii) Changes in anxiety and satisfaction were re-evaluated, controlling for T1/T2 changes in job perceptions. Effects on workload satisfaction were mediated by changes in demand and discretion. The results also showed that, had there been no change in job perceptions from T1 to T2, increases in anxiety and decreases in general satisfaction would have been greater than those observed. (iii) The roles of extraversion, neuroticism, and Type A as moderators of T1/T2 changes were examined in a repeated-measures regression. In each case, the trait x time (T1/T2) interaction was significant for anxiety, but not for satisfaction outcomes.

Conclusion: Over the six-year follow-up,

changes in the perceived work environment predicted changes in anxiety and satisfaction; furthermore, for anxiety but not satisfaction, adaptation to changing work conditions was influenced by personality characteristics.

Appraisal's place in the emotion process

B PARKINSON, Brunel University, Uxbridge, Middlesex

Objective: In this paper, I evaluate appraisal theory's central contention that emotional reactions to situations are mediated by cognitive-interpretative processes. I attempt to extend this basic model by working through the implied event-appraisal-emotion sequence and showing how attention to the practical and social context of appraisal changes the requirements for the level and nature of these processes.

Method: In particular, I argue that: (a) events may achieve emotional impact not only as a function of the application of internal representations but also by their more direct effects on ongoing action; (b) meaning generation may be mediated by interpersonal as well as individual processes; (c) appraised meanings are steps on the way to emotion rather than complete specifications of underlying generative processes; (d) distinctive relational meanings associated with particular emotions do not necessarily arrive prior to initiation of emotional responses; and (e) patterns of emotional reaction may coalesce as a result of independent and local on-line adjustments to real-time demands of unfolding action rather than necessarily reflecting internally structured or co-ordinated strategies of adaptive response. More generally, I question the strategy of treating emotion purely as an output variable arising at the end of a causal chain which begins with informational input requiring internal representation.

Conclusion: Instead of cognitively mediated responses to semantic meanings, emotions may be reconceived as communicative or practical situated actions attuned to the unfolding constraints and affordances of the social and material environment.

Cultures, organisations, and emotions: Modes of influence

B PARKINSON, Brunel University, Uxbridge, Middlesex

Objective: This paper provides a critical overview of the ways in which cultural and organisational factors influence the representation, regulation, and expression of emotion.

Background: Most previous research of this kind has focused on the impact of cultural representations and rules (e.g. implicit theories and norms) on processing of emotional information or on the outward regulation of emotional conduct or expression, as if emotion itself ultimately remained somehow insulated from the surrounding sociocultural environment.

Method: I take a first step towards extending this approach by setting out the range of possible social influences on emotion that may be worthy of psychological attention. On the input side, I distinguish effects of informational factors (orientational and prescriptive) from those that depend more directly on social practices or on the fabricated structure of the sociocultural environment. On the output side, I distinguish between effects that operate on the emotional situation, its appraisal, regulation of the emotional reaction, and other people's responses to the emotion.

Conclusion: The traditional emphasis on the impact of informational (rather than practical or material) factors on appraisal and regulation (but not on what is appraised and how the emotion is received by others) sustains an artificial separation of experience and context, with cognitive and cybernetic mediators providing the only conceivable link between the two. Instead, I propose that social and emotional processes are more intimately intertwined in real time, with the unfolding practical and interpersonal situation continually shaping and reshaping the course of emotional action.

Using real speech tasks in hearing assessment and as a window to cognitive processes

J PARROTT, De Montfort University/Thorndorf Park Hospital

Objective: To explore mechanisms of speech comprehension, changes with age, ways of improving intelligibility and to investigate a method of hearing assessment which represents real, everyday tasks. Speech comprehension, being the most critical hearing task, is also an informative window to acoustic, neurological and cognitive processes. It was predicted that some frequencies are particularly important for speech comprehension.

Design: Frequency-filtered speech material was used to investigate the distribution of information in the frequency domain. A conventional tone test was used for comparison.

Method: 14 participants, aged from 13 to 60, were played pre-recorded speech material. Frequency filtering was used to selectively exclude or include different parts of the audio band. The main measure for assessing the usefulness or importance of a particular group of frequencies was the sound level for 50 per cent comprehension.

Results: Certain frequencies were particularly important and the frequency correction curves indicated by this method differed from those yielded by sinusoidal tone tests. The high pass/low pass results were compatible with the classic experiments, while the comprehension threshold sound level was a more sensitive measure than the score they used. Over-representation at some frequencies caused loss of comprehension.

Conclusion: Intelligibility could be improved for everyone, not just the hearing-impaired, by simple quality control of broadcast material. The cognitive modelling of the speech, hearing, reading, writing and memory functions has mainly used evidence from brain damaged individuals. Using semantically and acoustically pre-scored material, the foregoing method could provide a lot of information from readily available 'normal' individuals.

A critical review of the contribution of health psychology to palliative care

S PAYNE, University of Southampton

Objective: This paper critically reviews the limited impact of health psychology in palliative care and highlights the potential contribution of health psychology to this area of health care.

Background: Specialist palliative care services are concerned with improving the process of living and dying for patients with advanced disease and offers support for carers before and after the death. Care is based on the 'hospice' philosophy which, includes physical, psychosocial and spiritual care, and ongoing support in bereavement.

Method: Drawing on a critical review of the research literature and practice of palliative care in Britain and New Zealand, where the author has recently conducted a number of research studies, it is proposed that health psychology has made a limited impact. In particular, the emphasis on individual psychopathology has failed to acknowledge structural changes in patterns of dying within society, given an ageing population, increased geographical mobility, assumptions about informal carer availability and changing service user expectations.

Conclusion: It is proposed that health psychology could make a number of potential contributions to the palliative care field. The following list indicates how health psychologists can become involved and examples of good practice and research include: research expertise, non-pharmacological interventions for pain and other physical symptoms, non-pharmacological interventions for depression, anxiety and other forms of psychological distress, bereavement support, and psychological support for staff and volunteers.

Deductive and inductive reasoning in Obsessive-Compulsive Disorder (OCD)

M PÉLISSIER, K O'CONNOR, Centre de Recherche Fernand-Seguin

Objective: This study examined deductive and inductive reasoning in two clinical groups and a control group to test the hypothesis that people with obsessive-compulsive disorder (OCD) show an inductive reasoning style distinct from people with generalised anxiety disorder (GAD) or participants in a control group.

Design: Our experimental procedure included a range of six deductive and inductive tasks with the addition of a probabilistic task to both replicate previous results and describe reasoning processes in our populations.

Method: Recruitment was in the Montreal area within a French speaking population. Twelve people with OCD, twelve controls and ten people with GAD participated. Participants completed a series of written and oral reasoning tasks including the Wason Selection Task, a Bayesian probability task and other inductive tasks, originally designed by the authors.

Results: There were no differences between groups in deductive reasoning. On an inductive 'bridging task', the participants with OCD always took longer than the control and GAD groups before inferring a link between two statements and elaborating on this possible link. The OCD group alone showed a significant decrease in their level of certainty about an arbitrary statement after inductively generating reasons to support this statement. Differences in probabilistic reasoning replicated those of previous authors.

Conclusion: Our results pinpoint the importance of examining the role of inductive associations in the inference processes of people with OCD to further refine clinical applications of behavioural-cognitive therapy.

Psychometric evaluation of Diabetes Treatment Satisfaction Questionnaire in eight languages

R PLOWRIGHT, Royal Holloway, University of London, E WITTHAUS, Hoechst Marion Roussel (HMR), Frankfurt-am-Main, Germany, C BRADLEY, Royal Holloway, University of London

Objective: To confirm the psychometric properties of the eight-item DTSQ status version (DTSQs) in English (UK), French, German (Germany, Austria) and Swedish; and to evaluate English (for South Africa and US) and four new translations: Dutch, Danish, Norwegian, Finnish.

Design: Baseline data came from 2,223 patients with Type 1 or Type 2 diabetes participating in HMR multinational, open-label, randomised-controlled trials comparing insulin glargine with NPH insulin.

Method: Factor analysis and reliability tests were used to check the psychometric properties of each language and the results were compared with those of the reference language (English).

Results: The expected factor structure has five Satisfaction items loading highly on Factor 1. Q.6 usually produces a satisfactory but slightly lower loading on Factor 1, e.g. in this study, English Factor 1 loadings were >0.69 except Q.6 (0.54). The two perceived blood glucose level items are treated individually. Factor structure was confirmed in English (UK, South Africa, US) German (Germany, Austria), Swedish, French, Danish and Norwegian. Dutch and Finnish were less clear. Forced 1-factor analyses showed all six Satisfaction items loading >0.4 in all languages except Dutch (where Q.6 loaded 0.326). The slightly less than perfect factor structures occurred in languages for which Ns were on or below the ideal minimum (range of n=61 – 101). Cronbach's reliability coefficients were nevertheless high in all languages (alphas = 0.782 to 0.894).

Conclusion: The reliability of the DTSQs is confirmed for use in all eight languages. Factor structure needs further testing on larger samples for Dutch and Finnish.

Reflexology and relaxation in the management of chronic low back pain

H POOLE, P MURPHY, S GLENN, Liverpool John Moores University

Objective: The use of complementary medicine (CM) for the management of chronic low back pain (CLBP) continues to rise. However questions concerning the efficacy of many CM therapies for CLBP remain unresolved. We are engaged in a project designed to evaluate the effectiveness of reflexology and relaxation in this domain. This poster aims to explore the psychological characteristics of a sample of primary care patients with CLBP participating in the study, using cross sectional data gathered during the recruitment phase.

Design: RCT. Participants randomised to one of three groups: reflexology, relaxation, or non intervention (usual care by GP).

Method: During the first phase, all participants (n=165 to date) complete a questionnaire booklet designed to measure their general health status, functioning, coping strategies, mood and satisfaction with social support. In addition, participants are interviewed using a semi-structured technique to elicit details of their experience of back pain.

Results: Low functioning was associated with high levels of depression ($r=.6292$, $p<.0005$) and both correlate with the catastrophising scale of the coping strategies questionnaire ($r=.4228$ and $r=.4084$ respectively $p<.0005$). Those who had used CM previously (48 per cent), were either dissatisfied with conventional therapies or attracted by the perceived benefits of CM.

Conclusion: Results provide evidence for an association between low functioning and increased depression in this patient group and support the idea that CLBP sufferers turn to CM primarily because of their dissatisfaction with conventional therapies.

Fitting in and feeling fine: The impact of personality on person-organisation value congruence and affective outcomes

T RAZAVI, University of Southampton

Objective: Drawing on models of person-organisation (P-O) fit, the present study examines the role of personality characteristics (neuroticism, extraversion, Type A and social desirability) on the experience of fit and the prediction of positive affective outcomes, and tests the mediational relationships proposed by P-O models.

Design: A two-wave longitudinal study was conducted in two Building Societies. As values constitute fundamental, defining characteristics of both individuals and organisations, congruence was measured using an index of the match between individual and organizational value profiles.

Method: 304 employees returned value profiles and personality measures as part of a wider survey. Affective outcome measures (job satisfaction, life satisfaction, General Health Questionnaire) were collected both concurrently and as part of a six-month follow-up survey.

Results: Multiple regression analyses indicated that both neuroticism and Type A were significant cross-sectional predictors of value congruence in these organisations; furthermore, their effects on affective outcomes were mediated through value fit. The same pattern of relationships was shown in longitudinal analyses of the impact of neuroticism over time. Although no main effects of extraversion or social desirability were detected, both acted as moderators of the relationship between value congruence and job satisfaction.

Conclusion: This evidence partially supports P-O fit models, and has possible implications for job choice and recruitment, as well as for managing employee satisfaction.

Is there a potential application in healthcare for the documented phenomena of biophilia?

C REGAN, S HORN, B REMINGTON,
University of Southampton

Objective: To determine whether field studies (e.g. Ulrich *et al.*, 1984) suggesting that exposure to scenes of nature can reduce pain, can be supported by experimental laboratory findings.

Design: Repeated measures using physiological responses and self-reports of affect as dependent variables.

Method & Background: Biophilia, 'an inherent human affinity for life and lifelike processes' (Wilson, 1984), has been researched across many disciplines including psychology. In one of the studies looking for the existence of biophilia in relation to stress (Ulrich *et al.*, 1991), stress was passively induced in participants using a videotape about industrial accidents. Continuous physiological data was then recorded while participants watched videos of either natural or urban scenes. Self-ratings of affective states were also collected using the ZIPER (Zuckerman, 1977). It was found that all the measures 'converged to indicate that recovery was faster and more complete when subjects were exposed to natural rather than urban environments' (p.201). A partial replication of the Ulrich *et al.* (1991) study will be employed using a British undergraduate sample. It will differ from the original study in having a repeated measures design and fewer experimental conditions. A subsequent study, in which the stressful video will be replaced by a painful stimuli, will be conducted if the results from the first experiment concur with the Ulrich study.

Application: Potential for use in clinical settings; demonstration of a therapeutic effect of viewing scenes of nature in cases where cognitive interventions are inappropriate would be especially beneficial.

Does ethnic background influence women's interpretations of EPDS questions?

F REYNOLDS, Brunel University,
C OSBORNE, West Thames College

Objective: The Edinburgh Post-natal Depression Scale (EPDS) is a recommended screening tool. However, the idiomatic/unusual English used in some questions may be unfamiliar to women from ethnic minority backgrounds. This study compared the views of mothers from white and Asian backgrounds concerning the meaningfulness and acceptability of the EPDS. Further objectives included comparing EPDS scores and exploring women's understanding of the term 'postnatal depression'.

Design & Method: A comparative survey was conducted through structured interviews of women attending a GP practice. Selection criteria were reasonable fluency in spoken and written English, and having a baby under one year old. The sample comprised 36 women, equally drawn from white and Asian backgrounds. Participants provided sociodemographic details, EPDS scores; descriptions and concerns about postnatal depression (PND); views about the acceptability of the questionnaire, and interpretations/concerns about each EPDS question.

Results: The Asian group scored much higher on the EPDS, yet admitted very little concern or worry about PND. Almost all (16/18) in both groups rated the questionnaire overall as 'acceptable' or 'good'. Question 9 of the EPDS was uniformly understood. However, the remaining nine EPDS questions received some negative evaluation, with more Asian than white women expressing confusion about terms or phrases used. For example, 9/18 of those with Asian backgrounds (and 0/18 of the white group) expressed uncertainty about the meaning of question 8.

Conclusion: Though needing further replication, the findings question whether the English version of the EPDS accurately assesses PND in women from minority linguistic backgrounds.

Predicting anxiety in breast cancer: A comparison of subjective and objective measures

V RIDGEWAY, A MATHEWS, MRC
Cognition & Brain Sciences Unit,
Cambridge

Objective: To investigate ways of predicting level of distress following diagnosis of breast cancer.

Design: In previous research, pre-diagnostic Stroop task results were significantly correlated with distress when having cervical cancer, and were superior to self-report measures in their predictive value. In a replication and extension of that study, we contact women on three occasions, once immediately before diagnosis and twice after their visit to a Clinic established to examine women with symptomatic breast conditions.

Method: 350 women have been seen in the hospital clinic. As well as completing measures of state and trait mood, and behavioural coping styles, women undertake two computer-based attentional processing tasks. One task provides an index of interpretation of ambiguous neutral and health related words. The second computer measure is a Stroop task, in which women colour-name subliminal and supraliminal negative and health-related words. All women are contacted at one and three months after their clinic visit, and their mood and health concerns are assessed.

Results: One in ten of the women interviewed in the clinic have breast cancer requiring treatment. Results from the computer tasks do provide information about reaction to a diagnosis of breast cancer that constitutes a factor separate from that based on other measures of emotional state.

Conclusion: Objective measures are useful for anticipating reaction to a diagnosis of breast cancer and thus may allow us to improve the allocation of support services over the course of treatment for those most likely to experience distress.

Counting matters: Quantitative research in lesbian and gay psychology

I RIVERS, College of Ripon & York
St John

Objective: Through a consideration of quantitative research in lesbian and gay psychology, this paper examines the methodological issues that psychological researchers face in studying lesbian and gay experiences within this research tradition.

Background: Diverse methods of data collection and analysis have been used in research in lesbian and gay psychology. Research in the UK has largely been based on interview data and qualitative analysis. In the US, researchers in this domain have generally collected quantitative, retrospective data, paying little attention to the reliability or validity of this data.

Method: This paper attends to the benefits and drawbacks of quantitative research in lesbian and gay psychology and considers how research might be conducted within this tradition in the future in order to advance the development of this psychological domain. Particular attention is paid to those issues and dilemmas that researchers have faced in gathering and analysing quantitative data. Inherent within this exploration of research methodology is a consideration of research perspective (i.e. essentialist or social constructionist) and consideration is given to the impact of perspective on methodology. In addition, the potential value of multi-method approaches in lesbian and gay psychology is examined.

Conclusion: Quantitative data collection techniques in lesbian and gay psychology remain problematic due to issues in data collection and analysis. However, various strategies have been employed by researchers to address these problems and these provide a basis upon which to further an understanding of lesbian and gay issues from a psychological perspective.

Structural and metabolic brain changes in patients with anorexia or bulimia nervosa – observations during the course of the diseases

B ROST, University of Basle, Switzerland

Objective: To investigate patients with anorexia or bulimia nervosa by magnetic resonance imaging (MRI) and by localised proton magnetic resonance spectroscopy (MRS) in order to observe disease-specific morphologic and metabolic alterations during the course of the diseases.

Design: A patient-control, matched design was employed, with follow-up.

Method: 20 patients with anorexia or bulimia nervosa were investigated by routine MRI and localised short echo time proton MRS using the STEAM technique in three regions of the brain. Fifteen age and sex – matched healthy subjects were investigated as controls. Thirteen patients underwent a single follow-up examination, two subjects were reinvestigated twice.

Results: The main metabolic findings within the patient group, compared to healthy controls, can be summarised as follows: both Ino/Cr and Ino are significantly reduced in white matter; both Lip/Cr and Lip are significantly reduced in white matter, Lip/Cr and Lip are also reduced in grey matter and in the cerebellum (n.s.). The follow-up study shows increase of Lip/Cr and increase of Ino/Cr in those patients, who have BMI>17.5kg/m².

Conclusion: MRS in combination with MRI serves as an investigative tool to observe metabolic changes in the brain of patients, which can be directly related to structural abnormalities as assessed by MRI. Changes in brain structure and metabolism can be compared with changes in experience and behaviour in intra-individual long-term investigations. Thus integrated MR examinations could provide further insight into mechanisms, which promote chronic courses of the diseases.

Gender differences in stress, satisfaction and mental well-being among general practitioners

U ROUT, Manchester Metropolitan
University, J ROUT, Kearsley Medical
Centre

Objective: The aim of this study is to investigate levels of job stress, job satisfaction and mental well-being with respect to gender in a sample of male and female general practitioners.

Method: Anonymous and confidential questionnaires were distributed to a randomly selected sample of 900 general practitioners and other primary care professionals in the north west region. Of the 587(65.22 per cent) questionnaires returned, 205 were general practitioners, of which, 130 (63.4 per cent) were male and 75 (36.59 per cent) were female.

Results: Factor analysis was carried out on the responses to the 42 stressors using principal component analysis. The analysis revealed six factors. Factor scores were calculated for each individual general practitioner for each factor and were later used in multiple regression analyses. The differences among male and female general practitioners on job satisfaction variables were investigated through a series of t-tests. The separate regression yielded the same three job stressors as significant predictors of high level of job dissatisfaction for both male and female general practitioners (i.e. time pressure/interruptions, working environment/communication, and career and goal achievement). Male general practitioners exhibited a poorer level of mental health, in terms of anxiety and depression, than a British male population. Female general practitioners, on the other hand, reported remarkable mental well-being, mental health scores being significantly below the normative population. There was no significant difference between the female general practitioners and the normative population on free-floating anxiety scale.

Conclusion: The findings for mental health are of some concern for some male general practitioners. It is important that future research on stress in doctors should take account of gender differences.

In-group favouritism and out-group homogeneity between minimal and gender groups

JM RUBIN, M HEWSTONE, University of Cardiff

Objective: Two experiments investigated the influence of trait valence and trait stereotypicality on in-group favouritism and out-group homogeneity.

Design: In both experiments a 2 (target group: in-group/out-group) x 2 (trait valence: positive/negative) x 2 (trait stereotypicality: consistent/inconsistent) within-participants design was used to explore the dynamics of intergroup bias.

Method: In Experiment 1, 80 participants were categorised as minimal group members on the basis of a dot estimation task (e.g., Tajfel et al., 1971). They then rated themselves, their in-group and the out-group on a series of positive and negative traits that were stereotypical of either the in-group or the out-group. Experiment 2 (n=164) was a partial replication of Experiment 1 using gender groups.

Results: In Experiment 1, in-group favouritism was only found on out-group stereotypical traits. Consistent with social identity theory (Tajfel & Turner, 1979), it is argued that this represents a relatively competitive form of favouritism. Out-group homogeneity was found on in-group negative and out-group positive traits. It is argued that these results reflect participants' motivation to protect the in-group from in-group-threatening traits (Doosje et al., 1995). Experiment 2 replicated these results and found that gender moderated a relationship between in-/out-group favouritism and trait valence.

Conclusion: The results from both experiments are discussed in relation to self-categorisation theory (Turner et al., 1987) and self-anchoring theory (Cadinu & Rothbart, 1996). Consistent with these theories, it is concluded that in-group favouritism and out-group homogeneity can be explained in terms of the perceived similarity participants feel towards in- and out-group members.

The influence of parental attitudes and support on children's engagement in music

K Ryan, SA O'Neill, Keele University

Objective: We know that the motivation to take up and persist with playing an instrument is extrinsically linked to the social and educational environment. However, few studies have examined the complex inter-relationships between parental attitudes, the support parents are willing and able to provide, and children's actual levels of engagement. The present study aims to examine these complex inter-relationships to increase our understanding of the ways in which parental attitudes and support influence children's engagement in instrumental music.

Design: A survey design was used to gather information from parents whose children went to a variety of schools to encompass the full range of social economic status and school music provision.

Method: The parents of 506 Year 6 children, across 33 primary schools in North Staffordshire, were asked to complete a questionnaire to gather information on their (1) general, parent-specific, and child-specific attitudes and beliefs about musical competence and values, (2) levels of support (e.g. providing encouragement, practical assistance), and (3) child's present level of engagement in instrumental music.

Results: The results, which are in the process of being analysed, are presented and discussed.

Conclusion: The study contributes to the development of theory by enabling us to examine the kinds of support most likely to lead to successful outcomes and the ways in which support and levels of engagement are related to parental attitudes and beliefs.

Do psychological variables predict responses to surgical stress?

P SALMON, University of Liverpool, GM HALL, St George's Hospital Medical School, London

Objective: Emotional influences on recovery from surgery remain unclear. To assess their importance we: examined a broader range of emotional variables than previously, including fatigue; controlled for effects of surgical trauma; controlled for relationships of emotional variables with function preoperatively; used valid indicators of functional recovery.

Design: A prospective study of a cohort of consecutive patients.

Method: In 160 patients undergoing major joint arthroplasty functional recovery was assessed in hospital by timing functional milestones and, six months post-operatively, by self-report. Inflammatory markers were

C-reactive protein and il-6. Self-rated questionnaires measured emotional state and fatigue pre- and postoperatively. Multivariate and univariate analyses examined whether recovery depended on peri-operative emotional state after controlling for the inflammatory response and preoperative dysfunction.

Results: Functional recovery in hospital depended only on a smaller inflammatory response. Recovery at follow-up was related to better preoperative emotional state and lower pre-operative fatigue but, except for effects of fatigue, results were accounted for by relationships with pre-operative dysfunction. Recovery was unrelated to post-operative emotional state.

Conclusion: Functional recovery in hospital after major joint arthroplasty depends on the inflammatory response to surgery, but not on emotional state. By contrast, long-term recovery is unrelated to the inflammatory response but is related to preoperative emotional state. However, this relationship is largely accounted for by the re-emergence of preoperative relationships between subjective state and function. Only the effects of preoperative fatigue could not be explained in this way. Emotional state postoperatively is irrelevant to recovery.

Presenting a new interview methodology using the sport commitment model

T SCANLAN, University of California

Objective: To place the research into a larger context, this presentation begins with an overview of the International Center for Talent Development at UCLA.

Background: This interdisciplinary focuses on understanding and nurturing the development of talent across varied achievement domains (e.g. education, music, sport), and skill levels ranging from novice through world-class performers. Center research includes quantitative and qualitative research methods.

Method: Discussed next, is a new methodology that captures the depth and complexity derived from interview data, with a process that directly tests, modifies, and expands theory. The method applies to theory testing in any domain, but the example interview and data come from our research developing the Sport Commitment Model (SCM). Commitment is defined as a psychological construct involving the desire and determination to persist in an endeavour over time.

Conclusion: Building on our prior quantitative data with youth sport athletes, the interview tests the predicted sources of sport commitment with very elite male and female performers who have demonstrated intense commitment over a long period of time. The two teams are the world-renowned New Zealand All Blacks (men's rugby) and Silver Ferns (women's netball).

Work and non-work stress amongst solicitors: Investigating the work-home interface

TJ SCANLON, University of Central Lancashire

Objective: This research examines the

relationships between, and predictive value of, work, non-work and spillover factors in relation to physical and psychological symptoms of stress.

Design: In achieving this aim the research adopts an inductive approach in terms of taxonomy design and data analysis and addresses a number of conceptual and methodological difficulties associated with prior studies into the work-home interface.

Method: Data was gathered in two stages from solicitors working in private law firms. Stage one involved 20 interviews that allowed respondents to identify sources of work and non-work pressures for themselves. Content analysis of the interview transcripts facilitated a process of developing separate work and home pressure inventories. In addressing many of the difficulties associated with construct measurement, stage two developed an alternative approach for measuring bi-directional effects of stress, which formed part of a questionnaire containing established measures of health. From a sample of 3000 solicitors employed in England and Wales 720 questionnaires were returned.

Results: Results derived from multivariate and factor analysis indicate that solicitors, particularly women, are being stretched in a demanding job with a number of work, home and principally spillover factors contributing to symptoms of stress, reflected in moderate to high physical and psychological complaint scores.

Conclusion: This study proposes a unique approach for measuring bi-directional effects of stress thereby addressing a number of methodological problems in this area. It also draws attention to the need for more flexible working arrangements so that employers and individuals can manage the work-home boundary more effectively.

Interactions between actual and informed caffeine content on subsequent cognitive performance

A SCHOLEY, C CHANDLER, University of Northumbria, K WESNES, Cognitive Drug Research Ltd, Reading

Objective: It has previously been shown that following consumption of decaffeinated coffee, participants' performance on cognitive tasks was predicted by information they had received regarding caffeine's enhancing or impairing effects respectively. However, little research has examined the effects of information given to participants regarding a drink's caffeine content on their subsequent cognitive performance. The present study examined the interaction between actual caffeine content and information regarding caffeine content on aspects of mood and vigilance.

Design: A randomised, placebo-controlled, double-blind design was employed.

Method: Participants were randomly assigned to one of four conditions: each participant was informed that they would receive either caffeinated or decaffeinated coffee; within each of these two groups half were administered with caffeinated and half with decaffeinated coffee. Performance was assessed using letter cancellation tasks, and changes from baseline measures of mood and performance on the Rapid Visual Information Processing Task (RVIPT) drawn from the Cognitive Drug Research computerised assessment battery.

Results: Participants who consumed caffeine performed better on the RVIPT when they had been informed that they would receive caffeinated coffee than when they had been informed that they would receive decaffeinated coffee. Participants who received decaffeinated coffee performed better on the RVIPT when they had been informed that they would receive caffeinated coffee.

Conclusion: These data demonstrate a clear effect of information regarding type of beverage consumed which is similar in magnitude to the real pharmacological properties of caffeine. The two effects did appear to differentially affect 'speed-accuracy trade-off'. These results may have important methodological and applied implications regarding the psychopharmacological properties of 'everyday' psychoactive substances.

The effects of increasing 'mental effort' on blood oxygen levels

A SCHOLEY, M MOSS, University of Northumbria

Objective: Previous studies in our laboratory have indicated that oxygen administration can improve cognitive performance in healthy young adults. Here two experiments are described which examine the relationship between oxygen administration, cognitive load and the pattern of hyperoxia (elevated blood oxygen levels).

Design: Both studies employed a double-blind, placebo-controlled, balanced crossover design. **Method:** In the first of the two studies 18 volunteers inhaled oxygen or air (control) for one minute before playing each of three levels of the computer game Tetris. The short half-life of hyperoxia allowed the gas inhaled to be alternated between each level and between each of two visits (which occurred on subsequent days). In the second experiment participants inhaled oxygen or air then performed a simple counting task or a mentally demanding serial subtraction task (Serial Sevens). After an interval of ten minutes they underwent the same procedure in the other gas and task condition, the following day they completed the same procedure but in the opposite gas/task order.

Results: In the first study, oxygen administration significantly improved Tetris performance (points scored) at the highest level of the game only. In the second study oxygen significantly reduced number of errors on the Serial Sevens task and significantly increased the number of responses generated in the simple counting task. Hyperoxia decayed more rapidly in the serial sevens condition than in the counting condition.

Conclusion: These results confirm that oxygen administration can improve cognitive performance, particularly during periods of mental effort. The accelerated decay of hyperoxia during Serial Sevens suggests that increased uptake of oxygen by the brain can be measured in the periphery.

Effects of ginkgo biloba and ginseng on computerised serial subtraction tasks

A SCHOLEY, D KENNEDY, University of Northumbria

Objective: Serial subtraction, particularly Serial Sevens, is widely used to assess cognitive changes in pathology and following psychopharmacological intervention. While the instructions are easy to follow, accurate scoring of orally generated responses can prove time-consuming – usually requiring transcription of audio-taped responses. Here the effects of two psychoactive treatments on a newly-developed, automated serial subtraction task was assessed.

Design: The study utilised a placebo-controlled, double-blind, balanced, crossover design. **Method:** In two separate studies, 20 participants received placebo or standardised doses of either Ginkgo Biloba (GK 501, Pharmaton SA) or Ginseng (G115, Pharmaton SA) on separate days. For each participant, doses were administered on different days, each separated by a seven-day wash-out period. Participants' performance on computerised Serial Threes and Computerised Serial Sevens was assessed 1, 2.5, 4 and 6 hours following treatment.

Results: Serial Sevens and Serial Threes performance were both analysed with respect to number of responses generated and accuracy of responses. A significantly greater number of responses were generated on Serial Threes 4 hours following all but the lowest dose of Ginkgo. Both the 200 and 400mg doses of ginseng resulted in significantly greater accuracy on the Serial Sevens task.

Conclusion: These results suggest that this task may be a valuable and easily-administered assessment tool and reinforce the value of multi-dose, multiple testing regimes in the assessment of psychotropic agents.

Items of outcome expectancies might provide cognitive alcohol cues which affect desires to drink

D SCHULZE, BT JONES, University of Glasgow

Objective: The hypothesis was tested that cue exposure interacts with the order of questionnaire presentation to affect subjective cue responses, i.e. desires to drink.

Design: A 2 x 2 between-subjects design with the independent variables Drink Cues (soft drink vs. alcohol cues) and Order of assessment (desire-expectancy vs. expectancy-desire) was utilised.

Method: 88 social drinkers' responses to alcohol or soft drink cues were recorded on the Desire for Alcohol Questionnaire (DAQ), the Alcohol Expectancy Questionnaire (AEQ) and the Negative Alcohol Expectancy Questionnaire (NAEQ). The questionnaires were presented in a counterbalanced order.

Results: A significant interaction between Drink Cues and Order of assessment was found for the DAQ factor perceived Control over Drinking. Scores on the DAQ Control factor only demonstrated a cue response to alcohol when testing on the DAQ was preceded by testing on the expectancy questionnaires.

Conclusion: It was hypothesised that the decrease of perceived control over drinking after alcohol cue exposure and expectancy assessment could be due to either the effect of a priming dose of alcohol, or the effect of cognitive alcohol cues provided by the expectancy items. Both explanations could have substantial implications in applied settings.

The psychobiology of eating disorders

J SEED, A SCHOLEY, University of Northumbria

The Psychobiology Section is offering this symposium in the light of the growing number of cases of individuals, particularly women, who are suffering from eating disorders. For many, eating disorders are seen simply as being a 'product of society' and consequently the role of biological factors in their development and maintenance is often overlooked. In this symposium, our first speaker presents a review of the evidence suggesting a genetic vulnerability to Anorexia Nervosa based in the serotonin system, which, it is argued, may cause some of the personality and behavioural traits seen in the disorder. Our second and third speakers present data from studies of cognitive function in patients with Anorexia Nervosa and Bulimia Nervosa, highlighting memory and attentional deficits which may contribute to the maintenance of these disorders, once established. The effects on cognition of attendant neuroendocrine abnormalities are also discussed. Our fourth speaker presents data relating to brain changes in eating disorders and discusses the use of magnetic resonance imaging (MRI) and magnetic resonance spectroscopy (MRS) as a potential means of identifying mechanisms that may promote chronicity. Finally, the role of emotions in eating disorders are explored in a review paper that includes original work carried out by our fifth speaker. This paper includes discussion of the biological factors underlying an exaggerated, food-related 'disgust' response identified in Anorexia Nervosa patients, which, it is suggested, may be a key component of the disorder.

Glucocorticoid abnormalities and cognitive function in anorexia nervosa

J SEED, University of Northumbria, AH YOUNG, University of Newcastle-upon-Tyne, K WESNES, CDR, Reading

Objective: To profile the nature and extent of cognitive impairments in anorexia nervosa and to determine whether any relationship exists between cognitive function and cortisol secretion. **Design:** Two case-control studies are reported which have investigated the relationship between cortisol secretion and cognitive function in

patients with anorexia nervosa. In the first study, cortisol measurements were obtained from 24-hour urine collections. In the second study, 24-hour serial saliva sampling was employed to allow sensitive profiling of cortisol secretion throughout the circadian cycle.

Method: Patients (Study 1: n=19; Study 2: n=20) with a diagnosis of anorexia nervosa and individually sex- and age-matched controls completed cognitive assessment batteries targeting memory and attention. Cortisol measurements were taken on the day preceding testing.

Results: In both studies, patients were found to be significantly impaired on tasks of both memory and attention. In the first study, cortisol secretion was significantly elevated in the patient group. However, no correlations were identified between cortisol levels and any of the cognitive task measures. In the second study, no evidence was found for patient cortisol hypersecretion and the diurnal pattern of cortisol secretion was also found to be normal.

Conclusion: It is suggested that at least some of the cognitive impairments observed in anorexia nervosa occur independently of cortisol hypersecretion. Brain hypometabolism, owing to insufficient energy availability, may constitute the most parsimonious alternative explanation.

Delusional beliefs – the role of reasoning and over-inclusive thinking

J SELLEN, M OAKSFORD, N GRAY, Cardiff University

Objective: The possibility of a link between reasoning abnormalities and over-inclusive thinking was investigated by employing schizotypy measures in a normal population. It was hypothesised that on a conditional inference task individuals with high scores would access less background information from semantic memory and hence utilise different reasoning strategies, compared to a low schizotypy group.

Design: Participants completed standard schizotypy measures (Mason et al., 1995). In addition 64 causal conditional statements (Cummins, 1995) were used, which had been pre-tested for varying degrees of implicit information which questions the cause-effect relationship.

Method: 64 psychology undergraduates were recruited. Participants read the conditional statements, each with an additional fact and a conclusion and were asked to record how strongly they believed the conclusion.

Results: An ANOVA revealed that the high schizotypy group took significantly less account of implicit information in their assessment of causal statements, particularly with factors that may explain why an effect may not occur, given a known cause.

Conclusion: We suggested that the high schizotypy group are not making efficient use of information from their store of world knowledge. As a result, performance on this reasoning task was anomalous compared to established findings in normal populations. The data supports evidence that reasoning abnormalities may contribute to formation and maintenance of delusions. Further, we argued that over-inclusive thinking contributes to the reasoning abnormalities and hence may also be a factor in maintaining delusional beliefs.

Seen from both sides: Reflections from a lecturer turned educational developer

R SHARPE, Open University

Objective: This paper explores the common concerns expressed by new teachers, gives an overview of some principles and guidelines for effective teaching and provides strategies for preparing to teach.

Method: Many of the topics covered stem from my own peculiar experiences as a psychology postgraduate, lecturer and educational developer, sharing some insights which I hope are useful to you. I seem to remember that I was just writing up the methodology of experiment two when my supervisor casually asked if I'd like to help her

run some tutorials. I was pleased and agreed, expecting to hear more later. I heard more: a timetable nonchalantly appeared in my pigeon hole, students knocked on the door, 50 minutes of careful knee observing and a pile of essays followed. Thrown in at the deep end? That term I drowned. In a recent survey the National Postgraduate Committee reported that 44 per cent of postgraduates said they still had no training to prepare them to teach (*Times Higher Education Supplement*, Dec. 1999). As a postgraduate I enjoyed the variety of teaching subjects outside my specialist area and took on seminars, practicals and the odd lecture. As a new psychology lecturer I planned modules, set and marked exams and supervised projects. Within a few years I had left psychology to work full-time as an educational developer, running courses for postgraduates who teach, new lecturers and other professionals involved in higher education teaching. Therefore, this talk covers the subject of teaching from the perspective of both a psychologist and educational developer.

The meaning and context of patient 'satisfaction' with treatment: a grounded theory analysis

K SHARPLES, L YARDLEY, University of Southampton

Objective: The purpose of this study was to determine the meaning and constituents of 'satisfaction' with chiropractic treatment.
Design: Semi-structured, in-depth interviews were carried out with a consecutive sample of 16 people attending a chiropractic clinic for treatment of back pain.

Method: Interviews were tape-recorded and fully transcribed, and analysed using grounded theory procedures as follows: identification and categorisation of concepts using the constant comparative method; analysis of causal and temporal relationships between categories; triangulation of interpretations; iterative sampling to test and modify emerging explanations.

Results: The factors influencing 'satisfaction' with treatment changed over the timecourse of therapy. Positive attitudes to trying chiropractic treatment were inspired by a perceived failure of traditional medicine to offer remedies for back pain, an expectation of rapid treatment and instant cure, and recommendations from others. Selection and experience of chiropractic were associated with development of a personal model of illness and treatment consistent with that of the chiropractor. Following treatment, positive experiences of control and the therapeutic relationship became more central to satisfaction.
Conclusion: Measures of patient 'satisfaction' need to take into account changes in the nature and origins of satisfaction which occur as the patient learns from health care experiences.

The theory of planned behaviour and the benefits of specific plans

P SHEERAN, M SILVERMAN, University of Sheffield

Objective: This study compared the efficacy of individual and combined interventions based on a theory of motivation (the theory of planned behaviour) and a theory of volition (implementation intentions) in promoting attendance at workplace fire training sessions.

Design: Participants were randomly allocated to four conditions: (a) motivational intervention; (b) volitional intervention; (c) motivational plus volitional intervention; and (d) control.

Method: Participants were $n=271$ university employees aged 18 to 64 years (57 per cent women). The experimental manipulations were incorporated into a structured questionnaire. The questionnaire also contained reliable measures of theory of planned behaviour variables regarding attendance at fire training sessions in the next three months. Subsequent behaviour was determined from attendance records.

Results: The motivational intervention did not affect intentions and behaviour. However, participants who had formed implementation intentions about the time and location for performing the behaviour (volitional intervention)

were twice as likely to attend compared to participants in the control condition. Evidence showed a strong correspondence between the timing and location specified in the implementation intention and subsequent behaviour. Moreover, the efficacy of implementation intentions in promoting attendance did not diminish as the time interval between intentions and behaviour increased.
Conclusion: The findings show that implementation intentions are effective in promoting health and safety practice and indicate that the formation of specific plans can improve the prediction of behaviour offered by the theory of planned behaviour on its own.

Marital conflict and child adjustment: Testing an emotional security hypothesis

K SHELTON, G HAROLD, Cardiff University

Objective: An established body of research documents an association between marital conflict and child adjustment difficulties. The mechanisms underlying this association are less well understood. The goal of the present research was to examine the mediating role of children's sense of emotional security as evidenced by their self-regulation, regulation of marital emotion, and emotion-based representations on links between marital conflict and child adjustment (including internalising and externalising symptomatology).

Design: A combination of self-report and experimental analogue procedures were employed to accurately assess children's emotional security in response to conflict between parents.

Method: 350 11- to 12-year-old children were recruited from a larger family study taking place in the South Wales area. Children viewed videotapes of two adults discussing an everyday family problem using destructive and constructive conflict management strategies. Children also completed questionnaires assessing appraisals of family events and emotional and behavioural well being.

Results: Path analysis using structural equation modelling supported a theoretical pathway whereby perceptions of interparental conflict were linked with adjustment as mediated by children's self-regulation of emotion and regulation of marital emotion. Subgroup comparisons identified several interesting gender differences.

Conclusion: Such results lend support to an emotional security hypothesis as a mediating mechanism for the impact of marital relations on children's adjustment. The findings of gender differences between boys and girls' representations of the marital relationship is indicative of a subtle contrast in emotional responding as a function of child gender.

Appraisal schema, coping and negative affectivity in relation to mental well-being

E SHORT, University of Luton, A Guppy, Middlesex University

Objective: To assess the utility of appraisal schema, dispositional coping and negative affectivity in predicting context specific and context free mental health.

Design: A cross-sectional, self-completion questionnaire survey of 200 postgraduate students was performed, with repeated measures obtained for 75 participants during a follow-up survey.

Method: The questionnaire contained scales measuring primary and secondary appraisal schema (dysfunctional attitudes, work aspiration and locus of control) as well as dispositional coping, negative affectivity and mental health. The coping dimensions included problem-focused, avoidance, social support seeking, symptom management and accommodation coping, while negative affectivity was measured using a short Neuroticism scale. Context specific (affective well-being) and context free measures (GHQ-12) of mental health were also included. All measures were repeated at an interval of approximately six weeks.

Results: The Time One Multiple Regression

Analyses (MRSs) indicated between 34 per cent and 48 per cent of the variance in mental well-being measures was predicted, with negative affectivity, primary and secondary appraisal and avoidance coping being significant predictors. In predicting follow-up mental health, hierarchical MRAs indicated that between 28 per cent and 57 per cent of the variance in the measures could be predicted. After controlling for time 1 mental health scores, only negative affectivity remained a significant predictor of time 2 mental health.

Conclusion: While the cross-sectional data provide support for the relevance of primary and secondary appraisals and coping in predicting mental health, there was no strong evidence of their contributions from the longitudinal analyses.

Task unrelated thought and the role of categorical processing

J SMALLWOOD, MC OBONSAWIN, University of Strathclyde

Objective: The main objective of this study was to examine the role of stimulus organisation in the maintenance of task focus. Divergent views exist on the mechanisms underlying task focus. First it has been proposed that task focus is maintained through the resources required for task completion. A second proposition derived from models of psychopathology, e.g. Beck's Cognitive Therapy, is that the individuals underlying schematic representations are responsible for directing thought.

Design: It was decided to compare these two views by measuring task focus during categorical and alphabetical memory tasks, both of which were paced either fast (one word per four seconds) or slow (one word per six seconds).

Method: 20 healthy participants were recruited from The University of Strathclyde Psychology Department. Two verbal memory tasks were compared, the first in which the individual is required to recall words grouped by category, the second in which the words were grouped alphabetically. Task focus was measured using thought probes at the end of each block. Thoughts were classified in terms of their relationship to the task in hand.

Results: A greater number of thoughts related to the task in hand were occurred during the categorical task than in the alphabetical task ($p<0.001$). Speed of stimulus presentation increased task focus during the alphabetical task but not during the categorical task ($p<0.01$).

Conclusion: The results of the present study and previous studies by the same authors suggest that task focus can be affected by stimulus organisation as well by the resources employed in task completion.

Making sense of genetic testing using interpretative phenomenological analysis

J SMITH, Birkbeck College

Objective: This paper introduces one particular qualitative approach – interpretative phenomenological analysis (IPA) – and illustrates its application to a project examining factors influencing candidates for the genetic test for Huntington's Disease. Huntington's Disease is a seriously debilitating illness for which there is no treatment and for which an almost definitive presymptomatic genetic test is now available.

Design: The study employs IPA which combines an attempt to understand how participants themselves make sense of their experiences with a recognition that this requires interpretative engagement by the researcher.

Method: Participants were seven candidates for genetic testing for Huntington's Disease at one regional genetics centre. They took part in a semi-structured interview guided by an interview schedule. The interview was tape-recorded and transcribed verbatim. The transcripts were subjected to IPA.

Results: The paper presents two important factors which can be described as equivocal in that each can be used by a participant to propel them towards a decision either in favour or against testing. These two factors are: for the children: to test or not to test? anxiety: the need to know versus the need not to know.

Conclusion: The paper links the findings to the existing work on the topic and suggests that the study can make a useful contribution both to the psychology of decision-making and to the practice of genetic counselling.

Getting the right rhetoric to the right people: The challenge for the TPB in health promotion

JL SMITH, University of Sunderland

A radical interpretation of the TPB is put forward which regards the theoretical equation as a rule governing the intelligibility of clusters of statements that may be made about particular health-related behaviours. Working from this basis, ways in which the TPB might be deployed in health promotion are then explored. It is argued that there is no point in administering TPB-style questionnaires in order to test the theory, if health promotion is the object of the exercise. The correctness of the TPB should be accepted as axiomatic. Exploratory questionnaires could then usefully be deployed to generate modal belief-value matrices for actual (or virtual) sub-groups of the population who are deemed to be in need of behavioural adjustment. Second-wave questionnaires may then be administered as a screening device to identify individuals (or groups) possessing clusters of accounts judged to be aberrant when matched to the target behaviour. The rhetoric of mass-media messages may be honed to address the prototypical mismatches revealed in virtual sub-group clusters. Smarter responses, whether through automated individualised boiler-plate replies to paper questionnaires, or through html generated web-page feedback to internet forms, may be honed to speak to specific problems revealed in the analysis of the individual clusters so obtained.

Is the theory of planned behaviour useful for understanding, predicting and promoting health-related behaviour?

P SPARKS, P HARRIS, University of Sussex

A large number of applications of the Theory of Planned Behaviour (TPB) has shown that attitudes, subjective norms and perceptions of control predict health-related intentions reasonably well. Somewhat fewer studies have also shown a predictive impact on behaviour. The extent to which these studies can be said to explain health-related behaviours is a moot point. Given the divide between attitude-behaviour research and research addressing the processes of attitude change, the issue of whether or not the TPB is a useful tool for promoting health is even more contentious. In this symposium, researchers using the TPB framework discuss recent research findings addressing the application of the theory to health-related behaviours. In the first paper, Abraham and Sheeran discuss research examining the potential role of anticipated regret for understanding and predicting exercise-related intentions and behaviour. The implications for exercise promotion programmes are also assessed. In the context of an intervention study designed to promote fire training attendance, Sheeran and Silverman then examine the potential benefits of considering implementation intentions in addition to TPB constructs. Armitage and Conner first report a TPB-based intervention study that sought to reduce people's levels of fat consumption and then discuss the implications of the findings for developing this line of research. Finally, Smith argues that benefits may be gained not only from a re-interpretation of the posited causal relationships within the TPB but also from focusing research on novel ways that the TPB may be used in intervention work.

Predicting mood from personality and work demands: The protective role of extraversion

T SPARKES, Psychometric Research & Development

Objective: The relationship between neuroticism, demands and negative mood has been well documented in the work stress literature. Conversely, predicting negative mood from extraversion and demands has been a relatively neglected area. Some research has found extraversion to be inversely related to the effects of negative emotion-eliciting stimuli and positively related to lowered mood reactivity, whilst trait positive affect has been associated with lower stressor perceptions. The present study aimed to extend this work to examine the relationship between extraversion, perceived demands and mood in the work setting.

Design & Method: Community nurses drawn from four NHS Trusts in the UK took part in this study on a voluntary basis ($n=470$, 51.03 per cent response rate). A cross-sectional survey was conducted in which participants completed measures of extraversion and neuroticism, work demand and mood.

Results: Hierarchical regression analyses were conducted in which neuroticism and extraversion were entered in the first step, followed by work demand in the second step, and personality \times work demand interaction terms in the final step. Neuroticism and perceived work demands, but not extraversion, were significantly related to negative affect. In addition extraversion, but not neuroticism, interacted with work demand to predict negative affect; $F(1,439) = 7.74$; $p < .05$. Higher levels of demand were associated with greater negative affect for introverted individuals. In contrast, extraversion was found to buffer the workload-negative affect relationship.

Conclusion: This interaction effect is considered in the context of previous research and discussed with reference to the qualitative nature of different types of work demands. In contrast to previous explanations of the extraversion – mood correlation, a reformulation of Gray's theory of individual differences is used to provide an account of the possible mechanism underlying the present finding.

Stop rules and catastrophic worry

H STARTUP, GCL DAVEY, University of Sussex

Objective: To examine the influence of 'stop rules', negative mood and feelings of responsibility on the tendency to catastrophise a worry topic.

Design: A between groups design was implemented, such that each participant was induced into one of three mood states (positive, negative or neutral) and then presented with either a high or low manipulation of responsibility. A between participants design was adopted so as to reduce the demand characteristics associated with manipulations of this kind.

Method: Analogue participants ($n=60$) were induced into either a positive, negative or neutral mood with the use of music and lighting manipulations. Half of the participants in each mood condition were presented with instructions designed to manipulate feelings of high responsibility and the other half feelings of low responsibility. All participants were then required to catastrophise a hypothetical worry topic.

Results: An ANOVA with pairwise comparisons suggested that under conditions of high responsibility negative mood participants generated significantly more catastrophising steps than participants in groups positive or neutral. Whereas under conditions of low responsibility the positive mood participants generated more steps than neutral mood and (non significantly) negative mood participants.

Conclusion: When involved in a task under conditions of high responsibility and a negative mood individuals appear to use their negative emotional state as an indicator that the problem is not resolved, and so persevere further with such tasks. Issues of responsibility may mediate the relationship between negative mood and the tendency to iterate a worry topic.

Face to face with the repetition priming effect

S STEVENAGE, University of Southampton

Objective: The current aim was to examine the effect of facial familiarity on within- and cross-modality repetition priming.

Design: A three-way mixed factorial design was used, with type of presentation (face, name) as a between-subjects variable, and facial familiarity (high, low) and priming (primed, unprimed) as within-subjects variables.

Method: Stimuli included 48 famous faces (32 targets, [16 highly familiar, 16 lowly familiar] and 16 filler famous faces). In addition, 32 unfamiliar faces and 32 unfamiliar names were used. Unfamiliar faces were obtained from a face database. Unfamiliar names were selected from a pool of lesser-known actors and were thus matched with the famous names for frequency of occurrence in the telephone directory. Following a priming phase, participants made a speeded familiarity decision to 64 stimuli (32 famous – 16 primed, 16 unprimed; 32 unfamiliar). Half the primed stimuli were drawn from the highly familiar group and half from the lowly familiar group. Stimuli were presented either as faces (within-modality priming) or as names (cross-modality priming) and both speed and accuracy of response were recorded.

Results: As expected, analysis of the reaction times for correct responses indicated a significant degree of within-modality priming but no cross-modal priming. In addition, the degree of within-modality priming was significantly reduced when faces were more familiar.

Conclusion: These results provide support for the structural explanation of repetition priming in which the extent of priming can be affected by the initial link strength between units representing highly familiar people.

Modelling face learning using an interactive activation and competition model

S STEVENAGE, H LEWIS, University of Southampton

Objective: The current aim was to provide a complete simulation of face processing in order to demonstrate both the recognition of a known face, and the learning of a new face.

Design & Method: IACAPA made use of an adapted Hebbian learning mechanism within an interactive activation and competition model. The network was configured to have 40 'feature units' which described four versions of ten facial features, and provided the input to subsequent layers. In addition, IACAPA had a pool of faces (FRUs), people (PINs) and names (NOUs), and each of these layers possessed one unit representing a familiar person, and 50 free units available for learning. Strong links connected units representing the familiar face, while weak links of small random weight connected all 'free units'.

Results: Presentation of a familiar face resulted in rapid activation of the FRU, PIN and NOU associated with that person. As such, IACAPA successfully simulated recognition. In addition, IACAPA showed learning of a new person through the recruitment of one free unit at each layer of the network. This was achieved through Hebbian strengthening of links between free units, and at no stage did the network signal the mistaken identification of a known face. The process was facilitated in both processing speed and asymptotic activation levels by the additional provision of a name input.

Conclusion: IACAPA successfully demonstrated both recognition of a known face and learning of a new one. Consequently, IACAPA is presented as a more complete representation of our face processing abilities.

Expertise, uncertainty and deductive inference

RJ STEVENSON, University of Durham, DE OVER, University of Sunderland

Objective: To test the hypothesis that uncertainty in the conclusion of a deductive argument varies as a function of the expertise of the speaker of a

premise.

Design & Materials: Participants read four modus ponens and four modus tollens arguments and indicated their degree of certainty in the conclusions. Either the major or the minor premise was uttered by a speaker who was either an expert or a novice in the topic of the argument.

Method: 48 participants read the eight arguments (each with a different content), indicating degree of certainty in the conclusion by choosing one of five alternatives ranging from 'definitely true' to 'definitely false'.

Results: Analyses of variance showed that uncertainty scores derived from the alternatives chosen were significantly lower when the speaker was an expert rather than a novice, when the speaker uttered the major rather than the minor premise, and with modus ponens rather than modus tollens arguments.

Conclusion: Deductive inference is sensitive to the believability of the premises. Probabilistic beliefs may be represented by ordered mental models, with the ordering determined by assessing the reliability of (say) experts using heuristics to retrieve a representative sample of experts.

Explaining delusions of misidentification

T STONE, South Bank University

Stone & Young (1997, following Ellis & Young, 1990) argued that circumscribed delusions, such as the Capgras delusion, can be explained by following a two-step account. First there is a deficit of face processing whereby faces that are accurately identified fail to provide the normal correlative affective information. But secondly, there is a reasoning bias that favours observational adequacy over conservative adjustment of the web of belief. In this paper I review the potential for this model to account for other kinds of circumscribed delusion, such as the cases of misidentification of reflective self reported by Breen *et al.* (forthcoming). I also investigate whether the original account has the resources to deal with delusions that are less circumscribed and with why it is that people who express these delusions often fail to have the emotional reactions one might antecedently expect them to have in response to the delusions.

Individual goal setting, depression, and treatment outcomes in cancer patients

H STREET, University of Western Australia

Objective: Depression has been found to decrease the quality of life experienced by the cancer patient, and, affect ongoing prognosis. However, depression need not be an inevitable consequence of cancer diagnosis. This study aims to explore social cognitive factors concerned with goal setting that may create either a vulnerability to depression or increased well-being in cancer patients.

Design: The study employs a longitudinal questionnaire design in order to investigate causal relationships between goal setting and depression, across a broad spectrum of cancer patients.

Method: 200 newly diagnosed cancer patients have been selected from the Sir Charles Gairdner Hospital in Perth, Western Australia. Participants complete questionnaires at two-monthly intervals for a maximum period of one year. The questionnaires contain measures concerning individual goals, goal setting, rumination and depression. Information concerning the course of illness is recorded from medical notes.

Results: Initial data analyses suggest that the goal setting style of participants is predictive of their future well-being. Participants who believe that happiness is an end state conditional upon the achievement of personal goals are more prone to depression than those that do not. Further analysis investigates the relationship between goal setting and the course of illness.

Conclusion: Initial results from the study suggest that individual approaches to goal setting

influence levels of both depression and well-being during the course of a serious illness. It is suggested that depression in cancer patients can be reduced through intervention focusing on alternative methods of individual goal setting and pursuit.

Temporal lobe structures, symptomatology and first-episode psychosis

A SUMICH, XA CHITNIS, J LOWE, A FALDROWICZ, N MARSHALL, D G FANNON, S O'CEALLAIGH, VC DOKU, T SHARMA, Institute of Psychiatry, London

Objective: A major emphasis for MRI studies in schizophrenia has been the study of temporal lobe structures. Abnormalities are seen in first episode as well as chronic patients and have been linked primarily to positive symptoms. It is hypothesised that volume measures of distinct temporal lobe structures will be associated with specific symptoms. Testing this in first episode patients will help avoid confounding effects of ongoing neurodegeneration.

Design: Volumetric differences in temporal lobe structures between controls and patients within their first psychotic episode were studied and the correlation between these structures and symptomatology explored.

Method: T1-weighted 1.5mm thick Spoiled Gradient Recalled (SPGR) MRI scans were obtained for 27 male patients with a DSM-IV diagnosis of schizophrenia, schizophreniform disorder or schizoaffective disorder and 20 healthy controls. Symptoms were assessed for patients using PANNS.

Results: With height as a covariate, patients demonstrated significantly smaller volumes bilaterally for hippocampal structures, total temporal lobe grey matter and planum temporale. Various correlations were found between temporal lobe volumes and severity of symptoms. Subdivision of the superior temporal gyrus, revealed respective involvement of the planum temporale and Heschl's gyrus in delusions and hallucinations.

Conclusion: Bilateral abnormalities of temporal lobe structures are present early in disease course, and may be necessary for development of psychotic illness. However, the volume of a structure may correlate highly with symptomatology independently of it showing a significant difference between patients and controls. Symptoms probably emerge from dysfunction of emotional, memory, language, conceptual, and auditory systems.

Understanding the intention to undergo predictive genetic testing

S SUTTON, University College London, A BISH, S HODGEON, GKT

Objective: The aim of this study, which is funded by the Cancer Research Campaign and the Imperial Cancer Research Fund, is to use the theory of planned behaviour (TPB) and related constructs to understand the factors underlying women's intentions to undergo predictive testing for inherited breast/ovarian cancer.

Design: Prospective longitudinal study in which women are followed through the process of genetic counselling, risk notification, and predictive testing, with repeated measurement.

Method: The final sample consists of 500 women attending a family cancer clinic in London because of a family history of breast or ovarian cancer. Questionnaires based on the TPB and related constructs such as anticipated regret are completed at various stages in the process, including prior to the first consultation, immediately after the consultation, and six months later.

Results: Results from the first two waves of measurement for the full sample of women were available in March 2000. The main analyses examine predictors of intention to undergo genetic testing using the TPB measures, anticipated regret, and perceptions of risk. Subsidiary analyses examine changes in attitudes and beliefs from before to after genetic counselling.

Conclusion: The findings have theoretical implications in terms of assessing the utility of the TPB and related constructs in predicting and understanding the decision to have a genetic test. They also have practical implications in relation to judging the extent to which this can be regarded as an informed decision.

Personality disorders: Whose problem?

D TALLIS, Anglia Polytechnic University

Objective: This paper aims to raise debate to determine whether personalities can be disordered and whether we should accept this label. Perhaps the issues to be addressed should be on the behaviour and problems an individual has and not the label they have been given.

Background: Personality disorders (PDs) have become a controversial and topical diagnosis in view of recent government papers, Managing Dangerous People with Severe Personality Disorders. However, there is objection to the label in that there are no biochemical or other physical tests to succinctly determine this diagnosis, it is left to vague criteria and the opinion of a psychiatrist.

Method: Literature highlights that PDs are characterised by lack of agreement, scepticism and uncertainty amongst health professionals. The range of views include that PD is now a mental disorder, that it is an unreliable diagnosis and that the complexities of personality can not be adequately captured by one or more diagnostic label. There is also diversity of opinion as to whether those with this diagnosis are treatable. PD is defined as a fixed and enduring behaviour pattern, however we react and behave differently in different situations and contexts.

Conclusion: It is this conceptual difficulty that contests its nature. However, it still raises the question of who is responsible for the care of those given this label, and that we find appropriate help and support rather than scapegoating problem patients. Given there is such complexity of argument, further debate amongst a wider range of professionals should be undertaken.

Love is in the air? Effects of pheromones, oral contraceptive use and menstrual cycle phase on attraction

F THORNE, N NEAVE, A SCHOLEY, University of Northumbria

Objective: Previous work in this laboratory has revealed that exposure to pheromones contained within natural body secretions can increase attractiveness ratings of the opposite sex in males and females. The present study investigated the effects of exposure to male axillary secretions on females' ratings of the sexual attractiveness of various male stimuli (vignettes, body shapes and faces). The possible influence of menstrual cycle phase and contraceptive pill use were addressed by including pill and non pill-users during both menses and at mid-cycle.

Design: A repeated measures, single-blind, balanced crossover design was utilised in this study.

Method: 32 female undergraduates participated in the study, 16 of whom were contraceptive pill users. Each rated male vignette characters, body shapes, and faces on aspects of attractiveness on two separate study days, which corresponded to mid-cycle and menses. On each study day participants rated these stimuli under a control condition and while exposed to axillary pheromones (which had been collected from four clean male donors). The order of testing was balanced with respect to phase of menstrual cycle and order of control/pheromone condition.

Results: Pheromone exposure resulted in significantly higher attractiveness ratings of vignette characters, body shapes and faces. This effect appeared to be most marked in non-pill users at the mid-cycle phase.

Conclusion: These results confirm that exposure to natural male axillary pheromones can significantly enhance females' perceptions of various aspects of males' attractiveness.

Furthermore such effects may be influenced by the use of oral contraception.

Knowledge of and attitudes about school bullying in trainee teachers

Y TODA, Tottori University,
S NICOLAIDES, PK SMITH, Goldsmiths College, London

Objective: To examine trainee teacher's beliefs about the nature of school bullying, their confidence in dealing with bullying, and the value of specific aspects of training; taking account of sex of respondent.

Design: A questionnaire given to 270 students enrolled on PGCE or Bed courses.

Method: A questionnaire was designed, completed and returned within a two-week period.

Results: Respondents displayed accurate knowledge of some features of bullying (sex differences in victimisation; proportion who talk to a teacher; age trends in bullying others; children's attitudes), but less accurate knowledge of other features (proportions of bullies and victims; age trends for being bullied). They had only moderate confidence in dealing with bullying – more so for working with victims and their parents, less so for working with bullies and their parents. The great majority favoured more information on the topic on their training programme.

Conclusion: At present, information on school bullying does not feature in teacher training programmes on a regular or substantive basis. We argue this should change, given the extent of bullying and the current legal requirement for schools to have an anti-bullying programme. Our results show that while well-informed on some issues, future teachers are not well informed about others. They lack confidence in certain areas. They would welcome material on school bullying in their curriculum; such material should focus on the nature and causation of bullying, and working with children who bully and their parents; as well as helping victims of bullying.

Predicting adolescent participation in constructive activities: Seeking the forest through the trees

W TODD BARTKO, J ECCLES, University of Michigan, B BARBER, University of Arizona

Objective: Adolescents' involvement in constructive, prosocial activities has been closely linked to the developmental tasks of adolescence, including autonomy promotion and individuation, identity formation, skill development, and social connectedness and may play an important role in both fostering and maintaining engagement in school for some students and reducing problem behaviour and criminality during after-school hours.

Design: The present study seeks to: (1) identify unique patterns of continuity and change in adolescents' participation in constructive, prosocial activities from the 7th to the 12th grades; (2) examine the multiple predictors of involvement; and (3) investigate the consequences of involvement for adolescents' psychological and behavioural development.

Method: Data for the study were obtained from 1030 adolescents, assessed both in school in the 7th, 9th and 12th grades and in their homes. At each wave, participation in the following activities was assessed: sports and recreation, school-based clubs, community-based clubs, volunteering, and religious activities and a total involvement score was assigned.

Results: Cluster analytic techniques identified five unique profiles of participation over time. These groups were differentiated by the characteristics of numerous ecological contexts including the adolescents' gender and ethnicity, parents socio-economic status and marital status, families' encouragement of youths' talents and skills, peers characteristics and support, and school and neighbourhood climate and resources. Further longitudinal analyses revealed significant person X context relationships. The clusters also differed with respect to indicators of adolescent psychological and behavioural functioning, including school performance, mental

health and problem behaviour.

Conclusion: The results highlight the importance of providing structured, prosocial activities for all youths and also suggest some possible mechanisms through which participation might be increased.

Emotions in eating disorder

J TREASURE, U SCHMIDT, Institute of Psychiatry, London

Objective: The role of emotions in eating disorders has been relatively neglected. The aim of this paper is to present several developing lines of information from a review of the literature and our own research.

Background and Method: The emotional response to food and eating: People with anorexia nervosa report a mixture of emotions, anxiety, fear and disgust to images of food. The limbic area of the brain, involved in emotional processing, becomes activated (Ellison et al., 1998). The conclusion from this work is that people with anorexia nervosa react to food in a specific way with (1) attentional bias, (2) a negative subjective emotional response, and (3) autonomic arousal. The emotions relating to body size, a primary symptom of bulimia nervosa have not delineated clearly. The second approach has been to examine for a more global emotional dysfunction. For example, Power and Dagleish suggest that disgust may be a key component in eating disorders. Indeed patients with eating disorders appear to have a general impairment in emotional recognition in themselves (alexithymia) and in others. They have an impaired sensitivity in the recognition of facial expressions. The sensitivity to facial expressions of disgust may be relatively spared. This links with the finding that they are more sensitive to stimuli, which elicit disgust.

Conclusion: There is evidence of both specific and general emotional dysfunction in eating disorders. This needs to be addressed in models of treatment.

Exploring the nature of the executive impairment in autism

M TURNER, University of Durham

It is now well established that children and adults with autism and Asperger syndrome are impaired relative to age and ability matched control subjects on a range of neuropsychological tasks including measures of so-called 'executive function' ability (i.e. skills necessary for the generation, planning and regulation of willed behaviour). If, as has been suggested, executive function impairments are the psychological substrate of many features of autism and Asperger syndrome, several strong predictions are made. Firstly, it should be possible to demonstrate executive impairments in all individuals with an autistic spectrum disorder. Secondly, the nature and severity of these executive impairments should be associated with the nature and severity of the symptomatology that is present. Finally, these deficits should be present early in the course of the disorder and predict the development of symptoms over time. This paper presents the results of a series of studies designed to test these predictions and further characterise the nature of the executive impairment in autistic spectrum conditions. Broadly speaking, these studies show that whilst all individuals with autism appear to have deficits on one or more tests of executive function ability, different individuals display very different profiles of performance across tasks. Whilst there is some evidence that the nature of this impairment may be associated with the nature and severity of certain symptoms, there is little evidence that these deficits are present in the pre-school years. This pattern of results raises the possibility that executive function deficits may be the consequence, rather than the cause, of autism and Asperger syndrome.

Does size matter? – The Wessex Growth Study, Phase IV

F ULPH, S DAVIES, R STRATFORD, J MULLIGAN, University of Southampton

Objective: To investigate the success of the transition to adulthood in a sample of short normal adolescents.

Design: Between groups design comparing short normal people with controls matched for sex, age and initially from the school class.

Method: 140 short normal children (at or below the 3rd centile for height), identified at school entry, have been previously followed-up at primary and secondary school, and having left compulsory education, are now nearing final height. 41 of these children were included in a controlled growth hormone trial, but the majority have received no medical intervention. In phase IV, transition into adulthood is being assessed using the Adolescence to Adult Personality Functioning Assessment (ADAPFA) and the General Health Questionnaire (GHQ). The ADAPFA interview covers employment, coping, love relationships, negotiation, non-intimate social contacts and friends. Additionally, participants are being interviewed about their experiences and perceptions of height.

Results: Results from previous phases provide only limited support for the hypothesis that short stature adversely affects psychosocial development, thus challenging research based on referred samples. Phase IV data is currently being collected.

Conclusion: Quantitative and qualitative methods should provide a coherent picture of the longer term psychosocial effects of short stature on a community-based sample, and will add to the debate surrounding the prescription of biosynthetic growth hormone treatment to children without growth hormone deficiencies.

Researcher droop – or how to keep up your research output after starting a new lecturing job

D VAN LAAR, University of Portsmouth

Objective: This talk attempts to explain how you can maintain your sanity as a new lecturer in the face of various types of adversity whilst keeping up your research output.

Method: The kinds of adversity you might be up against are discussed first. Most researchers start their first lecturing job with one or two papers published, and another two or three gestating within their PhD thesis. Unless new lecturing jobs are started at the beginning of the summer (highly recommended), the first few months rapidly descend into chaos, as the new academic juggles with the pressures of trying to fit into a new working environment or role, trying to come up with witty and informative lectures, and trying to avoid nagging emails from their supervisor, demanding to know why they haven't yet finished the latest draft of that joint paper. At the beginning of your new lecturing job, you will be trying your best to impress everyone, the students and other staff included. You may well find yourself working the hardest you will ever work in the whole of your academic life, as you slowly realise that every one of the ten hours of teaching you have to do each week requires eight hours of research and writing in order not to embarrass yourself in front of the students. Topics covered to help new academics deal effectively with all the different demands made on them include: Finding time for your research, and finding time to write up your research, working with colleagues, the importance of research grants, taking on supervision and administration, attending conferences, and how much is enough research.

Perceived group variability in different social contexts

A VOCI, E DE MARCO, University di Padova

Objective: In this study two aspects of perceived group variability are considered: (1) the context in which the in-group and out-group are judged; and (2) the cognitive and motivational factors related to homogeneity perceptions. It is hypothesised

that the absence of a clear comparative context favours the emergence of the 'out-group homogeneity effect', that is the tendency to judge the out-group as more homogeneous than the in-group. This differential perception of in-group and out-group variability should be mainly influenced by cognitive factors, such as familiarity with group members and perception of the groups as divided into subgroups. When a comparative context is made salient, instead, the salience of motivational factors, such as in-group favouritism, should inhibit the presence of the out-group homogeneity effect.

Design: Participants were randomly allocated to four conditions of a 2 (comparative context: present/absent) x 2 (judgement: in-group/out-group) design to test the specific hypotheses outlined above.

Method: Participants were psychology students ($n=300$). The in-group was the category of psychology students in general, the out-group was the category of political science students. Participants completed a number of established items designed to measure group structure and bias.

Results: Preliminary results confirm that the perceptions of in-group and out-group homogeneity vary according to the judgemental context, and are differently affected by motivational and cognitive factors.

Conclusion: Perceived group variability is not a static phenomenon and can be related not only to the cognitive representations of the groups, but also to the enhancement of social identity.

Psychometric assessment of athletic ability beliefs: The CNAAQ-2

J WANG, S BIDDLE, Loughborough University

Objective: Research in educational psychology has shown the importance for motivation of the way children think about the nature of academic ability. Preliminary research in sport has also supported such a view in respect of sport ability. However, measuring sport ability beliefs has been problematic. This study examined the construct validity and factor structure of the Conception of the Nature of Athletic Ability Questionnaire (CNAAQ-2), a measure of implicit beliefs in the physical domain.

Design: Confirmatory factor analytic (CFA) procedures using EQS were employed to test the hypothesised 2-higher order factor (entity and incremental beliefs) and 4-first order factors (gift, stable, improvement, learning) hierarchical model of the CNAAQ-2 and the invariance of the factor structure across gender and age.

Method: 2969 pupils from 49 schools in England completed the CNAAQ-2. The pupils were aged 11 to 15 years (mean=12.93, SD=0.89).

Results: CFA revealed a good fit of the hypothesised model to the data (CFI = 0.973, GFI = 0.985, AGFI = 0.977, RMSEA = 0.038). Multisample analyses supported the generalizability of the factor structure across gender and age groups.

Conclusion: The CNAAQ-2 is a factorially valid instrument for assessing the implicit beliefs concerning sport ability among young people, both male and female.

Beliefs and behaviours associated with the use of MDMA (Ecstasy)

M WAREING, PN MURPHY, JE FISK, Edge Hill College of Higher Education

Objective: To learn about the content and structure of MDMA users' beliefs and behaviours concerning their use of the drug.

Design: Factor analysis was employed to explore the structure of beliefs, whilst univariate analyses identified other patterns in beliefs and behaviours, including those related to demographic variables.

Method: A self-completion questionnaire provided data from 110 respondents. The sample comprised 43 females and 67 males, with a mean age of 23.6 years (standard deviation=5.0 years), and a mean of 4.7 years of MDMA use (standard deviation=2.6 years).

Results: Factor analysis with a varimax rotation revealed three factors concerning beliefs. Factor

1 (23.4 per cent of the variance) was concerned with the negative effects of MDMA use, whilst factor 2 (23.3 per cent of the variance) and factor 3 (12.9 per cent of the variance) were both concerned with perceived positive effects. Factor 2 highlighted cognitive and affective benefits of use whilst factor 3 emphasised behavioural and health benefits. Significant positive intercorrelations between item scores for these factors were found. Factor 2 scores were negatively correlated with age, the number of information sources consulted about MDMA, and with years of MDMA use. Univariate analyses showed that males reported using more MDMA tablets in a session than females.

Conclusion: Different sets of beliefs about the effects of MDMA use can be identified amongst the drug's users, who may in turn hold contradictory beliefs about its effects on their own lives. The content of health promotion initiatives may need to be varied with regard to gender.

Correlates of expressed emotion in partners of adults with Type 1 diabetes

A WEARDEN, N TARRIER, University of Manchester, R DAVIES, Manchester Diabetes Centre

Objective: 'Expressed emotion' (EE) refers to a set of valid and reliable measures of family emotional attitudes which have been shown to predict illness course in several psychiatric conditions. We have recently found that adult Type-1 diabetes patients who have 'high-EE' partners manage their diabetes less well, appraise it more negatively, and have higher levels of depressive symptoms than patients with 'low-EE' partners. The present paper reports the correlates of EE variables in these partners of diabetes patients.

Design: Patients and partners fulfilling study criteria were recruited from consecutive attenders at a routine clinic in a specialist Diabetes Centre. The study employed interviews and questionnaires in a cross-sectional design.

Method: Partners' EE (critical comments, emotional over-involvement (EOI) and warmth, and classification as high- or low-EE according to conventional criteria) was rated from a modified Camberwell Family Interview. Partners also completed the GHQ-28 as a measure of distress, the Hospital Anxiety and Depression Scale, and the Spanier Dyadic Adjustment Scale.

Results: 10/60 (17 per cent) partners were classified as 'high-EE'. There were no significant correlations between critical comments, EOI or warmth ratings and anxiety or depression scores. However, 'high-EE' partners were marginally more anxious $U[10,50] = 155, p = .058$, marginally more likely to be a GHQ-case ($p = .059$, Fisher's exact test) and had significantly lower marital adjustment scores ($U[10,50] = 146, p = .039$) than low-EE partners.

Conclusion: EE in partners of patients with diabetes reflects marital dissatisfaction and distress. Further analyses to determine whether partners' attributions about patients' diabetes-related behaviour predict EE status are currently being carried out.

Health beliefs and social influences on HRT adherence

S WEAVER, J EMPSON, D PURDIE, Hull University, S JOHNSON, University of Northampton

Objective: To assess the contribution of sources of social influence and health beliefs in women's decisions to accept and continue with hormone replacement therapy (HRT).

Design: A multivariate correlational study taking adherence pattern (initial acceptance of HRT, short-term use only, long-term use) as the dependent variable.

Method: Participants were 706 women from a group of 1000 who had participated in a bone mineral density screening programme between ages 50-54 and were found to be at risk of osteoporosis. A structured telephone interview was conducted five years after the first bone scan. This focused on demographic variables, physical and psychological experiences of HRT,

social influences affecting HRT decisions, the adoption of non-medical osteo-protective strategies and health beliefs about HRT and osteoporosis.

Results: Logistic multiple regression analyses showed: (a) in the group as a whole, 29 per cent of the variance in adherence pattern was accounted for by the variables measured. The best predictors were the perceived attitude of the GP, prior use of HRT for menopausal symptoms, husband's attitude about HRT and health beliefs; (b) in the group of women who tried HRT, 26 per cent of the variance in treatment continuation was accounted for. The most important variables in predicting long-term adherence were having a positive experience of HRT and perceived encouragement from the GP.

Conclusion: Women's decisions in the area of preventative medical treatment are crucially influenced by key people in the social network (primarily GP's) and by their experiences of treatment.

A comparison of the stress levels in the newly designed UK parliaments and the House of Commons

A WEINBERG, University of Salford, C COOPER, UMIST, Manchester

Objective: This study assesses the impact of the job of national politician on the psychological health of newly-elected members of the Scottish Parliament and the Welsh Assembly, compared to Westminster M.P.s. It assesses the role of the new and old parliamentary procedures, i.e. do 'normal' hours, family friendly policies and new technology make things any easier?

Design & Method: On their election to the role of national politician, all 180 members of the new Scottish and Welsh bodies were sent a questionnaire including measures of psychological well-being (e.g. General Health Questionnaire). The overall response rate was over 60 per cent and was representative in demographic terms. Follow-up data highlighted the connection between psychological health and modern working practices.

Results & Conclusion: The case rate for poor psychological health was calculated using the cut-off for the GHQ-12. This was 23 per cent for the new Scottish and Welsh representatives immediately following their election in May 1999 and showed no difference from newly-elected Westminster MPs at the last General Election. The follow-up in this study permitted a longer term assessment of the impact of the job on the psychological health of the Scottish and Welsh groups. The importance of family-friendly policies, which had been placed high on the new parliamentary agendas, was emphasised in this study by the significant correlation between psychological health and having children at home below school-leaving age. Comparisons with Westminster highlighted the benefits of modern working practices for national politicians, carrying implications for the modernization of the 'Mother of all Parliaments'.

Stress, wound healing and recovery: Conflicting findings

J.WEINMAN, S MOODLEY, L VIRJEE, W VERLING, M DYSON, GKT School of Medicine University of London

Objective: In contrast with the accumulating evidence on the effects of pre- and peri-operative stress on surgical recovery, there is relatively little work on the possible effects of longer-term life stresses. Building on a clinical study, the two laboratory studies reported here were designed to examine the relation between life stress, other psychological variables and speed of wound healing.

Design: Two prospective laboratory-based studies of student volunteers.

Method: In both studies, participants received a 4mm standard tissue biopsy and wound size was measured by ultrasound at 3,7,14 and 21 days post-biopsy. At baseline, participants completed the Perceived Stress Scale (PSS), the General Health Questionnaire and measures of the following: (Study1) - Optimism; Positive and Negative Affect, (Study 2) - Health behaviour;

Social support.

Results: In both studies a significant correlation was found between PSS score and wound healing, and this was most distinct at 14 days but the findings were contradictory. As expected, higher PSS scorers healed more slowly in study 2 but the opposite was found in study 1. The other dispositional and behavioural variables were not related to wound healing.

Conclusion: Although the findings are contradictory, they can be explained in terms of very large sample differences in PSS scores across the 2 studies, and may be indicative of a U-shaped relation between PSS and wound healing.

Parkinson's Disease: Effects of severity on three types of memory

C WHITTINGTON, J PODD, Massey University, New Zealand

Objective: The view that recognition memory is relatively normal in Parkinson's Disease (PD) was shown to be incorrect in a meta-analysis conducted by the authors. The analysis revealed that this type of memory deficit is largest in PD sufferers with dementia, and signalled the likely moderating effect of disease severity.

Consequently, we examined three types of memory (recall, recognition, and prospective memory) in non-demented PD participants with both mild and advanced symptoms.

Design: Comparisons (ANOVAs) were made between early stage PD, advanced stage PD, and healthy control participants with a complete replication 6 months later.

Method: 41 PD volunteers were matched with 41 controls on gender, age, education, and premorbid IQ. PD severity was assessed, using the Hoehn and Yahr Disability Rating Scale, as either early (stage I or II) or advanced (stage III or IV). Recall was assessed with the Kendrick Object Learning Test. Recognition memory was evaluated verbally and non-verbally (using specifically designed Signal Detection-type 2AFC tasks), while prospective memory was assessed using two specifically designed event-based tasks.

Results: Both early and advanced PD participants had recall and verbal recognition deficits, being more pronounced in the advanced subgroup. Non-verbal recognition and prospective memory deficits occurred only in the advanced subgroup.

Conclusion: PD severity moderates the effects of some types of memory deficits. Recall is affected in early and advanced PD, but recognition deficits and prospective memory deficits tend to emerge only as the disease progresses.

An alternative explanation of out-group homogeneity: Self anchoring theory

HJ WILLIS, JM RUBIN, M HEWSTONE, Cardiff University

Objective: Differential familiarity with in-groups and out-groups has been proposed as a theoretical account of out-group homogeneity effects. However, if out-group homogeneity is found in the minimal groups paradigm then self-anchoring theory (Cadinu & Rothbart, 1996) is, perhaps, a more likely explanation of out-group homogeneity effects than differential familiarity.

Design: In all experiments a series of 2 (position of self: first/last) x 3 (target: self/in-group/out-group) x 2 (stereotypicality: stereotypical of the in-group/stereotypical of the out-group) x 2 (valence: positive/negative) mixed model Anovos with repeated measures on the last three factors were used to explore effects.

Method: In study 1 (n=66) participants were categorised as minimal group members on the basis of a dot estimation task. Participants rated themselves, their in-group and their out-group on a series of pretested traits which were either stereotypical of the in-group or the out-group with equal numbers of positive and negative traits within each category. Study 2 explored the salience of self and category whilst study 3 was a replication of study 1 using natural groups.

Results: In study 1 out-group homogeneity

effects were elicited between minimal group members upon measures of dispersion and similarity but not stereotypicality. Study 2 provides support for the experimental manipulation whilst study 3 replicated effects using natural groups.

Conclusion: Self-anchoring is offered as a more parsimonious theoretical account of out-group homogeneity effects. Implications of the findings are discussed.

Adolescent perceptions of the National Lottery: Findings from a Q-study

RTA WOOD, M GRIFFITHS, Nottingham Trent University

Objective: An examination of adolescent perceptions of The National Lottery, and suggestions for challenging subsequent gambling misperceptions.

Design: The study used Q-methodology to examine adolescent perceptions of The National Lottery. Q-methodology is concerned with subjectivity, and means nothing more than a person's communication of his or her point of view, on any issue that is personally and/or socially salient.

Method: 32 participants from three schools in the East Midlands area of the UK took part in the study. There were an equal numbers of males and females, and they ranged in age from 11 to 15 years of age. A set of 49 Q-cards pertaining to the lottery were given to the participants. Q-sorts were conducted in school classrooms with between 10 and 15 participants compiling them simultaneously, in silence. Each participant arranged the 49 Q-cards, by sorting them into piles ranked from -6 (least agree) to +6 (most agree) in accordance with a forced sort matrix. Once the Q-sorts had been completed factors were analysed using the software package PCQ which utilised centroid factor analysis. Any factors with an eigen value greater than one were then rotated using varimax rotation.

Results: Results identified four significant factors in relation to the National Lottery representing four distinct accounts or views (Moral Opposition, Luck Seeking, Rationalist and Uncertainty). Indications of some gambling misperceptions were evident, and suggestions for changing these perceptions and developing prevention programs for under-aged gambling are discussed.

Using mental models to design guidelines for communicating about contaminated land

J WYLIE, N SHEEHY, Queen's University Belfast

Objective: This paper describes the methodology associated with the production of guidelines for communicating about contaminated land. A mental models approach is used to explore the public's understanding of contamination and remediation.

Design: Previous research indicated that proximity to a problem affects reactions to the problem. Hence, a matched groups design compares two groups of participants: one group living within a two mile radius of the contaminated site and one group living approximately 20 miles from the site.

Method: Participants include the local Council, planning authority, schools, colleges, representatives of the business community and members of the public who live close to a former gasworks site which is undergoing remediation. Following the development of an expert influence diagram, open-ended elicitation methods are used to reveal knowledge and beliefs about contamination and remediation. This information is incorporated into a number of information sources and the effectiveness of these is established through iterative evaluation.

Results: The mental models of experts and non-experts for contamination and remediation are compared. Information obtained from the open-ended elicitation, questionnaires and reactions to information sources is subjected to qualitative and quantitative analysis.

Conclusion: Communication about

contaminated land can be improved through a better understanding of what the public understands and believes about the issue. The iterative process described facilitates the development of guidelines on how to achieve successful communication between groups concerned with contaminated land and its remediation. The guidelines are intended for use by regulators, local authorities, companies and community representatives involved in communicating about contaminated land.

Demonstrating the value and validity of qualitative research

L YARDLEY, University of Southampton

Objective: The aim of this paper is to consider the criteria by which the value and validity of qualitative research can be assessed.

Background: As the use of qualitative methods in health research proliferates, it becomes increasingly necessary to consider how the value of a piece of qualitative research should be assessed. This paper discusses the problem posed by the novelty and diversity of qualitative approaches within health psychology and considers the question of what criteria are appropriate for assessing the validity of a qualitative analysis.

Method: In keeping with the ethos of much qualitative research, some open-ended, flexible principles are suggested as a guide to the quality of a qualitative study: sensitivity to context; commitment and rigour; transparency and coherence; impact and importance. Examples are given of the very different ways in which various forms of qualitative research can meet these criteria.

Conclusion: This paper argues that the potential utility of the proposed framework for assessing the validity of qualitative research is two-fold. Firstly, it provides flexible criteria against which the value of widely differing studies can be assessed. Secondly, it may assist the objective of constant advancement in the quality of qualitative health psychology research by providing gold standards or ideals to which researchers can appeal or aspire.

Perceptions of health-care policy and practice: The value of qualitative analyses

L YARDLEY, University of Southampton

There is growing recognition within the health care professions that it is vital to involve the general public in the evaluation of health care policies and practices, in order to ensure that these are comprehensible, acceptable and appropriate to the diverse range of people for whom they are designed. The views of health service users are therefore increasingly sought in the design of health research as well as the assessment of clinical services and health interventions. The aim of this symposium is to demonstrate the unique advantages of qualitative methods for this purpose. For example, participants in qualitative research are able to participate actively in the research process, initiating discussion of issues which were not originally included in the research agenda, and challenging investigators' assumptions and interpretations. Moreover, the open-ended, inductive nature of much qualitative research is a particularly appropriate method of gaining an initial understanding of perceptions of novel health technologies, such as new forms of testing or treatment. Following an introductory paper in which the criteria by which the value and validity of qualitative research can be assessed are considered, four empirical papers illustrate various ways in which qualitative analysis can be used to gain insight into perceptions of health care policy and practice. The first empirical paper investigates socio-economic differences in attitudes to screening for bowel cancer, the second explores attitudes to genetic testing, the third analyses the development and context of 'patient satisfaction', while the final paper discusses gay mens' views of sexual health promotion campaigns.

History and Philosophy of Psychology Section

14th Annual Conference, University College of Ripon and York St. John, 18–20 April 2000

The British Psychological Society Centenary Exhibition

G BUNN, Science Museum, London

The BPS is planning a variety of events to mark its centenary in 2001. One of which, the centenary exhibition, will open at the Science Museum in January and will run throughout the year. In this presentation I shall outline plans for the exhibition. Science Centre type 'interactives' and other 'hands-on' exhibits will not be developed on account of their high development and evaluation costs. Instead, the exhibition will be structured around important objects in the history of British psychology. An attempt will be made to represent the most significant events in the history of British psychology, while also acknowledging the diverse constituencies that make up contemporary psychology. The purpose of the paper is to consult with the Section, soliciting comments and criticism in advance of the final stage of planning the exhibition.

The recommendations of the American Psychological Association's Board of Scientific Affairs' Task Force on statistical inference: Why they were felt necessary and what their consequences will be

D CLARK-CARTER, University of Staffordshire & S LOVIE, University of Liverpool

The American Psychological Association's Board of Scientific Affairs' Task Force on Statistical Inference has produced a report with a view to changing the way that psychologists interpret the results of their research. The impetus for this was a growing dissatisfaction with Null Hypothesis Significance Testing. This paper argues that although Fisher did not devise that approach, the very success of his aim to simplify the exposition in his textbook *Statistical Methods for Research Workers* meant that a number of issues were obscured. Rival approaches failed to gain wider acceptance because their proponents did not write in such an accessible way. The recommendations of the task force are presented and their consequences are seen as the need for researchers and teachers of such methods to alter their approaches, and for journal editors to allow more space in articles to be devoted to demonstrating the appropriateness of statistical methods used and the interpretation of results. The greater availability of powerful statistical software brings the danger that researchers can perform very sophisticated analyses without understanding them but it may bring the benefit that effect size and power come to be dealt with more routinely.

The Travels of the Aura: An Historical Account

DP FABER, University of Liverpool

A method for studying the 'travels of the aura' in relation to epilepsy in nineteenth century France and England is outlined. In 'The Falling Sickness' (1971), Temkin proposes a shift in usage of the term aura as a precursory sign of the epileptic seizure. This proposal is examined and is extended over a longer period. Lack of consensus resulted in confusion as to its meaning and status. The reasons for this include the development of neurology and increased medical care of epileptic patients. A further hypothesis is made to account for the minimising of the epileptic aura when diagnostic criteria to distinguish epilepsy from hysteria gave a prominent place to the hysterical aura. Currently, the British Medical Association places the aura as an initial part of the epileptic seizure itself.

William Stephenson, Cyril Burt and the demise of the London School

J GOOD, Centre for the History of the Human Sciences, Durham University

William Stephenson is a marginal figure in the history of British psychology. Yet he was Director of the Oxford Institute of Experimental Psychology and has been credited with the responsibility for the development and introduction of the Honours School in Psychology, Philosophy, Physiology at Oxford. Moreover as Charles Spearman's last Research Assistant and also Research Assistant to and colleague of Cyril Burt (Spearman's successor in the UCL Chair) Stephenson was a central figure in the development of and debates about factor analysis in psychology and he made a significant contribution to the educational use of psychological testing. His 1949 book is a trenchant analysis of some of the adverse consequences of the 1944 Education Act. Stephenson left England in 1948 after his failure to secure the Oxford chair, filled in 1947 by George Humphrey. Stephenson was never again to hold an academic position in Britain. Thus Britain lost one of its most gifted pioneers of mental testing. In this paper I attempt to clarify Stephenson's place in the institutional history of British psychology by exploring relations between Stephenson and Burt in the context of the decline of the Galtonian tradition and the commensurate growth of experimental psychology in the UK. I shall argue that a number of factors converged to bring about the demise of the London School: Stephenson's departure from the UK, the appointment of George Humphrey to the Oxford Chair, the appointment of an experimental psychologist as Burt's successor at UCL and the formation of the Experimental Psychology Group (later to become the Experimental Psychology Society).

Cultural-historical theory

M HAMES, University College London

From 1927 Lev Vygotsky and Alexander Luria sought to clarify the distinct effects of phylogeny, history and ontogeny on the developing psychological organization of human thinking and behaviour. While their studies of child development have received wide interest and support, the cultural-historical theory, of which they were an intrinsic part, was attacked and suppressed under Stalin, and remains controversial today. Selective quotation and one-sided interpretations have alleged an idealist exaggeration of the role of language and abstraction, Eurocentrism, anti-Marxism and Marxist reductionism. Some of the criticisms are due to genuine misunderstandings and may be ascribed to the fact that most of the relevant major writings of Vygotsky and Luria were published only recently. But had they bitten off more than they could chew? This paper attempts to give a balanced account of their aims, and the origins and development of the theory.

The stories that psychologists tell

H HASTE, University of Bath

This paper will explore the different 'stories' that psychologists tell about the human condition and human processes, and the way that metaphors are invoked as explanatory tools. The implications of these stories – for how we think about psychological processes, what is deemed salient, and how research should be conducted – will be considered. The processes by which such stories are generated and purveyed, and validated by the scientific community, will also be explored. The three stories are the Puzzle Solver, the Storyteller and the Tool-User. These are the stories that, in the view of the Author, dominate current work in psychology and cognitive science. The strengths, remit and limitations of each will be explored, and the Author's predilections justified. The historical context of both storytelling in psychology, and these stories in particular, will be considered also. Particular attention will be

paid to the implications for how we conceptualise and study human development.

Trauma, self and time

R HILL, University of Surrey & M CHEUNG CHUNG, University of Sheffield

The aim of this paper is to establish a link between post-traumatic stress reactions, in particular, intrusion, and Kierkegaard's notion of the self in relation to time. The first part of the paper will briefly describe post-traumatic stress reactions, with an emphasis on the literature concerning intrusive thoughts. The second part will argue that the notion of intrusion is associated with a loss of the experience of the self in time, characterised by losing the ability to live in the present and finding oneself entangled in past trauma. This process will be demonstrated by Kierkegaard's notion of the self.

Piaget and the hermeneutics of natural science

W MAYS, Manchester Metropolitan University

In this paper I give an account of Piaget's historico-critical approach to the philosophy of science, in which the interpretation and construction of scientific concepts in their historical perspective is studied. I then look at his attempt to link this up with the development of our prescientific concepts, especially as they occur in the child. I next compare Piaget's approach with that of those philosophers of science like Kuhn, who take account of the part played by historical and social factors in determining the progress of scientific thought, and who refuse to draw a sharp distinction between discovery and justification. Finally I examine recent attempts by some phenomenologists to apply the hermeneutic method to the study of the natural sciences, and see how far Piaget's work follows a similar pattern.

Memory in SL Rubinshtein's *Fundamentals of General Psychology*

R RAWLES, University College London

Fundamentals of General Psychology, (Osnovy obshchej psikhologii, 1940, 1945), by SL Rubinshtein (1889-1960) suffered severe ideological criticisms at the hands of ET Chernakov (1948), but went on to become the standard textbook for students of psychology in the USSR. It was reprinted last year with an appreciative commentary by KA Abul'khanova-Slavskaya and AV Brushlinsky. This paper re-examines the ideological debates surrounding the book and sets these in the context of the historical development of psychology in the USSR. The Chapter on Memory is interrogated by seeking its relevance to corresponding research conducted in the 1930s and 1940s by Western psychologists, such as FC Bartlett and JA McGeoch. Its relevance to contemporary memory research is also scrutinised. It is concluded that Rubinshtein's book still has something fresh to tell us about the meaning of memory, the role of intention in memorising, autobiographical memory and the powers of exceptional memorisers.

The failure of the Psychological Society of Great Britain (1875-1879)

G RICHARDS, Centre for the History of Psychology, University of Staffordshire.

This paper will consider the significance of the failure of the first attempt at creating a Psychological Society in Britain: the Psychological Society of Great Britain founded in 1875 by the lawyer and publisher Edward Cox. This forgotten episode sheds fresh light on the creation in Britain of a formal discipline calling itself Psychology. In particular it focuses attention on two crucial issues: (a) the definition of the

discipline's subject matter; and (b) the divide between amateurs and aspiring 'professionals'. It will be argued in relation to (a) that the concept of the discipline's subject matter espoused by Cox and his associates – it would be the study of 'Psychic Force' – had considerable face plausibility. In relation to (b) it will be argued that acceptance as a 'professional' was as much a matter of social acceptability by the London intellectual elite as of intrinsic intellectual calibre. This latter situation vitiated the establishment of co-operative relations between proto-psychologists and the market for their expertise (on which the future discipline's success ultimately depended) until James Sully bridged the gap in the 1890s. This paper attempts to rectify the effective air-brushing from the historical picture of the P.S.G.B., its founder, and two of his close colleagues in the venture, George Harris and Staniland Wake. It also touches on the long down-played role of psychic research in the pioneering of empirical Psychological research methods.

Marx, Engels and the biological bases of behaviour

M ROISER, Thames Valley University

This basis of psychology in physiology might seem to put it beyond Marxist critique. But Marx and Engels had a keen interest in science including biology. They had an acute insight into the minds of those German physiology professors who abandoned Hegelian dialectics for mechanical materialism and then founded psychology. Marx and Engels criticised hypnosis, phrenology and spiritualism and its impact on the working class movement. They welcomed Darwin's work, as the application of dialectics to natural history. They criticised the psychophysics of Gustav Fechner and Helmholtz's imaginary powers. They attacked European intellectuals who constructed reductionist syntheses from physics to politics, and extracted a theory of society from the principle of natural selection, which they then presented as political solutions: Comte's positivism, Lange's social economics, and Duhring's plan for a new society. Such grand and manipulative theories have continued into this century with the involvement of psychologists, in the form of eugenics, behaviourism, sociobiology and evolutionary psychology.

The autonomy of facts in psychology: evidence from introductory textbooks

M SMYTH, Lancaster University

In chemistry, geology or biology, the education of the new scientist is based on textbooks which shape the knowledge and practice of the field for the beginner. Textbooks are places where the claims of journal articles are established as facts, with no origin, no account of how they came to be, and with arguments and caveats removed. Fact writing in textbooks uses the present tense, does not hedge or qualify claims, and uses few references to other sources. This paper explores the ways in which well established introductory psychology textbooks introduce the field, focussing on the presentation of facts and methods and asking what has been removed from its origins in these textbooks. Unlike traditional textbooks in other disciplines, introductory texts in psychology tend to avoid the present tense and they do attribute origin. Fact writing occurs in areas where the main expertise is outside psychology, such as physiology or statistics. These features of introductory psychology textbooks will be discussed in relation to the construction of the reader as scientist, and to the distinction between doing and knowing in psychology.

The reporting of Occupational Psychology and Ergonomics issues in the journal *Engineering*, 1915-1939

RB STAMMERS & S THOMPSON, Centre for Applied Psychology, University of Leicester

Historical accounts of Occupational Psychology and Ergonomics in the UK, from within the disciplines, emphasise the importance of the establishment after World War I of the National Institute of Industrial Psychology and the Industrial Fatigue Research Board. It was felt interesting to see how these fields were seen by other professionals in the inter-war years. The journal *Engineering* was a leading publication at this time, reporting on developments in engineering and management. Accordingly, *Engineering* was searched and over 120 references to relevant topics were located and classified. Included were news items, editorial commentaries and articles. It is apparent that the output of the NIIP and the IHRB was taken very seriously by the Journal and that informed discussion took place under its auspices. Whilst it is difficult to assess how many of the developments were subsequently used in industry, it is clear that they were being reported and commented on.

Oracles of chaos: Planetisation and the Genesis of Psychohistory

P ZIOLO, University of Liverpool

A growing sense of planetary awareness demands an increasing consilience between disciplines rather than their isolation from one another. In this paper we distinguish between 'endogenous' and 'exogenous' modes of inquiry and trace the development of psychohistorical thought from antiquity to the emergence of psychohistory as an autonomous field during the latter half of the 20th century. We examine the perspectives of the various schools active in psychohistorical study, and discuss the interdisciplinary nature of psychohistory as well as the role of chaos theory in effecting a degree of convergence between endogenous and exogenous perspectives. In so doing, we show how psychohistory may become a focus for consilience between the social sciences over the coming decades and possibly develop certain 'bounded' predictive capacities.

Symposium on the life and work of Henri Tajfel 1919-1982

Cognitive aspects of prejudice and the desires of hatred

M BILLIG, University of Loughborough

This talk will discuss the strengths and self-imposed limitations of Henri Tajfel's cognitive approach to prejudice. The obvious strength is to stress the mundane, unmotivated aspects of prejudice. However, the approach is strangely inappropriate for dealing with the very extremes of bigotry which formed the background of Tajfel's work. Indeed, it would be inappropriate to apply Social Identity Theory as an 'explanation' of the Holocaust. In the cognitive approach, there is an absence of any account of what might be called 'the desires, or pleasures, of hatred'. This is also true of other social psychological approaches, such as those of Milgram or Zimbardo, which attempt to understand extreme behaviour. On the other hand, there are disturbing implications from treating hatred as a form of pleasure or desire.

The taming of Tajfel

S CONDOR, Lancaster University

This paper considers some of the ways in which Tajfel's programmatic statements concerning the social psychology of intergroup processes have been effectively 'tamed' to fit the requirements of experimental procedure and statistical analysis. In particular, I shall consider the ways in which the key constructs of 'social identity', 'groups' and 'context' have become radically transformed as a consequence of their being shaped to fit the

requirements of ANOVA and of the standard (hypothesis-testing) experimental regime.

Perceptual and social categories

JR EISER, University of Sheffield

This talk will start with reminders of Tajfel's experimental work on perceptual accentuation, and outline the links that he attempted to draw between this and work on social conflict, prejudice and intergroup relations. While his assumption of a continuity between 'non-social' and 'social' cognition is still appealing, other notions implicit in his early work may have proved problematic for later theory. Among these is the idea that accentuation necessarily involves an exaggeration (rather than an invention) of perceived differences between social groups or categories. This in turn takes the existence of groups as 'real', in a way that may reflect the historical context of his own life and work, but may be more debatable in the context of later developments in social identity theory.

The Tajfel Archive at Staffordshire: A Palimpsest

S LOVIE, University of Liverpool & Centre for the History of Psychology at Staffordshire (CHOP) & S CAMERON, also at CHOP

The Tajfel Archives at CHOP occupy the equivalent of nearly 15 filing cabinet drawers and cover a great deal of Tajfel's professional life. The purpose of the paper is to indicate the range of material in the Archive and to highlight some of the more noteworthy items, including the European Monographs on Social Psychology, and the various organisations and causes to whom Tajfel gave his name and support. It is also hoped that the paper would provide illustrations of the recent series of interviews that have been made for CHOP with people who knew Tajfel.

Symposium on the life and work of Rex Stainton Rogers, 1942-1999

Introduction to the Symposium

P STENNER, University College London.

This symposium celebrates the work of Dr Rex Stainton Rogers, who died on the 8th February, 1999. Rex Stainton Rogers was a social psychologist at the University of Reading. He developed a 'postmodern' approach to social psychology known as 'critical polytextualism' and was at the forefront of the emergence of a critical approach to social psychology in the UK. This approach – which stresses the constructed and contested nature of social knowledge – served to give the history and philosophy of psychology a renewed salience. Rex was well known for being a supportive and inspirational teacher and supervisor, and the symposium will include comments from several of his former PhD students who have continued to develop his ideas. He also conducted much collaborative international research – particularly with psychologists in Eastern Europe and Spain. Some of his former collaborators will also contribute to the symposium, and a guest lecture associated with the symposium will be given by Tomas Ibanez. We will also show some relevant video footage, both of Rex himself, and from some of those who were unable to be at the symposium in person.

Dialogues of Identity

R CAPDEVILA, University College Northampton, L O'DELL, University of Luton & M WORRELL, University of Luton.

Rex Stainton Rogers' interest in the 'storied' nature of identity was a long-standing pursuit in both his teaching and writing. His early engagements with critical approaches to psychometrics and the proposal of concepts such as 'personating', later shifted to 'textual identities' and presentations of the 'congenital acorporeality' of Beryl Curt. A key theme in Rex's later work was troubling the notion of singularised identities and scrutinising their contestedness. In

this paper we bring together Rex's post-modern 'critical polytextualism' with feminist analytics in order to examine obdurate notions of the singularity of the self and their implications for the work we do.

Telling stories about story-tellers

T IBANEZ & L INIQUEZ, both at the Autonomous University of Barcelona.

This presentation is in honour of Rex Stainton Rogers, who died in February 1999. One aspect of Rex's work was to critically recast social psychology as a story-telling craft. Any account of his work must also be considered a story, and hence the need for a reflexive title. Content wise, the presentation will narrate the rationale for this story-telling analytic. Formally, it will employ the device of the Itinerant Interlocuter of Textuality and Tectonics fame.

Stories of childhood

N LEE, University of Keele & S BROWN, University of Loughborough

Stories of childhood: Shifting agendas of child concern (co-authored by Wendy Stainton Rogers) was published by Harvester Wheatsheaf in 1992.

This book represents the culmination of Rex Stainton Rogers' long standing interest in the complexities of childhood. It represents a powerful critique of the received wisdom of developmental psychology and a recasting of developmental concerns into a broadly narratological framework. This framework situates both childhood and the stories we (lay and academics) tell about childhood, within an unfolding historical context which must itself be 'storied' into being.

On Tyrannosaurus Rex – Rex Metaphors and Rex's Metaphors

CP MONGUILOD, J PUJOL & M DOMINECH, all from the Autonomous University of Barcelona.

The academy is increasingly acknowledging the importance of metaphor in the understanding of the social world. It would also be possible to argue for the importance of this device in shaping social practical reality. It is precisely the

widespread use of metaphor in theorising and research that is one of the most noticeable features of Rex Stainton-Rogers' 'Critical Polytextualism'. Although sometimes this strategy was criticised as a form of obscurantism, it was coherent with Critical Polytextualist assumptions. Metaphors help to upset the 'either/or logic', to blur the modernist dichotomies -such as reality versus fiction or play versus work. At the same time, this approach disrupts academic rhetoric by interweaving it with humour. This paper analyses some of these implicit assumptions under Rex Stainton-Rogers obscurantism and outlines a theoretical use of metaphor along a Critical Polytextualist approach. To this aim we examine the recurrent metaphors used in 'his/her/their' work and explore both the understandings and disrupting effects they produce. Finally, the paper addresses the metaphors he himself embodied and their possible problematising consequences.