BPS East of England Conference 2018: From research to theory and practise: changing lives
University of East Anglia

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Contents
Oral (A – Z by first name).................................................................3
Poster (A – Z by first name).............................................................25
Workshops (A – Z by first name).....................................................51
Connecting looking to learning in infants — The lexical vacuum cleaners

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University of East Anglia

Objectives/purpose
How long the infants look at objects influences how well they learn their names

Design
The study draws on a dynamical neural-field modelling approach to understand interactions between visual cognition and word learning processes in infants.

Background
Literature on word learning suggests that infants as young as 12 months old can associate novel words to novel objects correctly over multiple individually-ambiguous situations. Eye-movement data of infants during such cross-situational learning indicates a critical role of attention in word acquisition. Mechanistically how does looking influence word-learning in infants is, however, largely unclear.

Methods
We propose a neurally plausible model of word learning named WOLVES (Word-Object Learning Via Visual Exploration in Space) that simulates the infant looking behaviour and its influence on word learning at a millisecond timescale. The model is a non-linear dynamic associative learner that autonomously attends to object features and words to acquire novel word-feature mappings. The model implements interactions between attention, long-term memory and working memory — psychological processes that are fundamental to word learning.

Results
We used the model to simulate two cross-situational word-learning experiments on infants. The model successfully learns word-object mappings from input stimuli at equivalent proportions as reported in empirical data on infants. Alongside, the visual behavioural measures such as looking times to objects, fixation counts and duration of fixations etc., of the model and those of infants correspond well. The model simulations suggest that learnt words can selectively guide attention to enable better learning of word-feature associations while incessant vying for novelty can impair word acquisition in cross-situational learning tasks.

Conclusions
The model is the first neural theory exploring the role of looking dynamics on word learning in infants. Our simulations indicate that factors including visual object processing, memory trace consolidation, strength of working memories, top-down and bottom-up attentional influences operate in non-linearly complex ways to give rise to a diverse range of learning trajectories.

Keywords
infant word learning, dynamical modelling, cross-situational learning, attention, looking

Project supervisor
Prof Larissa K Samuelson
Does a group-based CBT programme specifically targeting low self-esteem reduce depression and anxiety symptoms in a sample of patients within an IAPT service?

Alexandra Harkness  
*Health in Mind, Mid Essex, Hertfordshire Partnership Foundation Trust*

**Objectives/purpose**  
To investigate the effectiveness of a cognitive-behavioural therapy (CBT) group-based intervention for low self-esteem (LSE) delivered in an Improving Access to Psychological Therapies (IAPT) service.

**Design**  
Hypothesis:  
It was hypothesised that there would be a difference between the outcome measures of depression and anxiety symptoms before and after the intervention along with improvements in self-esteem.  

Design:  
This was an early evaluation into the intervention’s effectiveness to establish whether further research and continuation of the group was warranted. The study followed a pre-test/post-test design and did not employ a control group.

**Background**  
To investigate the effectiveness and outcomes of a step 3, service developed, cognitive-behavioural therapy (CBT) group-based intervention for low self-esteem (LSE).

**Methods**  
Participants (n = 122) were assessed by clinicians to determine whether they were presenting with symptoms associated with LSE. Depression (PHQ-9) and anxiety (GAD-7) data, and where possible the Rosenberg Self-Esteem Scale scores, was collected before and after treatment.

**Results**  
Preliminary data analysis suggested improvement in PHQ-9 and GAD-7 scores and full statistical analysis is in preparation. It is intended that a MANOVA will be conducted. Further analysis of the results on the Rosenberg Self-Esteem Scale will be analysed where available.  

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Mean Start</th>
<th>Mean End</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ-9</td>
<td>15.58</td>
<td>8.87</td>
</tr>
<tr>
<td>GAD-7</td>
<td>13.11</td>
<td>7.51</td>
</tr>
</tbody>
</table>

Table 1: Mean scores on outcome measure questionnaires at the start and end of group intervention.

**Conclusions**  
If the analysis shows the mean-change to be statistically significant, this would suggest evidence in favour of group delivery of CBT as an effective alternative to standard CBT therapy when patients present with LSE. This study’s findings could also suggest evidence in favour of the transdiagnostic model of LSE and supports research that has found LSE to be a vulnerability factor for depression. The study is limited by lack of direct self-esteem data and also by lack of variation in population demographics.

**Keywords**  
Low self-esteem, Cognitive Behaviour therapy, Group, IAPT, Depression

**Project supervisor**  
Patrick Larsson and Peter Bailey
Improving the Implementation of Enhanced Recovery Pathways: Insights from qualitative research

Astrid Coxon, Chris Fox, Karina Nielsen and Jane Cross
*University of East Anglia*

**Objectives/purpose**
A qualitative investigation of the implementation of a new Enhanced Recovery Pathway at three UK hospitals.

**Design**
An exploratory qualitative study, conducted over 12 months. Data was collected as part of a larger ERP study, conducted by research staff at the University of East Anglia.

**Background**
Enhanced Recovery Pathways (ERPs) are an evidence-based approach to improve patient outcomes following surgery. However, success of ERPs is often limited by unsuccessful or suboptimal implementation. In order to improve ERP outcomes, this study aimed to develop current understanding of the implementation process and how this varies in different contexts.

**Methods**
Data collection included the repeat-interviewing of co-ordinating change agents implementing a new ERP at 3 UK hospitals, and secondary analysis of ethnographic and audit data. The entire dataset was analysed thematically.

**Results**
Three main themes were developed, each with related sub-themes. Analysis identified a number of critical factors mediating the successful implementation of the ERP. These included: change agent conceptualisation of their role and responsibilities; ward staff readiness to change; contextual sensitivity of implementation strategy design.

**Conclusions**
Although no single, generalised strategy can be applied to ensure ERP implementation success across all possible contexts, the findings from this study highlight important areas for attention. Future ERP implementation efforts should prioritise contextually sensitive, evidence-based implementation strategies in order to maximise pathway adherence and optimise patient care.

**Keywords**
Enhanced Recovery Pathway, qualitative research, hospital practice, implementation, behaviour change

**Project supervisor**
Professor Chris Fox
Assessing the inclusivity of Technology Enhanced Learning methods for students affected by Specific Learning Difficulties

Astrid Coxon, Fabio Arico and Jeremy Schildt

University of East Anglia

Objectives/purpose
To explore how Technology Enhanced Learning (TEL) in higher education institutions (HEIs) is experienced by undergraduate students with specific learning disabilities (SpLDs)

Design
As research into the lived experiences of students with SpLDs using TEL practices is limited, this study was conducted following an exploratory qualitative design.

Background
Higher education institutions (HEIs) are experiencing a radical uptake of technology enhanced learning (TEL) practices. There is a lack of robust research exploring how the changing landscape of HEI teaching impacts students, particularly students who have a specific learning difficulty (SpLD).

Methods
Individual, semi-structured interviews were conducted with undergraduate students at one university in the East of England. A total of nine students with SpLDs were interviewed. The interviews were audio-recorded and transcribed for analysis, with the identity of participants kept confidential. Data was analysed thematically. As prior research in this area is limited, this approach allowed for analysis to be primarily inductive, reflecting the lived experiences of participants.

Results
Participants accepted TEL as part of HEI teaching, but expressed that it wasn’t always fully integrated or sensitive to students’ learning needs. Although many participants identified TEL practices which they found beneficial, some participants stated they found TEL challenging to use. Others felt that teaching staff used TEL in a way which was not appropriate to SpLD students, and this negatively impacted their learning experience.

Conclusions
This research highlights how the integration of TEL and its use by students can be improved to create a more inclusive learning environment.

Keywords
technology enhanced learning, specific learning difficulty, higher education, inclusive, teaching
Improving eyewitness memory through post-encoding elimination of the own-ethnicity bias

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University of East Anglia (UEA)

Objectives/purpose
Individuals are less accurate at identifying members of other ethnicities, resulting in wrongful conviction of those from minority groups. We investigated the potential for improving eyewitness evidence through enhancements to memory retrieval processes.

Design
Discriminability for faces was tested using an old/new recognition paradigm, across two separate experiments. Each experiment contained a manipulation previously shown to improve memory retrieval. Additionally, half of the face-images were presented in an inverted orientation to investigate changes in holistic processing, as previous work suggests the own-ethnicity bias (OEB) results from a reduction in such processing.

Background
Current theories claim the OEB is due to sub-optimal initial encoding of other-ethnicity faces, leading the justice system to see this as an intractable problem.

Methods
83 Caucasian participants took part in one of two experiments. Participants viewed face-images of White and Black individuals, prior to sitting a manipulation phase. In Experiment 1, this manipulation involved watching a slideshow of either positive or neutral images. In Experiment 2, the manipulation involved either holding a fixed gaze or moving the eyes from side-to-side repetitively. Participants then sat a recognition test.

Results
Discriminability scores were calculated and subjected to analysis of variance and paired samples t-tests. Elimination of the OEB was found both after inducing positive affect and following a period of gaze fixation. Additionally, the inclusion of inverted face-images suggests this elimination was due to increased holistic processing of other-ethnicity faces.

Conclusions
The findings presented here suggest that the OEB is not solely the result of deficiencies in encoding other-ethnicity faces. This offers the potential for techniques which might eventually aid eyewitness investigation, particularly in cases of cross-ethnicity crime. The study formed a master’s dissertation and so is somewhat limited in scope; results from Experiment 2 ran contrary to hypotheses.

Keywords
Eyewitness memory; face recognition; own-ethnicity bias

Project supervisor
Fraser W. Smith
ER-CBT: Using emotion theory and research to develop a fresh approach to CBT for adolescents and young adults

Lawrence Howells
Norfolk and Suffolk Foundation Trust

Objectives/purpose
This workshop outlines a fresh approach to delivering CBT for Adolescents and young adults based on emotion theory and research, rather than the diagnostic framework.

Design
The workshop brings together academic and clinical psychology to provide a fresh approach to therapy.

Background
The diagnostic framework is the predominant model in use in mental health settings, even amongst clinical psychologists. This is despite evidence that the diagnostic model has significant issues, particularly amongst adolescent and young adult populations. There are alternatives to the diagnostic model, provided by various different disciplines within academic psychology, but there has been a lack of application of these alternatives in applied clinical practice.

Methods
This workshop outlines the evidence relating to the diagnostic model, particularly when applied to an adolescent and young adult population. It is argued that the diagnostic framework is sufficiently problematic to warrant offering alternatives. It then outlines a fresh approach based in emotion theory and research, combined with the theory and practice of cognitive behavioural therapy.

Results
The workshop outlines how this fresh approach is applied in clinical practice and presents preliminary evidence to demonstrate that providing intervention in this way is effective and appreciated by adolescents and young adults.

Conclusions
The workshop argues that there are sufficient problems with the diagnostic framework, particularly in an adolescent and young adult population to warrant provision of an alternative. It then outlines a fresh approach in which emotion theory and research is combined with more traditional CBT to enable adolescents and young adults to learn not about disorder and symptoms, but about emotions, emotional ‘traps’, and how they can use CBT to bring about change.

Keywords
CBT, adolescence, young adults, non-diagnostic, emotion regulation
Dimensional apathy framework: Cumulative evidence from neurodegenerative disease

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University of East Anglia & University of Edinburgh

Objectives/purpose
To demonstrate the existence of overlapping elements in multidimensional apathy, pointing towards commonalities in apathy subtypes and a unified framework.

Design
Review of past and emerging concepts of apathy as a syndrome in neurodegenerative disease.

Background
Apathy is a common demotivation behaviour in neurodegenerative diseases, and appears fundamentally multidimensional in nature. Different methodologies have been used to identify and quantify these dimensions, which has resulted in multifarious concepts, ranging in the number and characteristics of apathy subtypes. This has created an ambiguity over the fundamental substructure of apathy.

Methods
Examination of evidence from different models for the conceptualisations of subtypes/subdomains of apathy, taking in to account recent research of multidimensionality apathy profiling in neurodegenerative disease.

Results
Convergence of evidence showed a three-dimensional apathy subtype model as most congruous. The most central theme of various models is related to a lack of self-generation of thought, decreased spontaneity or productivity, typified as Initiation apathy. Motivational deficits in executive processes of planning, organisation and attention, are expressed as the next subtype, formalised as Executive apathy. Indifference and emotional neutrality, as well as emotional blunting, reduction in emotional reactivity, collectively form an Emotional Apathy subtype. Finally the factor of self-awareness or concern appeared intertwined across the different subtypes. Evidence of distinct subtypes and differing apathy profiles was found in amyotrophic lateral sclerosis, Parkinson’s disease and dementia (Alzheimer’s disease and frontotemporal dementia) which culminated in the proposal of the Dimensional Apathy Framework.

Conclusions
The multidimensionality of apathy can be subsumed under a Dimensional Apathy Framework, composed of a tripartite substructure of Initiation, Executive and Emotional apathy, with self-awareness interplaying with all subtypes. This unification has implications for the understanding of underlying processes and practical impact of apathy subtypes in various diseases.

Keywords
Dimensional Apathy Framework, apathy, neurodegenerative disease
Attention for action: Evidence from peripheral and bimanual reaching in left visual neglect and extinction

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Objectives/purpose
Here we examined the right and left hand reaching performance of a patient with left visual neglect and extinction (DA) following a right-hemisphere stroke.

Design
In a single case study, DA’s reaching performance was compared to a sample of age-matched controls (N=11) on two separate motion-tracking experiments.

Background
It is well established that patients with visual neglect present with severe attentional impairments, but the impact of these on visually-guided actions has been hotly debated in the last two decades.

Methods
In Experiment 1, we investigated how patient DA performed on the classical diagnostic task for optic ataxia, reaching in central and peripheral vision to left and right targets with each hand separately. In Experiment 2, we investigated DA’s ability to execute congruent and incongruent bimanual reaches toward left and right targets placed at different depths as well as unimanual reaches of comparable amplitudes.

Results
In contrast to patients with optic ataxia, DA reached as accurately as controls in all conditions of experiment 1, even in her peripheral neglected field. Patient DA reached significantly less accurately with the left hand than controls during the unimanual and bimanual incongruent reaches of experiment 2 and actions were significantly slower for all conditions with this hand. She also displayed a significantly greater bimanual cost compared to controls during bimanual reaches to incongruent locations, not only with her left contralesional hand, but also with her right. Consistently, her right hand was significantly slower than controls during all bimanual reaches.

Conclusions
Our results suggest that DA’s attentional deficits are not accompanied by the classical visuomotor symptoms of optic ataxia. However, despite displaying evidence of temporal coupling whereby the speed of both hands were impaired during DA’s bimanual reaches, her difficulties performing bimanual competing movements probably relate to her attentional impairment.

Keywords
Visual Neglect, Reaching, Periphery, Bimanual

Project supervisor
Stephanie Rossit
Behavioural and brain responses to interceptive signals in musicians

Farah Hina
Anglia Ruskin University

Objectives/purpose
We assessed interoceptive sensitivity (IS) as well as interoceptive awareness (IA) in musicians and non-musicians. We predicted that musicians will have higher IS, greater IA and greater amplitude of the heartbeat evoked potential (HEP) than non-musicians.

Design
The first-level was quasi, i.e. participants were allocated to two groups: musicians and non-musicians. The second-level was correlational.

Background
Previous research has identified a relationship between interoception and musical experience, with higher IA associated with musicianship. We furthered this study by measuring IS (via heartbeat perception tasks), brain responses to heartbeats (HEP), in addition to IA (via MAIA scales).

Methods
The participants comprised musicians (N = 20) and non-musicians (N = 20). The following measures were included: to measure IS, the heartbeat discrimination task, and the heartbeat tracking task were used; for IA, the MAIA questionnaire was utilised; for amplitude, the HEP was recorded from 29 electrodes using electroencephalography.

Results
A one-way MANOVA showed that musicians were significantly more accurate than non-musicians in the heartbeat discrimination and tracking tasks. Regarding IA, musicians showed significantly higher mean scores on the MAIA attention regulation scale only. The HEP recorded in musicians had greater amplitude in the left fronto-centroparietal brain areas, compared to the HEP of non-musicians. No differences were found in the right hemisphere. A multiple linear regression revealed that accumulated musical experience (i.e., years of training*weekly singing practice *weeks per year), or the age at which musicians’ training began did not predict any of the interoceptive variables.

Conclusions
Musicians showed greater IS and IA than non-musicians. Future research using longitudinal design is suggested to clarify the causal direction i.e. whether musicians’ training resulted in higher IS and IA or vice versa. Clinically, biofeedback mechanisms could lead to new treatment approaches aiming to reduce Music Performance Anxiety (MPA) by altering awareness of interoceptive signals.

Keywords
Interoception, interoceptive awareness, musicians, heartbeat perception tasks, heartbeat evoked potential

Project supervisor
Dr. Jane Aspell & Dr. Flavia Cardini (senior supervisor)
Developing a clinician-rated clinical outcome assessment for Wolf-Hirschhorn syndrome

Katharina S Vogt  
University of Sheffield

Objectives/purpose  
To develop a Clinician-rated Clinical Outcome Assessment (ClinRO) for Wolf-Hirschhorn syndrome

Design  
This study used a combination of qualitative and quantitative methods. Interviews with family members of adults and children with Wolf-Hirschhorn syndrome were conducted to inform the development of the first draft of the ClinRO; interviews were analysed using Thematic Analysis. Clinician Feedback was sought using the QQ-10.

Background  
Wolf-Hirschhorn syndrome (WHS) is a rare genetic illness caused by a deletion of the short arm of chromosome 4; its clinical features include learning disability, epilepsy, feeding difficulties and cardiac defects. As a result of the low prevalence of the syndrome and a lack of appropriate assessments for patients, clinicians unfamiliar with the disease may fail to assess the patients appropriately. Therefore, a clinician-rated Clinical Outcome Assessment (ClinRO), specifically developed for the use with WHS patients, is needed.

Methods  
Following two systematic reviews, 22 in-depth, semi-structured interviews with family caregivers of WHS patients were conducted to inform the development of the ClinROs. Interviews were analysed using Thematic Analysis. Arising themes were used to create items for the first full draft of the ClinRO; feedback from expert clinicians on the first draft was sought using the QQ-10 (Delphi process).

Results  
From the interviews, 26 themes emerged. Seventeen themes directly concerned clinical features of the illness, while nine concerned psychosocial aspects, such as being a parent or family adaptation. Future research, including the relevance of the psychosocial findings, and next steps of the study are discussed (e.g. outcomes of Delphi process, psychometric validation).

Conclusions  
The development of the ClinRO for WHS is welcomed by both family caregivers of children and adults with WHS, and clinicians to ensure appropriate assessments. Future research, including the relevance of the psychosocial findings, and next steps of the study are discussed (e.g. outcomes of Delphi process, psychometric validation). Limitations of the ClinRo guidance for practice are highlighted in the context of rare disease.

Keywords  
rare disease, scale development, clinician-rated, health assessment

Project supervisor  
Georgina L Jones; Alisdair McNeill
Extending self-kindness: Self-compassion as a predictor of glycaemic control and regimen adherence in adolescents with type 1 diabetes

Katherine Jackson, Emily Baker and Jo Derisley
UEA

Objectives/purpose
This study sought to examine self-compassion as an intrapersonal resilience resource for effective type 1 diabetes management (T1DM) among adolescents.

Design
Cross-sectional relationships between self-compassion and two T1DM outcomes (regimen adherence and glycaemic control) were assessed with bi- and multivariate analyses. Variability in self-compassion was also examined as a potential mediator of the associations between emotional distress, critical/intrusive parental diabetes behaviour, and T1DM outcomes.

Background
Youth with T1D typically exhibit suboptimal regimen adherence and glycaemic control, increasing the risk of short- and long-term health complications. Thus, there is clinical prudence in identifying protective factors that promote positive diabetes outcomes in this population.

Methods
Adolescents aged 11 to 18 (n = 52) provided demographic information and completed self-report measures of adherence, self-compassion, emotional distress, and critical/intrusive parenting. HbA1c readings were extracted from clinical records to measure glycaemic control.

Results
Self-compassion was associated with better glycaemic control and regimen adherence. In addition, lower levels of self-compassion mediated the relationship between elevated emotional distress and poorer adherence. Emotional distress was not related to HbA1c, and critical/intrusive parenting was unrelated to both adherence and HbA1c.

Conclusions
Access to a self-compassionate mindset may have beneficial effects on glycaemic control and regimen adherence among adolescents with T1D, suggesting this may be an effective intervention target for improving T1DM in this vulnerable population.

Keywords
self-compassion; adolescents; type 1 diabetes; glycaemic control; adherence

Project supervisor
Judith Young / Kiki Mastroyannopoulou
Attentional differences in cross situational word learning

Laura Colosimo
University of East Anglia

Objectives/purpose
To explore the looking dynamics that drive word learning in a cross situational word learning paradigm.

Design
This project investigates early word learning through visual object processing and attention. We will examine the role visual attention plays in cross-situational word learning. The goal of this project is to identify the mechanism behind cross-situational word learning and identify how different word learning trajectories occur.

Background
Cross-situational word learning is a paradigm through which names of objects are learned over multiple exposures, despite moment-to-moment uncertainty as to the correct word-object mapping. Studies have shown that children as young as 12 months old can learn multiple word-object mappings through cross-situational word learning, however no theory has accounted for how visual attention, memory, and novelty influence how children learn new words.

Methods
This procedure follows Smith & Yu. Stimuli are 6 novel words and 6 novel objects. On 30, 4 s training trials children see 2 novel objects and hear 2 novel words. Training is followed by 12, 10 s test trials. On each, two previously presented objects are shown, and one word is repeated 4 times. Each word is tested twice. Looking will be coded frame-by-frame.

Results
Overall, infants did not show a greater difference in looking time to the target(3.15s) than the distractor(3.22s). Analysis of individual infants’ looking showed that some infants did have significant looking to the target, whereas others significantly looked longer to the distractor, called strong and weak learners respectively. Strong learners form a pattern of long sustained looks during training that lead to word driven weak learners form a pattern of short, but frequent bouts of looking during training leading to novelty driven looking at test.

Conclusions
These results show two different types of looking patterns that lead to differing styles of learning. In conclusion, this study identifies how coordinated visual attention and looking dynamics shape the trajectory for word learning.

Keywords
Cross Situational Word Learning, attention

Project supervisor
Larissa Samuelson
Attentional precursors of executive function in early development

Lourdes Delgado Reyes
School of Psychology, University of East Anglia

Objectives/purpose
Can early attentional control help us understand how executive function develops?

Design
The overarching goal of this project is to explore a continuous measure of attentional control that can potentially be used across early development to predict EF and to evaluate interventions very early in development.

Background
EF refers to an interrelated set of neurocognitive systems that underlie behavioral control and cognitive flexibility. EF has pervasive influences on cognition and later development. Many studies have explored the development of EF from early childhood to adulthood (Carlson et al., 2013). A key challenge is to understand how EF develops early in development, before the age of 3, where early interventions might have the most impact. Recent studies have investigated links between infant and toddler behavior and the emergence of EF (see Hendry et al., 2016 for a review). Early forms of attentional control, self-regulation, processing efficiency, and cognitive flexibility have been reported to show a predictive relationship with later EF.

Methods
Participants aged 24-71 months completed an executive attention task modeled after Johnson et al. (1991). This task measures the ability to disengage from one stimulus to attend to another and the ability to show anticipatory looking. Participants also completed the Minnesota Executive Function Scale (MEFS; Carlson & Zelazo, 2014). Finally, the Effortful Control (EC) temperament dimension was assessed using the very short forms of the Early Childhood Behavior Questionnaire and the Child Behavioral Questionnaire.

Results
We used a mixed effects generalised linear model to investigate how performance in the task changes over development. Results showed that children with better EC were more likely to produce anticipatory looks (AL). In terms of disengagement, results showed that young kids who had worse EC, did not disengage from a central-competing distractor. Next, we examined the primary question of our study: does attentional control predict EF? Results showed that kids that were more likely to produce ALs had a higher MEFS score.

Conclusions
Our results provide data for step 1 in our journey to examine a continuous measure of attentional control that can potentially be used across early development to predict EF. We found that AL were predictive of concurrent EF. As next steps, we will examine the continuity and stability of this measure.

Keywords
executive function, attentional control, cognitive development

Project supervisor
John P. Spencer
Sexual health and relationships knowledge of people with learning disabilities

Magdalena Borawska-Charko  
Anglia Ruskin University

Objectives/purpose
In my research, I attempt to establish what is the actual level of knowledge about relationships and sexual health amongst people with learning disabilities.

Design
In order to gain insight into participants’ knowledge and experiences, mixed methods of data collection and analysis were adopted. Interviews based on the Sex-Ken-ID questionnaire measuring sexual health knowledge, experiences and needs were conducted. Due to potential issues with reading and understanding of participants with learning disabilities, interviews are believed to be the best method of data collection. In addition, to accurately describe the sample, short version of the Wechsler's Intelligence Scale (WASI) was used.

Background
People with learning disabilities are up to four times more likely to be victims of sexual abuse than the rest of the population. Moreover, their sexual health knowledge appears to be lower than that of people without intellectual disabilities and this knowledge is characterised by gaps and misunderstandings in many areas. Hence, it is crucial that details of the knowledge regarding sexuality held by people with learning disabilities is known.

Methods
Interviews based on Sex-Ken questionnaire were conducted with 27 people with mild and moderate learning disabilities. Participants were recruited via day centres and advocacy group that they attended. Inclusion criteria were having a learning disability and being able to communicate verbally. All interviews were tape-recorded and analysed in two ways: quantitative looking at correct and incorrect answers to the Sex-Ken questionnaire and qualitative, which concentrated on misunderstandings and additional information provided such as comments or words used to describe sexual organs, and non-verbal responses, such as giggle as a sign of embarrassment. Thematic analysis was used to identify main errors and misconceptions.

Results
Overall, the quantitative analysis of results showed that people with learning disabilities present low level of knowledge regarding sexuality, especially those with moderate learning disabilities. The thematic analysis identified main 5 themes (work in progress): 1) Literal understanding or definition; 2) Describing prompt pictures; 3) Incorrect understanding of relationships; 4) Inability to provide definition despite having knowledge; 5) Repetition.

Conclusions
The research is important and beneficial, as the subject of sexual health knowledge, sexual needs, and experiences of adults with learning disabilities is not well researched. More research, especially into ways of improving sexual health knowledge, and a result personal safety of people with learning disabilities, is needed.

Keywords
learning disabilities, intellectual disabilities, SEN, sexual health knowledge.

Project supervisor
Dr Mick Finlay and Dr Steven Stagg
Addressing coercive control in adolescent intimate relationships

Kerry Manning and Belinda Winder
Nottingham Trent University / PSUK Ltd

Objectives/purpose
To report on a quantitative study which aimed to identify factors predictive of coercive control perpetration amongst adolescents.

Design
A quantitative study design was adopted, using an online questionnaire.

Background
Whilst much literature has been published on intimate partner violence within adult relationships, there is a lack of empirical research around the abusive behaviours perpetrated by adolescent intimates. This is despite UK survey data highlighting that adolescents suffer various psychological difficulties because of the problems they encounter in their intimate relationships. In December 2015, coercive control was recognised as a criminal offence in the United Kingdom. This study measures the extent to which perpetration of coercive control can be predicted by a pathway of negative childhood experiences and the subsequent shaping of problematic personality traits. Early interventions with young people can then be tailored to address risk factors identified along this pathway.

Methods
The questionnaire was administered to 265 adolescents between the ages of 11 and 17 from a secondary school in Cambridgeshire. Several validated measures were used, along with researcher generated questions concerning experiences of abuse and exposure to new technologies, such as social media and gaming.

Results
Initial analysis indicates that, contrary to the adult relationship literature, coercive control is equally prevalent amongst girls and boys in the adolescent sample. Further analysis explores whether personality is an important factor in determining whether adolescents engage in coercive control in their intimate relationships and whether exposure to certain technologies increases or maintains the behaviour.

Conclusions
The conclusion addresses whether there is a need for school and community relationship interventions to place greater focus on coercive control, in addition to violence prevention, particularly in the context of modern-day technology pressures.

Keywords
adolescents, coercive control, technology, personality, interventions

Project supervisor
Dr Karen Slade
Cultural differences in dyadic interaction using head-mounted cameras

Samuel Forbes and Prerna Aneja

University of East Anglia

Objectives/purpose
To exam differences in visual exploratory behaviour of caregivers, during a free play session with their infants, across 3 groups; India Low SES, India High SES and UK.

Design
We used head-mounted eye trackers to measure mean fixation duration, fixation switch rate and dispersion of fixation on normalised position X and Y across three groups, i.e, India High SES, India Low SES and UK.

Background
Previous work shows that infant-caregiver interaction is linked to infant’s behavioural and cognitive outcomes. However, these interactions have been studied mostly in western societies. Research shows that socialisation beliefs and goals differ across cultures, and that culturally-mediated social interactions with caregivers influence the attention strategies of the child. We need to further understand how different cultures shape infant-caregiver interactions, and how that influences cognitive development of infants. This may be critically important to understand in non-western cultures, particularly where children experience severe early adversity.

Methods
60 caregiver-infant dyads, of typically developing infants aged six months, were recruited from Developmental Dynamics lab in the UK and Community Empowerment Lab in India. We recorded a ten-minute toy play session with the dyads using head mounted eye-trackers to quantify dyadic interactions.

Results
Caregivers from India low SES made longer fixations, fewer switches and showed less variability in the dispersion of their fixations than those in the other groups. We also saw variability in how the UK caregivers distributed their fixation during the play session.

Conclusions
Theories of eye movement and visual cognition have shown that fixation durations are indicative of the speed of visual information processing. Results suggest slower visual information processing in Indian low SES dyads.

Keywords
cross-cultural, dyadic-interaction, visual cognition, headmounted eye-tracker, socio-economic status

Project supervisor
Professor John Spencer
A neurodevelopmental approach to understanding the role of sleep in Visual Working Memory

Samuel. H. Forbes, Lourdes Delgado Reyes and Joe R. Cassidy
University of East Anglia

Objectives/purpose
The objective of the present study was to examine the role that sleep patterns play in the development of cognition in 6-month-old infants.

Design
We showed infants two side-by-side flickering displays, composed of an array of coloured squares, and on one display, one of the squares would change colour with each presentation. We examined their performance in this task in association with their sleep patterns.

Background
In infants and children sleep is thought to facilitate neural plasticity through synaptic downscaling, facilitating memory and learning. Visual Working Memory (VWM) is a core cognitive system with a highly limited capacity, and has been found to be predictive of general fluid intelligence and correlates highly with many aspects of cognition.

Methods
Infant looking was measured with an eye-tracker sampling at 500Hz. Throughout the task, optical neuroimaging data were collected from bilateral frontal, temporal, parietal, and occipital cortex, using fNIRS. Infant sleep measures were recorded using an actigraphy device, attached to a wrist or ankle, which can be used to measure movement and temperature. Sleep data were collected over a period spanning at least 5 days from each infant.

Results
The data suggests that infants’ sleep patterns affected their performance in the preferential looking task, with wake episodes during each sleep period found to be predictive of performance in the task. The fNIRS data showed activation in the frontal, temporal and parietal regions, key areas in the VWM network, demonstrating an association between sleep measures and VWM in the early years.

Conclusions
The findings of the present study suggest a critical role for sleep in development, particularly in the early development of the VWM network. These results suggest possible effectiveness of a sleep-based intervention in early childhood.

Keywords
VWM, Sleep, fNIRS

Project supervisor
John P Spencer
Investigating the neural mechanisms of communication and cooperation in early development

Sara Mosteller and Larissa K. Samuelson
University of East Anglia

Objectives/purpose
Early learning of symbolic information occurs in a social context, thus we aimed to explore the socially grounded neural and behavioral dynamics that enable word learning and game playing between children and their parents.

Design
Parents/adult teachers taught their children/friends the names of 8 novel objects and played a cooperative game of Jenga together. We used a hierarchical linear model to assess the effect of learning/game playing tasks on coherence (by comparing them to a non-interactive baseline). Ongoing analyses are exploring how coherence in the time series of corresponding channels maps onto a spatial analysis of hemodynamic responses to naming events and actions in the Jenga game.

Background
We adapted a paradigm for testing interactive novel noun learning developed by Samuelson and colleagues (2011) to a hyper-scanning paradigm (Cui, Reiss and Bryant, 2012). We analysed the raw fNIRS data by testing for coherence within the signals of corresponding channels (treating these channels as overlaid time series).

Methods
We tested 7 adult-adult dyads and 7 parent-child dyads. However, data collection is ongoing for this study. Tasks included (a) novel object trainings in which the teacher taught the learner the word-object pairings, (b) a play session with familiar toys with the teacher (or parent), (c) a comprehension test in which the teacher and learner simultaneously selected from pairs of objects and (d) a cooperative Jenga game. During the familiarization with the experimenter, we moved the teacher to face away while the experimenter played with the learner using familiar toys. We used this condition as a baseline. We recorded fNIRS and head-mounted eye tracking from both the parent and child during the session.

Results
Although analyses are on-going, we found that neural coherence is higher between parents and children during tasks in which they are learning and cooperating together (p < .001). Additionally, we found developmental differences in coherence between parents/children and adult teachers/learners in the inferior frontal gyrus, involved in semantic processing, that can be mapped onto the unique relationship between the child and parent and also developmental differences in the number of words learned. In a larger sample, we plan to assess the relationship between neural coherence and word learning and cooperative game playing.

Conclusions
fNIRS hyper-scanning appears to be a promising method for assessing how coordination in brain activity between a teacher (or parent) and a learner (or child) can predict word learning. Our analysis indicates that developmental neuroscience can be expanded to examine meaningful relationships in brain activity between parents and children that can help us understand individual differences in learning outcomes.

Keywords
neuroimaging, hyper-scanning, child development, word learning, cooperation

Project supervisor
Dr. John Spencer
How personalisation and species affect perceptions of animal victims

Sarah Gradidge  
Anglia Ruskin University

Objectives/purpose
This paper’s primary objective was to investigate effects of species and personalisation of an animal victim on moral perceptions of this animal.

Design
This is a 2x2 between-subjects design.

Background
Research suggests that both dogs (vs. pigs) and personalised (e.g., those given a name and called “he” or “she”) animal victims (vs. non-personalised) are perceived to have greater moral status. Thus, I hypothesised that, participants would have less empathy and willingness to help, and more victim derogation, victim blaming and second-hand forgiveness for pig victims (vs. dog victims) and non-personalised victims (vs. personalised victims). I also hypothesised a significant interaction between species and personalisation, such that personalised dogs would have the greatest moral status, and non-personalised pigs the lowest.

Methods
160 participants answered an online survey and were recruited via social media, posters, SONA and word-of-mouth. They were randomly allocated to reading one of four fictional articles regarding a kidnapped animal: personalised dog, non-personalised dog, personalised pig and non-personalised pig. Participants indicated their empathy, willingness to help, victim derogation, victim blaming and second-hand forgiveness for the animal. The data was analysed using 5 2x2 between-subjects ANOVA’s.

Results
The interaction and main effect of personalisation were non-significant for all variables. The main effect of species was significant for all variables, except victim blaming, with pigs subjected to more negative perceptions.

Conclusions
This research supports speciesism’s existence and has implications for animals’ lives and effective animal activism. This research suffers in scope; future research should investigate more species, causes of speciesism, and interventions.

Keywords
speciesism, personalisation, moral status, animal victims

Project supervisor
Annelie Harvey
Combating the obstacles to gender inclusivity in the boardroom

Sarah Linton
Zircon Management Consulting

Objectives/purpose
To understanding gender inclusion in the boardroom

Design
We interviewed 44 high-performing women who have previously held, or are currently in, the position of Chief Executive Officer (CEO), CEO-1, or CEO-2 roles. In these interviews we identified the significant trigger points, personal and professional challenges, and personal characteristics which saw these women reach the boardroom of their respective organisations.

Background
Our most recent research at Zircon aimed to understand Inclusion in the Boardroom, with a specific focus on gender inclusivity in order to uncover the journey which women follow to reach the highest levels of an organisation, and which points in this journey may be preventing more women from climbing the organisational hierarchy.

Methods
The in-depth structured interviews lasted between 60-90 minutes and were supplemented by the BeTalent Strengths Insight and Decision Styles tools, which were used to identify any potential differences between high performing women and men in terms of their strength preferences and decision-making approaches.

Results
The findings from the current research identified both personal and professional challenges which high performing women were forced to overcome on their journey up the organisational hierarchy, with the ‘Old Boys Network’ being the most commonly raised issue, as well as reporting a constant battle to gain credibility amongst their male colleagues. With regards to the research into the strengths and decision-making profiles of the contributors, both the female and male high performing populations demonstrated a full and diverse range of strengths and decision-making preferences.

Conclusions
The implications of these results are discussed in order to remove the barriers preventing women from climbing the organisational hierarchy, including the development of Talent Programmes which can aid high potential identification, and outline a clear line of sight to the development pathways available. Furthermore, employing objective executive assessment processes will enable the best candidates to be selected for career progression.

Keywords
Gender, Diversity, Inclusion, Boardroom
The relatives' experience of loss and adjustment after acquired brain injury (ABI): A mixed methods study

Sharon Buckland
Anglia Ruskin University/ Headway Cambridgeshire

Objectives/purpose
This study aims to investigate how family members conceptualise loss and adjustment and how this relates to family functioning after their loved one's ABI.

Design
We employed a convergent mixed methods design.

Background
It is common for patients to experience a period of grieving after injury for the losses brought on by their ABI. The experience of what losses the family members feel is less known.

Methods
Participants were twelve family members (8 spouses and 4 parents) known to Headway Cambridgeshire and interviewed to explore family interactions and loss after family member ABI, analysed using thematic analysis. The Family Assessment Device (FAD) and Brain Injury Grief Inventory (BIGI) were also administered. Quantitative and qualitative data were combined using side-by-side comparisons.

Results
We report interim data on twelve interviews. Emerging trends indicated two main themes relating to family changes: relationship imbalance (subtheme increased responsibility) and protectiveness (subtheme loss of confidence). These themes only applied to spouses. Parents elicited one main theme relating to family changes: increased closeness (subtheme openly affectionate). FAD results showed impaired levels on all scales for spouses, with less impaired scales seen in parents. Spouses qualitatively reported 'loss' of the future, whereby parents experienced loss of the past, even though low levels of loss and high levels of adjustment were reported on the BIGI. Anticipated data collection to be completed by August 2018.

Conclusions
Impairment on the FAD scales for spouses, along with the expressed experiences, suggests family role changes and loss may be areas of particular importance when working with families. The discrepancy between qualitative and quantitative data highlights how mixed methods approaches can provide new insight into how loss is being experienced within family relationships. Quantitative measures alone may not be sufficient when investigating complex social constructs such as loss and adjustment in families.

Keywords
Acquired Brain Injury, Adjustment, Families, Loss

Project supervisor
Peter Bright
Preschool metacognitive developments allow learning and use of co-referential words

Theodora Karadadi
University of East Anglia

Objectives/purpose
Aim of the study was to investigate the metacognitive factors that affect children's flexibility in using two names for the same object.

Design
Over two experiments, typically developing children's ability to apply two newly learned words to the same referent was compared with existing measures of metacognitive development and verbal mental age.

Background
Children frequently avoid using two labels for the same referent. For two recently learned labels, children have been observed to apply one to distractor objects, the “correction effect”. Here we demonstrate that metacognitive immaturity until 4 years accounts for the phenomenon.

Methods
Three- to 6-year-old children (N = 126) were taught two novel labels for a novel object, then asked to select the object using one name, then using the other name. The hypothesis was that younger children would select a distractor for whichever name was tested second. Performance was compared with false belief understanding and with the Pragmatic Cue task (Gollek & Doherty, 2016), which measures children’s willingness to choose a familiar object for a novel name when other information implies it is the intended referent.

Results
In two experiments younger children incorrectly chose the distractor in the Correction task. Performance was associated with false belief understanding and performance on the Pragmatic Cue task. Associations remain robust after controlling for age and verbal mental age (r = 0.70 and r = 0.66, respectively)

Conclusions
Metacognitive developments around 4 years allow children to use co-referential names correctly within a particular conversation. Relations to relevant theoretical accounts of apparent word learning biases are discussed.

Keywords
theory of mind, referent selection, false belief task, word learning

Project supervisor
Dr Martin
The impact of organisational commitment on employee health, absenteeism and turnover, and on performance and organisational results: a review of the research.

Anthony Stanton and Sheila McDerment
Anthony Stanton Ltd

Objectives/purpose
To establish the research evidence for any relationship between employee organisational commitment and: (1) employee outcomes in terms of health, sickness absence, turnover and job performance; (2) business results.

Design
Literature review.

Background
The construct of organisational commitment has been the subject of considerable research interest since the 1970s. Several hundred research studies have explored its outcomes. Organisational commitment is defined for the purposes of this review as the extent of the bond experienced by employees in relation to their employing organisation.

Methods
Three search engines were interrogated during the period January to May 2018 for original research articles which had been published in English language peer-reviewed journals. Studies were selected for reporting using criteria which included sample size, the quality of the survey instrument used, use of control variables, and robustness of reporting of descriptive statistics.

Results
There is good research evidence of links from organisational commitment to business performance. There is some useful evidence linking organisational commitment to employee health, sickness absence and turnover. Almost all the studies which were found used a quantitative research method as opposed to a qualitative, case study design.

Conclusions
Implications for practice. Given the presence of well-evidenced links from organisational commitment to business results, and useful research pointing to linkages also to staff health, absence and turnover, organisations would benefit from monitoring the levels of organisational commitment amongst their employees; and where those levels are low then taking improvement action by measuring and managing the precursors of commitment.

Implications for future research. The literature can develop by using more longitudinal, random controlled trial and qualitative studies.

Keywords
Commitment, health, absence, turnover, performance.

Project supervisor
Dr Dag Syrdal
Children’s moral judgments, hostile attributions, and aggression

Beyza Ustun and Gavin Nobes
UEA

Objectives/purpose
To test the hypotheses that outcome-based moral judgments and hostile attribution bias are closely related, and that both predict aggression.

Design
A cross-sectional correlational study of children’s moral judgments, hostile attribution bias, and aggression, by age.

Background
In contrast to most adults, young children often prioritize outcomes rather than intentions in their moral judgments and, like young offenders, are prone to making hostile attributions: they assume, for example, that accidents were ill-intentioned. Perhaps as a result, young childhood tends to be a period of high levels of aggression.

Methods
Children aged 4-9 years (N=125) judged the badness and punishability of characters in four moral judgement stories in which positive and negative intention and outcome were varied systematically. They were also asked whether they thought characters in four hostile attribution stories caused them harm accidentally or maliciously, and to say whether they would feel angry and attack them. In addition, children’s teachers completed a short questionnaire about their behaviour.

Results
Children’s moral judgements were mostly based on intention, and this increased with age. Badness and punishment judgments, hostile attributions, and aggression were all highly correlated: children who made more outcome-based moral judgements made more hostile attributions and were more aggressive, according to both self- and teacher-reports. Hostile attributions and aggression decreased with age, and correlations between moral judgements, hostile attribution and aggression were higher among older children.

Conclusions
These results suggest that outcome-based moral judgment and hostile attribution are closely-related concepts, since both indicate deficits in perceiving and / or understanding others’ intentions, and both predict aggression. We will discuss the implications for our understanding of the aetiology of aggression, and for possible interventions aimed at reducing aggression.
A functional approach to mental capacity assessments for people with learning disabilities

Daniel Edge
University of East Anglia/Cawston Park Hospital

Objectives/purpose
This study aims to identify what differentiates those who are deemed to have or lack capacity. It also starts to explore the cognitive predictors of mental capacity assessment outcomes for people with learning disabilities.

Design
This was a cross-sectional, confirmatory study using retrospective data which had been collected as part of routine clinical assessment.

Background
Mental capacity assessments for people with Learning Disabilities currently rely heavily on subjective clinical opinion. According to the “Dual Process Theory of Decision Making”, rational decision-making is comprised of four distinct cognitive functions: executive functioning, memory, attention and language. These functions align nicely with the core constructs linked with decision making in the Mental Capacity Act (2005). Here we test directly the association between these cognitive constructs and mental capacity classifications in an applied setting.

Methods
We used the Montreal Cognitive Assessment (MoCA), a well-known neurological screening tool to assess functioning in 63 individuals with a learning disability in an in-patient facility. These participants had been deemed via clinical assessment to either have (N=24) or not have (N=39) the capacity to make independent decisions about their medical treatment. We contrasted executive functioning, memory, attention, language and overall cognitive ability across the groups to determine the extent to which they differed and explored the predictive validity of each function.

Results
The high degree of overlap in the cognitive ability profiles of the two groups was notable. Nevertheless, we identified significant group differences in scores for all the functions of interest as well as overall cognitive ability. Logistic regression analyses also revealed some cognitive functions contribute more strongly to the mental capacity classifications than others.

Conclusions
These findings highlight the complexity of mental capacity evaluations in people with learning disabilities. Our results are broadly consistent with the Dual Process Theory of Decision Making and offer a foundation for a more functional approach to assessments in this field.

Keywords
Learning Disability, Mental Capacity Assessment, Montreal Cognitive Assessment

Project supervisor
Dr Louise Ewing
A pilot study of a brief psycho-education intervention for individuals waiting for trauma-focused therapy

Ellen Huish
Cardiff & Vale NHS University Health Board

Objectives/purpose
A pilot study was conducted to determine the feasibility of delivering a brief psycho-education intervention for individuals experiencing Post-Traumatic Stress Disorder (PTSD) and waiting for trauma-focused therapy.

Design
A longitudinal design using pre-intervention and post-intervention measures was adopted.

Background
Due to long waiting list times, the brief intervention was delivered to provide psycho-education and stabilisation skills to individuals while they were waiting for trauma focused therapy. The brief intervention consisted of three sessions of information about trauma and its effects, stabilisation and grounding skills.

Methods
The intervention was delivered individually by Assistant Psychologists under the supervision of a Consultant Clinical Psychologist. A total of 10 individuals were recruited using opportunity sampling from the Cardiff & Vale Traumatic Stress Service waiting list. 5 individuals dropped out of the intervention. All participants completed the PCL-5, GAD-7 and PHQ-9 measures before and after the intervention. Some qualitative feedback was also obtained using a patient experience questionnaire.

Results
Data was analysed for each individual by comparing the pre-intervention and post-intervention scores on the PCL-5, GAD-7 and PHQ-9. The average PCL-5 score dropped from 52 to 41 after the intervention. Four of the participants had a clinically significant change in their PCL-5 score (10-20 point difference) and one had a reliable change (5-10 point difference). The average GAD-7 score dropped from 17 to 13 and the average PHQ-9 score dropped from 15 to 11. Qualitative feedback suggested all participants were satisfied with the treatment they received. The majority of participants also indicated that they felt their symptoms had improved throughout the intervention.

Conclusions
The pilot study confirmed the feasibility and potential effectiveness of a psycho-education intervention for people experiencing PTSD. This indicated the potential value in offering the brief intervention to individuals waiting for trauma-focused therapy. However, due to the small sample size further studies are required.

Keywords
PTSD, psycho-education, Trauma

Project supervisor
Dr Jane Boyd
A follow-up study of a Cognitive Behavioural Therapy group intervention for Obsessive Compulsive Disorder

Ellen Huish
Cardiff & Vale NHS University Health Board

Objectives/purpose
This follow-up evaluation of a group intervention for Obsessive Compulsive Disorder (OCD) was conducted to evaluate the longer-term effectiveness of the intervention.

Design
A longitudinal design using pre-intervention, post-intervention and follow-up outcome measures was adopted.

Background
The ten-week group intervention was based on Cognitive Behaviour Therapy (CBT) including Exposure and Response Prevention (ERP) as recommended by NICE guidance. Existing research suggests that group CBT including ERP is an effective treatment for OCD.

Methods
All individuals who had previously attended the group intervention and given consent to be contacted at follow-up were invited to take part in the study (n=50) via a letter. Responses were received from 20 individuals. All participants completed the Obsessive Compulsive Inventory (OCI) and either the CORE-34 or BAI and BDI-II measures.

Results
Data was analysed by comparing average scores for pre-intervention, post-intervention and at follow-up. The average OCI score dropped from 71 before the group to 45 after finishing the group. At follow-up, the average OCI score was 45. A repeated-measures one-way ANOVA with follow-up t-tests with Bonferroni corrections indicated a significant difference in average OCI score from pre-intervention to post-intervention, but no significant difference between post-intervention and follow-up scores.

Conclusions
This initial follow-up evaluation suggests that there were reductions in OCD symptoms from attending the Cognitive Behaviour Therapy group intervention and these were maintained longer-term.

Keywords
OCD, CBT, ERP, Group

Project supervisor
Dr Will Hallam
Decoding typicality with real tools from both dorsal and ventral visual stream regions

Ethan Knights, Fraser W. Smith, Courtney Mansfield, Diana Tonin, Holly Weaver, Jenna Green and Janak Saada
School of Psychology, University of East Anglia, Norwich, UK

Objectives/purpose
We tested if patterns of brain activity differed depending on whether grasping was consistent or inconsistent with how tools are typically grasped for use (e.g., grasp knife by handle rather than by its serrated edge).

Design
Block-design functional Magnetic Resonance Imaging (fMRI) paradigm with Multi-Voxel Pattern Analysis (MVPA).

Background
Tools are manipulable objects that, unlike other objects in the world (e.g., buildings), are tightly linked to highly predictable action procedures. Neuroimaging has revealed a left-lateralized network of dorsal and ventral visual stream regions for tool-use and knowledge, but the exact role of these regions remains unclear. Moreover, studies involving actual hand actions with real tools are rare as most research to date used proxies for tool-use including presenting visual stimuli (e.g., pictures) or action simulation (e.g., pantomime).

Methods
Participants (N=19) grasped the left or right sides of 3D-printed tools (kitchen utensils) and non-tools (bar-shaped objects) with the right-hand. Importantly, and unknown to participants, by varying movement direction (right/left) the tool grasps were performed in either a typical (by the handle) or atypical (by the business end) manner. In addition, for each participant separate functional localizer runs were obtained to define regions of interest.

Results
MVPA showed that typical vs. atypical grasping could be decoded significantly higher for tools than non-tools in hand-selective (but not body-, object- or tool- selective) regions of the lateral occipital temporal cortex and intraparietal sulcus.

Conclusions
These results indicate that dorsal and ventral hand-selective regions contain representations of how to appropriately interact with tools and that these are evoked even when they are irrelevant to task performance.

Keywords
fMRI, Tools, Grasping

Project supervisor
Stephanie Rossit
A cross-cultural study of modelling resilience among parents of children with autism spectrum disorder

Fathima Kodakkadan  
Anglia Ruskin University

Objectives/purpose  
The current study aims to establish and test a model of stress and resilience and examine the differences in the experiences of the parents of children with autism cross-culturally between India and UK.

Design  
A mixed method sequential explanatory design is undertaken for this research.

Background  
This research hypothesised that the result of parental stress and resilience depends on the interrelations between social and cultural factors such as the adaptive behaviour of a child, perceived social and emotional support, parental attitudes and affiliate stigma.

Methods  
Data collection is currently underway, and by August 2018, approximately 150 parents each from the UK and India are expected. Parents completed a set of online questionnaires, including: Vineland Adaptive Behaviour Scale(VABS), Parenting Stress Index(PSI-SF), Brief Resilience Scale(BRS), Multidimensional Scale of Perceived Social Support(MSPSS), Family Impact Questionnaire(FIQ), Affiliate Stigma Scale(ASS) and demographic questionnaire through online survey. With the complete dataset, correlation and regression analyses will be utilised to find out if stress and resilience will be predicted by social and cultural factors.

Results  
This research expects to find that the adaptive behaviour of the child with autism is positively associated with perceived supports, parental attitude toward the child, and resilience. A negative relationship is predicted between the adaptive behaviour of the child and parental stress. This research also predicts that parental stress will be negatively associated with perceived supports, parental attitudes and resilience, along with a positive relationship with affiliate stigma.

Conclusions  
This research might help to develop new culturally specific strategies to provide interventions that will help parents overcome stress and enhance resilience and also help to increase clinicians’ awareness and cultural responsiveness in order to support UK and Indian parents of children with autism.

Keywords  
autism, parental stress, resilience, adaptive behaviour, affiliate stigma.

Project supervisor  
Dr Steven Stagg, Dr Eimear Lee, Dr John Lambie
End-user perspectives in developing portable patient-led virtual reality tools for assessment and therapy of spatial neglect post-stroke

Helen Morse and Laura Biggart
University of East Anglia

Objectives/purpose
The key objective for this study was to identify the factors assisting and hampering the acceptability of using non-immersive Virtual Reality in domestic settings for assessment of and therapy for hemispatial neglect.

Design
Mixed methods, using focus groups, interviews and questionnaires.

Background
Spatial neglect is a debilitating neuropsychological condition affecting around 30-50% of stroke survivors. Currently there is no effective treatment for the condition. Virtual Reality (VR) provides a rich and interactive platform with strong potential to enhance therapy adherence and increase assessment sensitivity for spatial neglect, compared to paper-and-pencil measures.

Methods
Participants: stroke survivors (N = 7), carers (N = 3) and rehabilitation therapists (N = 7). Procedure: Three focus groups involving interactive demonstrations were conducted to explore perspectives on feasibility, acceptability and usability of non-immersive VR tools for assessment and rehabilitation of spatial neglect. Processing and analysis: Focus groups and interviews were audio recorded and transcribed. Transcripts were initially coded using a framework analysis and sorted into major themes.

Results
Factors that would assist and hamper acceptability of VR included: motivators, user customisation and equipment considerations. All participants had positive attitudes towards using home-based VR as part of stroke therapy and assessment for neglect.

Conclusions
Through collecting end-user perspectives, we identified key factors both assisting and hampering engagement and use of a home-based VR assessment and treatment of spatial neglect. It is hoped that addressing concerns and suggestions of end-users about new VR tools should increase the acceptability and usability and in turn increase therapy efficacy.

Keywords
Spatial neglect, Virtual Reality, Therapy, Assessment, Home-based

Project supervisor
Prof Valerie Pomeroy and Dr Stephanie Rossit
A joint parenting pathway involving community learning disability services and children's services: The experiences of parents, and health and local authority practitioners

Izzy Caller and Sally Kendall
Cambridgeshire & Peterborough NHS Foundation Trust,

Objectives/purpose
To examine service user and practitioners’ experiences of a pilot pathway between the Cambridgeshire Learning Disability Partnership (LDP) and Cambridgeshire Children’s Social Care (CSC) Services.

Design
The written records of interviews were examined using Thematic Networks Analysis (Attridge-Stirling, 2001) an established qualitative method that uses diagrams as a tool to structure and represent the themes during the process of analysis.

Background
Parents with intellectual (learning) disabilities face multiple challenges. They often receive help simultaneously from intellectual disability services and children’s services, though these have rather different aims.

Methods
Five mothers with LD, 4 CSC practitioners, 4 LDP practitioners (2 health, 2 local authority) were interviewed using a semi-structured schedule. Detailed notes were taken. The data were analysed using Thematic Networks Analysis (Attridge-Stirling, 2001). After 15 organising themes had been identified, these were grouped under five global themes “joined-up-ness”, “tensions”, “seeking clarity”, “what helps”, and “being human”. Sections of data were rated independently by another practitioner. The researcher’s position as an LDP staff member will have impacted on the data gathered.

Results
Service users valued person-centred working, and concrete advice and help. Practitioners focused on the Multi-Agency Meeting element of the pathway, because it increased services. Both service users and practitioners reported that support packages could be more joined up; currently they support either the parent’s or child’s needs.

Conclusions
Though the researcher’s position as a member of staff in the LDP may have affected the data, the findings had a number of implications for the implementation and development of the pathway.

Keywords
Intellectual Disability, Parents, Services

Project supervisor
Isabel Clare (NIHR CLAHRC East of England at Cambridgeshire & Peterborough NHS Trust)
Multiple dimensions of interceptive awareness predict facets of body image

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Anglia Ruskin University; Perdana University

Background
Previous research has identified a relationship between interoception (the sense of the physiological state of the body) and body image, where lower interoceptive awareness (IA) has been associated with more negative body image. However, relationships with facets of positive body image remain unexplored, and men and older adults are underrepresented in the available research. Therefore, we assessed the relationships between multiple dimensions of IA and multiple facets of body image.

Methods
646 British adults (447 women and 199 men) aged between 18 and 76 (M = 38.92, SD = 11.71) completed an online survey comprised of the Multidimensional Assessment of Interoceptive Awareness (MAIA), the Body Appreciation Scale-2, the Functionality Appreciation Scale, the Authentic Pride Subscale from the Body and Appearance Self-Conscious Emotions Scale, and the Appearance Evaluation, Appearance Orientation and Overweight Preoccupation subscales from the Multidimensional Body-Self Relations Questionnaire.

Results
Hierarchical regressions revealed significant predictive relationships between IA and all six facets of body image. Specifically, after accounting for gender, body mass index, and age, the MAIA variables accounted for an additional 44% of the variance for body appreciation, 29.6% for functionality appreciation, 23% for body pride, 23% for appearance evaluation, 6% for overweight preoccupation, and 5% for appearance orientation.

Conclusions
In addition to the previously-identified relationship with negative body image, we have demonstrated that IA is also significantly associated with facets of positive body image in healthy adult women and men. When considered in the context of previous literature, our findings extend the self-objectification hypothesis, which posits that individuals with low IA are more likely to evaluate their bodies in terms of appearance rather than effectiveness – by demonstrating that individuals with high IA are more likely to appreciate their bodies and the functions they perform, and are more resilient to unrealistic beauty standards.

Keywords
Interoception, Interoceptive Awareness, Body Image, Positive Body Image

Project supervisor
Prof Viren Swami
The hidden emergency service: Exploring the experiences of trauma and outcomes amongst operational staff in prison

Jodie Winterton
Her Majesty’s Prison and Probation Service

Objectives/purpose
This research explores the prevalence and impact of single critical incidents experienced by operational staff in prison. It was expected that impact of incidents might be mitigated by factors such as appropriate support offered to staff involved.

Design
Self-completed questionnaires were administered to operational staff, to record whether they had experienced traumatic incidents within the past two years, and to rate the level of post-incident trauma experienced. Longer-term impact and responses (inclus

Background
The aim was to identify the extent to which traumatic incidents are problematic for prison staff, and also how support services administered may influence outcome (i.e. reduce the likelihood of them experiencing long lasting post trauma stress symptoms). Research currently exists with a focus on Emergency service workers such as the Police and Fire Service; however there is a marked absence of studies considering trauma experienced by prison staff, who face similar challenges in their work. Research regarding other Emergency services also highlights the importance of appropriate support in mitigating the impact of trauma on individuals; it was recognised that this learning may also be applicable/of value to prison staff.

Methods
All operational staff within three prisons, selected as a representation of establishments, were encouraged to engage in this research. Respondents were able to complete questionnaires online through Survey Monkey, or complete paper copies of questionnaires made available for them at establishments. Data is currently in the process of being analysed using SPSS, to identify areas of significance and/or correlation.

Results
Results are currently in the process of analysis. However, responses appear to indicate significant rates of trauma experienced amongst operational staff. Any themes, relationships to factors such as level and quality of support received will be tested within analysis, in order to make any further conclusions.

Conclusions
To be completed by July 2018.

Keywords
prison officers traumatic incidents

Project supervisor
Giles McCathie
The straw that broke the camel's back': organisational factors leading to stress and burnout in operational staff

Jodie Winterton
Her Majesty's Prison and Probation Service

Objectives/purpose
The research explores the day-to-day stressors involved in the role of prison officer, exploring which areas may be most significant (and therefore a key predictor of stress and burnout in staff).

Design
A self-completed questionnaire was administered (based on a widely validated tool), measuring stress levels and their typology. Additional questions were included, which form part of the HMPPS staff survey, and which are used to measure the Employee Enga

Background
Research findings have concluded considerably (and indeed dangerously) low levels of wellbeing in operational staff. Since this time, organisational climate and values may have altered (including rates of assaults against prison staff, and suicide/ self harm at record highs), as well as resources and demands forming part of the prison officer role. It was hoped that particular value would come from obtaining information about respondents and understanding more about key work stressors.

Methods
All operational staff within three prisons, selected as a representation of establishments, were encouraged to engage in this research. Respondents were able to complete questionnaires online through Survey Monkey, or complete paper copies of questionnaires made available for them at establishments. Data is currently in the process of being analysed using SPSS, to identify areas of significance and/or correlation.

Results
Results are currently in the process of analysis. However, responses appear to indicate significant rates of stress experienced amongst operational staff. Any themes and relationships to factors measured will be tested within analysis, in order to make any further conclusions.

Conclusions
To be completed by July 2018.

Keywords
prison officer stress wellbeing engagement

Project supervisor
Giles McCathie
Decoding the sound of hand-object interactions in primary somatosensory cortex

Kerri M Bailey, Bruno L Giordano and Amanda L Kaas
University of East Anglia

Objectives/purpose
Here we explored whether hearing sounds of familiar hand-object interactions would trigger activity in early somatosensory cortex, in the absence of tactile stimulation.

Design
A within-subjects design was used to examine neural responses to different sound categories.

Background
Neurons, even in earliest sensory regions of cortex, are subject to a great deal of contextual influences from both within and across modality connections. Such connections provide one way for prior experience and the current context to shape the responses of early sensory brain areas.

Methods
In a rapid event-related fMRI experiment, right handed healthy participants (N=10) listened to five exemplars from each of three categories of auditory stimuli: hand-object interactions (e.g. bouncing a ball), animal calls (e.g. dog barking; familiar control), and pure tones (unfamiliar control). Participants listened attentively, and performed a one-back repetition counting task, which eliminated any need for a motor response during scanning. An independent finger-mapping localizer was completed afterwards, and used to define finger-sensitive voxels within anatomically drawn masks of the right and left post-central gyrus (PCG).

Results
Multivariate pattern analysis revealed significant decoding of different hand-object interactions within bilateral PCG, whilst no significant decoding was found for either control category. Crucially, in the finger-selective voxels, decoding accuracies were significantly higher for decoding hand-object interactions compared to both control categories in left PCG.

Conclusions
Our findings indicate that hearing sounds depicting familiar hand-object interactions elicit different patterns of activity in PCG, despite the complete absence of tactile stimulation. Thus, cross-modal connections from audition to early somatosensory cortex transmit content-specific information about familiar hand-object sounds. This finding is consistent with Predictive Coding models, which suggest the key goal of even the earliest sensory areas is to use the current context, together with prior knowledge, to predict forthcoming stimulation.

Keywords
multisensory, somatosensory cortex, fmri, mvpa

Project supervisor
Dr Fraser Smith
Validation of the Early Language Processing assessment across UK and India

Laia Fibla and John Spencer
University of East Anglia

Objectives/purpose
The objective of this study is the development and cross-cultural validation of the Early Language Processing (ELP) tool. ELP measures speed of processing, fast-mapping, comprehension vocabulary and retention of new words.

Design
The ELP task consists of two blocks of 34 and 29 trials separated by a 5-minute retention interval. On each trial, a pair of pictures is displayed on the screen for 2000 ms. Then a gaze contingent character appears in the middle and names the target. The

Background
Children exposed to early adversities are at a high risk of delays in their cognitive development. Language development is a key predictor of later cognitive abilities, but diagnosis of atypical language trajectories is usually not reliable until after infancy. Furthermore, these measures do not assess the underlying cognitive processes that support language development. Thus, it is crucial to develop reliable, sensitive and culturally appropriate early measures.

Methods
We are gathering data from two populations with different backgrounds, languages and cultures. The current sample consists of 25 children between 18 and 21 months old from India. Data collection for the same age group in the UK is ongoing until July.

Results
Mixed regression models are used to examine relations between variables as well as group differences (India versus UK).

Conclusions
We developed an efficient, culturally-sensitive and predictive measure of early stages of language processing. Our data will provide novel insights as to how early word learning processes are related to each other both within and across the two populations.

Keywords
language development, word learning, cross-cultural comparisons

Project supervisor
Larissa Samuelson
When East Meets West: Exploring how cultural identity impacts upon East Asian postgraduates’ experiences of distance learning

Laura Tan
The Open University

Objectives/purpose
How do cultural differences impact upon East Asian postgraduates’ experiences of distance learning?

Design
I identify as British mixed race and was born in London to a Singaporean father and English mother. I have spent 26 years exploring first hand how cultural identity has shaped my experiences and now am in the third year of exploring empirically how culture

Background
Existing studies in this area have mainly been quantitative, focussed on attainment and retrospective. They have also mainly been conducted in the United States, New Zealand and Australia. Far fewer studies have employed a qualitative approach, focussed on the student experience and involved distance learners from different cultural backgrounds.

Methods
The inclusion criteria for my study was that the students had to be current Master’s students at The Open University and they also had to self-identify at least in part as East Asian - broadly referring to students from cultural backgrounds such as Chinese, Malaysian, Singaporean, Korean, Japanese. The exclusion criteria for my study was undergraduate students to overcome potential power relations as I teach undergraduate social sciences. I also did not include Indian/Pakistani under Asian despite the term sometimes referring to students from this region. I conducted 10 main study student interviews and 2 main study staff interviews. For the main study, 5 males and 5 females were interviewed. Students identified with being British, Scottish, Chinese, Japanese, Malaysian and often held multiple identities combining where they had grown up and where they had studied. Students were studying for either an MA in English, Masters in Business Administration, MSc Systems Thinking in Practice or MSc in Development Management. Students were residing in 6 different countries: The UK, Austria, Saudi Arabia, China, Malaysia and Japan. The 1:1 Skype semi-structured interviews lasted between 40 mins – 1 hr 30 mins. The interview schedule included questions about factors affecting the decision to engage in distance learning, perceived benefits and barriers of being East Asian and studying in a Western learning context as well as support available to students. Interviews were audio recorded and transcribed verbatim. The data has been analysed using a constructivist Grounded Theory approach supported by the use of NVivo software to aid coding.

Results
The data has been analysed using a constructivist Grounded Theory approach supported by the use of NVivo software to aid coding. Five initial themes have been found: Upward Social Mobility, Decreasing Cultural Gaps, Family Values, Internal Motivation and External Motivation. These are subject to change and may be renamed/reorganised prior to the conference due to the iterative nature of Grounded Theory coding cycles.

Conclusions
East Asian postgraduates learning at a distance did not feel traditional ‘culture shock’ but instead felt ‘culture bumps’ - more subtle, nuanced cultural differences in the digital classroom and this may be due to the unique nature of distance learning. At this early stage, it would seem that students’ decision to engage with distance learning were what you would expect from many students: to become more upwardly mobile, to further their careers, to help provide for their families, to do their families proud and due to internal motivation. An unexpected finding was that the students wanted to talk about not just what helped them decide to engage but what helped them to sustain their studies, what kept them in and kept them going despite the obstacles. Students reported that they felt that cultural gaps were decreasing perhaps due to increased globalisation and internationalisation of HE. Students felt that their strong work ethic and values such as face-saving and ‘kia su’ contributed to their success and could be traced back to their families, their roots and their parents. Students spoke of two types of motivation: the internal kind which referred to an innate drive to study, a ‘learner trait’ or personality as well as the external kind which referred to sources such as OU Associate Lecturers, Student Support
Decoding unimodal and multimodal episodic memory in EEG

Megan Thompson
University of East Anglia

Objectives/purpose
The aim of the present study is to explore the modifications of scalp EEG power spectra and connectivity during unimodal and multimodal event recollection.

Design
We employed a within subjects design, measuring scalp electrical activity for unimodal (audio or visual) and multimodal (audiovisual) event memories.

Background
Many features make up re-experiencing a memory, yet little is known about the integration of features in different modalities during memory retrieval. Previous research implicates the left lateral parietal cortex with neural activity changes during episodic recollection (Vilberg & Rugg, 2008). In particular, fMRI research has shown the angular gyrus in left parietal cortex has greater activity during retrieval of multimodal episodic memories compared with unimodal memories, which were only represented in sensory areas (Bonnici et al., 2016).

Methods
In a study phase before EEG acquisition, participants were presented with three audio clips, three visual clips, and three audiovisual clips. These video clips, each 6s long, were presented with a word stimuli of what the clip showed. Participants practiced recalling these clips as vividly and accurately as possible. During a test phase, continuous EEG signal was recorded with a 63-channel active electrode system (Brain Products GmbH) embedded in a nylon cap following placement according to extended international 10/10 system. Participants were shown a cue word from earlier to instruct them which clip to retrieve and asked to mentally replay the associated clip.

Results
We expect to find a difference in spectral power between unimodal and multimodal recall, with sensory activation for unimodal retrieval and left posterior cortex for multimodal retrieval.

Conclusions
Our study will extend the findings of Bonnici et al. (2016) to explore the neural signature of unimodal and multimodal memories using EEG.

Keywords
episodic memory, multimodal, EEG

Project supervisor
Heidi Bonnici
Parents and teachers understanding of PTSD in children

Mr Aaron Burgess
University of east Anglia

Objectives/purpose
To identify what parents and teachers know about childhood PTSD.

Design
A quantitative, cross-sectional, between-groups design was used to identify what parents and teachers know about PTSD.

Background
Parents and teachers are typically the main gatekeepers for children understanding and seeking help for ill health. Having greater knowledge of a disorder increases help seeking behaviours and can increase positive perspectives on treatments. Therefore it is important that those adults in a child’s life are fully aware of what PTSD is.

Methods
An online survey was sent to school for staff teams and parents of the children to complete. 379 parents and 159 teachers completed the survey assessing PTSD knowledge across three domains (traumatic events, symptoms and treatments). Percentages of correct answers formed a PTSD knowledge score. Teachers and parents were compared using t-test analysis and predictor variables of PTSD knowledge were analysed using logistic regression.

Results
Preliminary analysis shows parents and teachers accurately select true answers across all three domains. However participants identified many false items as being true. Many participants thought that parents divorcing could lead to PTSD and drug and alcohol abuse was a symptom. Teachers were found to have higher traumatic event knowledge compared to parents.

Conclusions
Results suggest that professionals working in child mental health should work closer with parents and schools to accurately educate about PTSD and what it can look like. The high amounts of false positives could suggest that parents and teachers may miss-diagnose a child with PTSD and therefore not understand what is actually occurring for that child.

Keywords
PTSD, knowledge, parents, teachers

Project supervisor
Dr Richard Meiser-Stedman
Addressing coercive control in adolescent intimate relationships

Kerry Manning and Belinda Winder
Nottingham Trent University / PSUK Ltd

Objectives/purpose
To report on a quantitative study which aimed to identify factors predictive of coercive control perpetration amongst adolescents.

Design
A quantitative study design was adopted, using an online questionnaire.

Background
Whilst much literature has been published on intimate partner violence within adult relationships, there is a lack of empirical research around the abusive behaviours perpetrated by adolescent intimates. This is despite UK survey data highlighting that adolescents suffer various psychological difficulties because of the problems they encounter in their intimate relationships. In December 2015, coercive control was recognised as a criminal offence in the United Kingdom. This study measures the extent to which perpetration of coercive control can be predicted by a pathway of negative childhood experiences and the subsequent shaping of problematic personality traits. Early interventions with young people can then be tailored to address risk factors identified along this pathway.

Methods
The questionnaire was administered to 265 adolescents between the ages of 11 and 17 from a secondary school in Cambridgeshire. Several validated measures were used, along with researcher generated questions concerning experiences of abuse and exposure to new technologies, such as social media and gaming.

Results
Initial analysis indicates that, contrary to the adult relationship literature, coercive control is equally prevalent amongst girls and boys in the adolescent sample. Further analysis explores whether personality is an important factor in determining whether adolescents engage in coercive control in their intimate relationships and whether exposure to certain technologies increases or maintains the behaviour.

Conclusions
The conclusion addresses whether there is a need for school and community relationship interventions to place greater focus on coercive control, in addition to violence prevention, particularly in the context of modern-day technology pressures.

Keywords
adolescents, coercive control, technology, personality, interventions

Project supervisor
Dr Karen Slade
Emotion recognition and social functioning in young adults in an at risk mental state

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Objectives/purpose
To determine the relationship between emotion recognition ability and reduced social functioning in individuals identified as in an At Risk Mental State for developing psychosis.

Design
This study is a quantitative, cross-sectional design.

Background
It has previously been shown that individuals in an At Risk Mental State (ARMS) of developing psychosis have difficulties with facial emotion recognition, but the mechanisms underpinning this are unclear. In addition, reduced social functioning is a key characteristic of psychosis and is part of the diagnostic criteria to identify individuals as ARMS. However, the role of emotion recognition in reduced social functioning in ARMS has not been clearly delineated. As such, this study has three objectives. First, to investigate what facial processing mechanism (configural/featural) underlies emotion recognition difficulties in ARMS individuals; second, to investigate if emotion recognition performance is related to social functioning in ARMS individuals; and third, to determine if this relationship exists independently of anxiety, depression and psychotic-like symptoms.

Methods
34 individuals identified as ARMS participants recruited from an Early Intervention for Psychosis service (CAMEO Cambridge) and 34 healthy control participants recruited from the student population of UEA, matched on the basis of age (18-25 years) and gender (male and female), completed a computerised facial emotion recognition task. ARMS participants additionally completed the Time Use Survey, the Depression Anxiety and Stress Scales and Brief Schizotypal Symptoms Inventory.

Results
Analysis of data ongoing.

Conclusions
The findings of this study may inform novel interventions, such as social cognitive remediation therapy, for improving facial emotion recognition performance and social functioning in ARMS individuals.

Keywords
psychosis; facial emotion recognition; configural; featural; social functioning;

Project supervisor
Dr Joanne Hodgekins/ Dr Fraser Smith
Autobiographically significant concepts within the individual

Rachel Lambert and Michael Hornberger
University of East Anglia

Objectives/purpose
This study furthers previous research by investigating ASC in older (65-85 years) and younger (18-35 years) adults and examines the impact of time of memory, associated factual knowledge, familiarity, and emotional salience on the AS enhancement effect.

Design
A mixed-methods design was used to examine differences within participants in reaction time, accuracy and factual knowledge for those famous faces associated with personal memories and those without. Differences in the AS enhancement effect between the two.

Background
Previous investigations in Autobiographically Significant Concepts (ASC) have shown that when general semantic concepts, such as famous names, become associated with a personal episodic memory, these concepts evolve and become more episodic in nature resulting in superior recognition memory.

Methods
Participants were 51 younger adults (18-35 years), and 48 older adults (65-85 years). They completed a dead or alive judgement task, followed by an old-new recognition task, using a set of created stimuli made up of faces of dead and alive famous individuals from across their lifespan. This produced accuracy and reaction time data for each of the stimuli. Unique to this study, participants then completed a questionnaire examining familiarity, emotional salience, and factual knowledge and associated personal memories for each of the presented stimuli.

Results
Participants had faster reaction times and higher accuracy for famous faces associated with a personal memory. These faces were also associated with higher familiarity, emotional response and factual knowledge. To ensure the AS effect was responsible for the task performance enhancement, familiarity and factual knowledge were controlled in each participant. These analyses revealed that the effect of AS on reaction times and accuracy was still present.

Conclusions
This study provides insight into semantic-episodic interactions within older and younger adults, particularly demonstrating the influence of episodic memory when completing largely semantic guided-tasks.

Keywords
Semantic Knowledge, Episodic Memory, Cognition, Ageing,

Project supervisor
Louis Renoult
A developmental course of differences in perception of the Ebbinghaus and Ponzo illusions between children and adults

Radosław Wincza and Martin Doherty
University of East Anglia

Objectives/purpose
The developmental course of the Ebbinghaus and Ponzo illusion is still a subject of debate, as research has produced mixed evidence.

Design
The study was conducted using an experimental design. Similarly to, Doherty et al., (2010) and Doherty et al., (2008), it uses a two-alternative forced choice paradigm, developed by Phillips, Chapman, and Berry (2004). Participants were asked to indicate

Background
Considering previous research on both the Ebbinghaus illusion (EI) and Ponzo illusions (PI), it becomes clear that the evidence for their developmental course is far from being consistent. The different results obtained could be due to different methodologies applied in the previous studies. In Duemmler, Franz, Jovanovic, and Schwarzer (2008), the participants made comparisons only between a sole circle and another target circle with the surroundings; while Káldy and Kovács (2003) manipulated only the size of the circle with smaller surroundings. Some studies exposed the participants to the illusion only once or twice (Predebon, 1985; Weintraub, 1979; and Hanley and Zerbolio, 1965), which could result that the answers were due to chance rather than a genuine effect of age.

According to Doherty et al., (2010) many of the previous studies on the EI have not taken many important factors into account such as the target circles were often of the same size, which does not provide any measure of the strength of the context circles. Doherty and colleagues also argued that many previous studies have arranged the smaller circles as a close ring around the target circle, while the larger circles were further away, which they claim is then “confounded with the separation between targets and surrounds” (p. 715).

None of the previous studies on the PI have manipulated both of the lines; only the line that is traditionally perceived as shorter was manipulated (like in; Brislin, 1974; Quina, & Pollack, 1972; Predebon, 1985; Leibowitz, & Judisch, 1967; and Farquhar, & Leibowitz, 1971). It does not provide the full account of the illusion; if younger children are better in discriminating those differences, they should be equally good at discriminating the differences when both the top and bottom line are manipulated. The design of this study aims to fill the gap in current research.

Methods
Using a two-alternative forced-choice paradigm, it is aimed to measure the difference between children and adults in detecting fine differences in ambiguous visual stimuli. 183 children aged 4 to 11 years old, and 105 adults took part in this study. This study aims to solve the issues in many present studies, like a few responses per child or inconsistency in manipulating the target circles or lines.

Based on the previous evidence, it is hypothesised that the susceptibility to the Ebbinghaus illusion will be increasing with age, while the susceptibility to the Ponzo illusion will increase with age, and then decrease in adulthood.

Results
The results showed that for the Ebbinghaus illusion the magnitude of the illusion is increasing with age, i.e. children were more accurate in detecting small size differences compared to adults. No developmental course for the Ponzo illusion was observed. A 2 x 2 repeated measures ANOVA on the performance on the discrimination task in Ebbinghaus and Ponzo illusion between children and adults showed a significant effect; F(1, 227) = 43.507, p = <.001, ηp2 = .161, and also a significant interaction between task and age; F(6, 221) = 7.090, p = <.001, ηp2 = .158. The interaction was followed up with a one way ANOVA with post hoc test. There was a statistical difference between groups on the EI; F(6, 227) = 7.723, p = .000, but not for the PI; F(6, 227) = 1.583, p = .153. Post hoc comparisons with Tukey correction have shown significant differences on the EI between six-year-olds and all age groups (except five-year-olds); p = .001, but none for the PI.
Grasping properties modulate visual search

Seraj Brugi  
University of East Anglia

Objectives/purpose  
Previous research has indicated that simply viewing objects can automatically potentiate the actions they afford even when no action is required. Here we investigated if objects we commonly interact with capture visual attention regardless of whether we a

Design  
We used eye-tracking in a visual search task to investigate the effect of target and distractor graspability on search latency and object recognition.

Background  
Previous studies have suggested that objects and their associated actions are commonly represented. Here, we investigated whether grasping properties influence visual search.

Methods  
Twenty-four participants (undergraduates at the University of East Anglia) completed a computerised task in which a written target cue was presented before an eight object array appeared, with participants having to locate the target. Familiar objects were split into two categories according to their graspability: graspable [objects that are grasped for use (e.g., a knife)] and ungraspable [objects that are not grasped for use (e.g., blender)].

Results  
We found that participants were significantly faster to locate ungraspable than graspable targets. Moreover, distractors from the same category as the target increased search latency, but only when the target was graspable.

Conclusions  
These findings indicate that the grasping properties of objects modulate visual search performance, even when this property is irrelevant to the task performance. Future work will investigate if different levels of graspability and frequency of use of objects affect visual search.

Keywords  
graspability, manipulability, visual search, visual attention

Project supervisor  
George Malcolm & Stephanie Rossit
The role of gesture in learning about spelling

Verity Richards and Sarah Critten
Anglia Ruskin University

Objectives/purpose
Objectives. The aim was to explore the gesture production of children on a spelling production task, testing whether (i) children learning about spelling will produce gesture-speech mismatches and that (ii) these signal knowledge in transition.

Design
A pre-test, instruction, post-test design was used.

Background
Children and adults accompany their speech with gestures, especially when explaining something difficult like how they solved a problem. Research has shown that these gestures do not always match what the child is saying; a child's gestures can convey information different from that expressed in speech, revealing what the child knows but cannot (yet) say – gesture-speech mismatches. Gesture-speech mismatches have been identified to signal children who are ready to learn. This phenomenon has been well documented in math and science tasks; this project tests this in the domain of spelling.

Methods
Children (N = 90) aged 4 - 5 were recruited from Primary Schools and were tested individually on a spelling production task. This task focuses on an aspect of phonological awareness: onset-rime. In this task, children are shown words spelled on a board using magnetic letters (e.g. sold), and asked to change the word into another similar word (e.g. cold). They are then asked to explain both their production process (how they did it) to signify procedural awareness, and the similarity between the original and new words to signify explicit understanding of rime. All sessions were videotaped and the simultaneous speech and gesture codes were compared to identify gesture-speech matches and gesture-speech mismatches.

Results
The majority of children accompanied their explanations of spelling with gesture and gesture-speech mismatches were prevalent. Data will be reported that explore the relationship between speech and gesture in learner spellers, comparing the gesture production of spellers, partial spellers and non-spellers and testing whether gesture-speech mismatches indicate readiness to learn.

Conclusions
These findings add to an important literature concerning the role of gesture in learning and demonstrate that gesture can provide a useful signal to teachers to help them identify children whose knowledge about spelling is in transition.

Keywords
gesture, spelling, developmental

Project supervisor
Elizabeth Kirk
Positive cultural attitudes to ageing are related to inter-generational contact and better preservation of brain health and cognitive function

Victoria Bristow
University of East Anglia

Objectives/purpose
The hypothesis was that cultures with positive attitudes towards ageing would be related to healthier brain ageing in terms of structure and cognitive functioning when compared to cultures with more negative attitudes to ageing.

Design
A literature review, in line with BPS ethics, using secondary sources to examine the evidence around attitudes to ageing and outcome in terms of brain and cognitive functioning.

Background
Rates and patterns of cognitive decline show cultural variability. Routes towards healthier ageing present opportunities for individual and societal wellbeing.

Methods
Research describing cultural attitudes to ageing and related effects on social functioning, brain structure and cognitive function were collated and examined for patterns.

Results
Positive cultural attitudes to ageing were associated with the cultural integration of older adults, for example, inclusion in the work-place and maintenance of intergenerational relationships. Whereas negative cultural attitudes to ageing were related to intergenerational segregation, which in turn was related to depression and cognitive decline in older adults. Lack of positive intergenerational contact was connected to negative cultural attitudes to ageing. In younger adults, this had a developmental impact leading to poorer outcomes in terms of life expectancy, brain health and cognitive functioning in later life. Children who experienced positive intergenerational contact showed lasting improvements in their attitudes towards ageing.

Conclusions
More positive attitudes to ageing were related to healthier lifelong development in terms of longer lifespans, healthier brains and better preservation of cognitive functions in later life. Intergenerational contact appeared to improve attitudes towards ageing, thus improving the well-being of older adults and potentially investing in the long-term cognitive health of the children involved. This research linked positive attitudes to ageing with better ageing outcomes in terms of brain and cognitive functioning. It identified intergenerational contact as a tool to improve attitudes related to ageing. This means that intergenerational contact has the potential to change lives for the better, both in the short and longer term.

Keywords
Ageing, older adults, cultural attitudes, intergenerational contact, cognitive health

Project supervisor
Dr Louis Renoult
A thematic analysis of the experience of frontline staff working with children and young people with a diagnosis of Autistic Spectrum Disorders (ASD) who display problematic sexual behaviour

Virginia Painter
University of East Anglia

Objectives/purpose
Problematic sexual behaviours can occur in young people with Autistic Spectrum Disorders (ASD). There are few evidence-based interventions to address the problem or their needs. This study is exploring the experience of frontline staff when working with t

Design
Semi-structured interviews were conducted with twelve frontline professionals. Data was analysed thematically synthesising frontline staff’s experience of working with these young people and capturing key features of interventions they feel are needed to

Background
Problematic sexual behaviours occur in young people with Autistic Spectrum Disorders (ASD) with limited evidence-based interventions to address the problem or their needs.

Methods
12 Participants came from local authorities working with young people with ASD who had displayed problematic sexual behaviour. Participants had worked with this population. As part of the interview, participants were shown summaries of three evidence based interventions found during the literature search and asked their opinions of these interventions. The interviews were transcribed and analysed using Thematic Analysis

Results
The study is currently in the data collection phase, but will have preliminary findings for the conference.

Conclusions
The study is currently in the data collection phase, but will have preliminary findings for the conference.

Keywords
autism, harmful sexual behaviour, interventions

Project supervisor
Dr Laura Biggart (University of East Anglia)
Do neurodevelopmental disorders predict impaired affordance perception? An online stimulus-response compatibility study

Zoe Withers, Charlotte Morley, Catherine Stallard and Stephanie Rossit
University of East Anglia

Objectives/purpose
The aim of our current study was twofold. Firstly, we aimed to replicate the seminal findings from Tucker and Ellis (1998). Secondly, we aimed to test whether higher traits for dyslexia, dyspraxia and ADHD would elicit poorer performance in the SRC task.

Design
We designed an online simulation of Tucker and Ellis' stimulus-response compatibility (SRC) paradigm. Traits of dyslexia, dyspraxia and ADHD were measured to investigate how they would affect participants' performance on the task.

Background
It has been suggested that the perception of affordances automatically elicits motor response codes. However, the majority of affordance research has neglected to test how affordance perception may differ in various clinical populations.

Methods
One-hundred-and-forty-five right-handed participants viewed images of various graspable objects, with their handles oriented either to the left or right. They had to make speeded left or right-handed key-press responses depending on whether the object presented to them was upright or inverted. Reaction time (RT) and accuracy were measured. This was followed by a dyslexia, ADHD and dyspraxia questionnaire to deduce high or low neurodevelopmental traits.

Results
As predicted, the results replicated the findings from Tucker and Ellis (1998). Interestingly an interaction between dyspraxia, handedness and mapping was also found; there was a significant difference in the hand by mapping effect in comparison to controls which could not be explained by reaction time. However, contrary to expectations no effect was found for dyslexia or ADHD.

Conclusions
Since being the first study to successfully produce an online SRC task, our study has wide implications for future research. For instance, our results suggest that the online task has potential to be used as a diagnostic tool for dyspraxia.

Keywords
affordances, perception, dyslexia, ADHD, dyspraxia

Project supervisor
Stephanie Rossi
Workshops (A – Z by first name)