Developmental and Social Psychology Section
Annual Conference 2015

ABSTRACT BOOK

9-11 September 2015, The Palace Hotel, Manchester
Presentations - Wednesday 9 September 2015

KEYNOTE
The Ins and Outs of Social Development: How Children Navigate Social Groups
Professor Dominic Abrams, University of Kent

Much is known about the development of social categorisation, self-biases, social perspective taking and social perception. Much is also known about the dynamics of social groups and social identity. Curiously little research has connected these two areas of research, in part reflecting the complexities of doing so, and in part reflecting their different intellectual origins in developmental and social psychology, respectively. In this paper I consider how children develop models of group dynamics that they can then use to interpret others’ actions and to plan their own within a given social context. I describe an international programme of research that has provided the basis of the developmental subjective group dynamics model. The model is rooted in the social identity perspective that addresses the question of how groups come to engage in coherent, coordinated behaviour for collective ends. This research focuses on children's inclusive or exclusive responses to different types of group member, their expectations of peer's responses to those members, their reasoning about these responses, and social cognitive capacities that underpin their judgements. This research is offered as an example of the ways that social and developmental psychology can mutually benefit by focusing on integrative questions.

SYMPOSIUM
Leadership and Deviance
Carola Leicht, University of Kent

It is well established that being representative for one’s group is crucial for leadership emergence and success. This symposium combines research showing that leaders can, under specific circumstances, transgress from group norms and group prototypicality without necessarily jeopardising their leadership position. In four talks, presenting cutting edge research we discuss how (1) ethical and unethical leadership is perceived differently depending on the leaders position (2) how group status (3) and group size affects perceptions of leader transgressive behaviours (4) how challenging norms can de-bias leader selection processes. Given that leaders play a crucial role in shaping directions of groups, gaining an understanding of these processes will allow us to understand how groups can steer themselves into ethical dilemmas but also how minorities might be able to gain access to leadership positions. The symposium will open with a presentation on how transgressive behaviour of leaders within organisations is perceived (Catarina Morais, 20 min). The subsequent two presentations explore moderators that facilitate or hinder transgressive behaviours of leaders showing that group status (Isabel Pinto, 20 min) and group size (Giovanni Travaglino, 20 min) affect whether how transgressions of leaders are tolerated or not. The final presentation (Carola Leicht, 20 min) shows how normative transgressions within groups can debias leadership selection processes by triggering a mindset of greater tolerance. The discussion (Dr Georgina Ransdley de Moura, 20 min) will highlight how this research helps to understand how leaders can innovate and change a group for better or worse.
PAPER 1

Judging (un)ethical leaders
Catarina Morais, Georgina Randsley de Moura & Dominic Abrams, University of Kent

Background: Group members that deviate from the norm are particularly derogated because they threaten the value of the group. However, research also shows that ingroup leaders are granted a transgression credit. The aim of this research is both to apply these findings to Organisations, and to understand if the process of judging ethical and unethical leaders follows the same or opposite paths.

Method: In both experiments we manipulated the Leader’s Behaviour (Ethical vs Unethical) and, in Experiment 2, participants were also informed about the leader’s membership (Ingroup vs Outgroup). Then, participants (N=60, N=120) were asked to judge the leader’s behaviour and to provide their perceptions regarding the organisation to which the leader belongs. The results were analysed mainly through Mean Differences and Analysis of Variance.

Findings: Ethical Leaders were viewed as more typical and received better evaluations. Participants also perceived the team work as more effective in the ethical leader condition. Moreover, they stated that, in this condition, they were more optimistic about the future in the organisation and their role in it. These results were intensified when the ethical leader was a member of the ingroup. Regarding the unethical leaders, their behaviour was viewed as more justifiable, less self-promoting and less embarrassing in the ingroup condition.

Discussion: Our findings extend previous research by showing that the processes underlying the judgment of ethical and unethical leaders are different and flexible, depending on group membership and affecting the way members perceive their dynamics within the organisation.

PAPER 2

Pro-group deviance vs normative blindness: When group norms become inappropriate
Isabel R. Pinto & José M. Marques, University of Porto 2Institute of Social Sciences, University of Lisbon; Ana C Leite & Georgina Randsley de Moura, University of Kent

Background: Subjective group dynamics theory (e.g., Pinto, Marques, Levine, & Abrams, 2010) posits that ingroup deviants threaten normative standards. Through deviants’ depreciation, normative members state their commitment to the violated norm. Ingroup leaders, however, are given a transgression credit when benefitting the group (Randsley de Moura & Abrams, 2013).

Method: Two experiments test the reaction to two controversial leaders (transgressive leaders which transgression benefits the group vs normative leaders which normative behaviour harms the group) and agreement with norm change, depend on the social identity component salient in the situation: normative and ideological component, and relative ingroup status.

In both experiments participants judged one of two “controversial” leaders. Half of participants were primed with the group’s normative and ideological standards (Experiment 1 n = 91). In Experiment 2 (n approx. 110) we manipulated the ingroup (Positive vs. Uncertain) relative status.

Findings: Participants rejected deviant leaders and agreed with restrictive norms more when normative standards were salient (Experiment 1) and the ingroup assumed a positive
status (Experiment 2). Individuals tolerated deviant ingroup leaders particularly in an uncertain status situation (Experiment 2). Normative leaders triggered the opposite pattern of judgements. Agreement with opening moral boundaries was stronger in the uncertain ingroup status condition, irrespectively of controversial leaders (Experiment 2).

**Discussion:** Moral judgments seem extremely flexible and goal-oriented: the need for ingroup higher status leads to a higher normalization of deviant profitable leaders and norm flexibility, whereas a secure social identity and the salience of moral integrity lead to rejecting such “immoral” conduct.

3691

**PAPER 3**

**Evaluations of Transgressive Ingroup Leaders: The Impact of Relative Group Size**

Giovanni A. Travaglino, Dominic Abrams & Georgina Randsley de Moura, Centre for the Study of Group Processes, School of Psychology, University of Kent

**Background:** An emergent body of research indicates that, under certain circumstances, group members apply a double standard when judging ingroup leaders - they respond more positively to transgressions by their leader than by non-leaders. However, a leader’s behavior is likely to have important repercussions on the group’s image. Here we contend that protecting the group’s image may be particularly important for groups of proportionally smaller size. Members of smaller groups self-stereotypy more strongly with their groups. Thus, they may be more concerned if their leader engages in transgressions.

**Method:** Two experiments investigated how proportionate group size affects evaluations of transgressive leaders. Experiment 1 (N = 66) tested how group members from either a smaller or a larger group evaluated a transgressive target (either ingroup or outgroup, either leader or member). Experiment 2 (N = 53) used corruption as a form of transgression. Across experiments, proportionate ingroup size was manipulated by altering the size of the outgroup.

**Findings:** Across two experiments and different transgressions, results indicated that ingroup leaders from relatively larger, but not smaller, groups benefit from more positive evaluations. Experiment 2 also found that faced with a transgressive leader, members of a smaller group reported greater embarrassment than members of larger groups vis-à-vis leaders’ actions.

**Discussion:** This research demonstrates that proportionate group size affects individuals’ evaluations of transgressive leaders. Members of larger groups are more tolerant toward their transgressive leaders, whereas members of smaller groups seem to apply consistent criteria when judging either a transgressive member or a leader.

3692

**PAPER 4**

**Transferring tolerance: How challenging norms can de-bias leader selection**

Carola Leicht & Georgina Randsley de Moura, University of Kent; Richard J Crisp, Aston Business School

**Background:** Society and consequently workplaces are becoming increasingly diverse. Despite this demographic trend, there is still a lack in leadership diversity. Contributing to this are motivational biases to choose leaders in regard to their group prototypicality, leading to biases against minorities. In this research we asked whether a diversity experience that includes a norm deviation could lead to a mindset of greater tolerance affecting leadership evaluation and selection processes.
Method: Study 1 (n = 58) draw on research showing that diversity experiences that challenge stereotypes reduce a reliance on heuristic thinking and established a diversity prime that challenged stereotypes. Study 2 (n = 61) tested whether this diversity prime would reduce group prototypicality biases in subsequent leader selection processes.

Results: Study 1 showed that the established diversity prime challenged wider societal norms of participants. Study 2 showed that after undergoing this priming procedure participants no longer relied on group prototypicality information when choosing a leadership candidate.

Discussion: This research shows that challenging norms can lead to a mindset of greater tolerance and reduce biases in leader selection processes. We tested whether these effects would transfer and de-bias leadership selection processes by reducing reliance on group prototypicality information. We discuss the implications of these findings for research highlighting the positive aspects of norm-deviation in groups and leaders and the emerging broader benefits of diversity in the workplace and society.

3711
EMPERICAL PAPER
The psychosocial transitioning of the maternal self
Natalia Concha, London School of Economics

Background: The research captures the emergence of the maternal self in the urban periphery of Cali, Colombia. It bestows the right of the subject living in poverty to be recognised as a full human being, by revealing the psychosocial and community reality of the maternal transition, from the reception of the pregnancy to recounting the early mothering experience.

Methods: A qualitative design is applied at pre-birth (T1) and post-birth (T2) using individual interviews and focus groups with vignettes capturing the voices of 49 pregnant women, 21 grandmothers and 17 stakeholders, comprising the T1 database. At T2, 63% of the overall T1 sample is reached. Data are analysed thematically using NVivo.

Findings: The psychosocial trajectory depicts a model of pushing and pulling forces which slide the mother in-and-out of aligning with herself and her child. Challenges pushing her away from recognition include disruption, disembodiment, precariousness, lack of support and the community gaze. Resources acting as pulling forces are found through a ‘keep going forward’ attitude, support from key scaffolds and cultural practices, shared mothering and representing the baby as a symbolic scaffold.

Discussion: The model extends our understanding of the mother-child encounter by visually depicting how relationships slide in-and-out and shift. It uses psychosocial scaffoldings to highlight the relational importance of key scaffolds and cultural practices of containment for maternal subjectivity in the community. The model can be applied to work with families from diverse backgrounds, making it more conceivable for people to accept ambivalence in their relationships.

3630
SYMPOSIUM
Understanding the role of executive functions in the development of mathematics proficiency
Lucy Cragg, University of Nottingham

This symposium brings together researchers using a range of approaches to address the role of executive functions, the skills required to monitor and control thought and action, in
mathematics in typical and atypical populations. This builds on issues raised in the keynote talk on mathematics in infants born preterm by Victoria Simms, recipient of the Neil O’Connor Award. The symposium aims to present the latest advances in our understanding of the relationship between executive functions and mathematics, and highlight the range of methodological approaches that are being taken. Taken together, the papers in the symposium highlight the important role of visuospatial working memory and inhibitory control in mathematics achievement. Four papers of 20 minutes will be presented, followed by a 20 minute discussion. Paper 1 uses a correlational approach to explore the role of executive functions in three components of mathematical competency: factual knowledge, procedural skill and conceptual understanding, all of which are related to visuospatial working memory and inhibitory control. Paper 2 evaluates the role of executive function impairments in children with developmental dyscalculia, finding evidence of deficits in visuospatial short-term and working memory as well as inhibitory control. Paper 3 uses an artificial learning paradigm to explore the role of inhibitory control in mathematics in more detail, concluding that inhibitory control may be important for learning about number. Finally, Paper 4 presents data from an intervention study suggesting that training working memory and inhibitory control in preschoolers can lead to improvements in mathematical reasoning.

3631
PAPER 1
The role of executive functions in cognitive components of mathematics
Lucy Cragg & Sophie Richardson, University of Nottingham; Sarah Keeble, Hannah Roome & Camilla Gilmore, Loughborough University

Background: There is now clear evidence for a link between executive functions and mathematics, however our understanding of the mechanisms underpinning this relationship remains limited. There are widely considered to be 3 components to mathematical competency: factual knowledge, procedural skill and conceptual understanding. This study aimed to discover if executive function skills are differentially involved in these cognitive components of mathematics, and if these components mediate the link between executive functions and overall mathematics achievement.

Methods: 79 8-year-olds, 63 12-year-olds, 66 14-year-olds and 72 21-year-olds completed a battery of maths and executive function tasks, including measures of mathematics achievement, factual knowledge, procedural skill and conceptual understanding as well as verbal and visuospatial short-term and working memory, inhibition and shifting.

Findings: Regression analyses revealed that visuospatial working memory (VSWM) and numerical inhibition demonstrated a significant relationship with mathematics achievement as well as factual knowledge, procedural skill and conceptual understanding. Verbal working memory was significantly related to mathematics achievement and factual knowledge. There were no interactions with age. Mediation analyses showed that including the three cognitive components of mathematics fully mediated the relationship between numerical inhibition and mathematics achievement. In contrast, VSWM independently predicted mathematics achievement over and above its role in the cognitive components of mathematics. VSWM was a stronger predictor of procedural skill than of conceptual understanding.

Discussion: These results suggest that, despite subtle variations, VSWM and numerical inhibition play an important role across all components of mathematics in children, adolescents and adults.
The development of inhibitory control and non-symbolic numerical processing in early childhood

Rebecca Merkley & Gaia Scerif, University of Oxford

**Background:** The conflict between continuous and discrete quantity in non-symbolic arrays influences performance on non-symbolic magnitude comparison tasks, especially in younger children, and, these tasks therefore measure inhibitory control in addition to number sense.

**Methods:** Three to six-year-old children performed an Animal Size Stroop task in which they were required to ignore the physical size of animal pictures and compare their real-life dimensions as well as a non-symbolic magnitude comparison task in which the congruency between discrete and continuous quantity was manipulated. In a complementary line of research, we used an artificial learning paradigm to investigate the influence of congruency on adults’ and six-year-olds’ formation of novel symbolic representations. Participants were trained to associate abstract symbols with congruent or incongruent non-symbolic arrays of dots.

**Findings:** Results revealed that Animal Size Stroop accuracy was significantly associated with accuracy on incongruent magnitude comparison trials, and conflict effects on both tasks were smaller in older compared to younger children. Additionally, adults’ novel symbolic representations were significantly influenced by congruency. Unlike adults, children were unable to associate abstract symbols with non-symbolic arrays and, therefore, no effects of congruency were found.

**Discussion:** These findings suggest that the relationship between inhibitory control and non-symbolic processing changes across development and that inhibitory control may be important for learning about number.

A short executive function training program benefits preschoolers’ working memory and mathematical reasoning

Emma Blakey & Daniel Carroll, University of Sheffield

**Background:** Recent research has reported improvements in various executive functions after cognitive training during middle childhood and adulthood. However, few training studies have targeted the preschool years—a time when executive functions undergo rapid development. It is also unclear how far any training benefits transfer to structurally different tasks and whether beneficial effects can arise from short training programs. In addition, despite the widely reported correlation between executive functions and mathematics ability in childhood, very few training studies include measures of mathematics ability—yet training studies are one way we can test this relationship in a causal way.

**Methods:** Fifty-four 4-year-olds (M age: 52 months) completed four computerised sessions of executive function or active control tasks. The effects of training were examined on non-trained measures of executive function both one week post-training and three months post-training. Measures of mathematics ability were also included at the three month follow-up.

**Findings:** The training group significantly improved their working memory from pre-training relative to an active control group one week after training. Notably, this effect extended to a task sharing few surface features with the training tasks, and continued to be apparent three months later. In addition, the benefits of training extended to an untrained measure of
mathematical reasoning and this was related to improvements in working memory and inhibitory control over training.

**Discussion:** The results suggest both inhibitory control and working memory are important for mathematical reasoning, and that preschool interventions may be one way to scaffold development before children start school.

---

**3360**

**EMPIRICAL PAPER**

**Japanese and Italian children's sensitivity to teacher and peer criticism**  
*Ai Mizokawa, Meiji Gakuin University; Serena Lecce, The University of Pavia*

**Background:** Research has shown that individual differences in ToM (theory of mind) affect children's sensitivity to criticism, but it is not known whether cross-cultural differences exist on this relationship.

**Methods:** To address this gap, we recruited and assigned 76 Japanese and 76 Italian 6-year-old children to one of two conditions: a teacher condition and a peer condition. They were administered a battery of ToM tasks, a verbal ability test, and a puppet-based interview (Heyman, Dweck, & Cain 1992). The children’s response to criticism was measured on the following three dimensions: emotional response, (self) ability rating, and motivation to persevere.

**Findings:** The results showed that Japanese and Italian children with better understanding of second-order ToM were more sensitive to teacher (but not peer) criticism as indexed by their ability ratings. Regarding cross-cultural differences, the Japanese children showed higher levels of positive emotion after teacher criticism than the Italian children, irrespective of their second-order ToM understanding. Within the group of children with low levels of second-order ToM understanding, the Japanese children showed greater motivation to keep trying after teacher criticism than the Italian children. Furthermore, the Japanese children (but not the Italian children) showed higher levels of positive emotion and lower levels of ability rating after teacher criticism than after peer criticism. The Italian children showed marginally significant lower levels of both positive emotion and ability rating after teacher criticism than after peer criticism.

**Discussion:** Cognitive and socio-cultural factors that may have contributed to the children's response to criticism are discussed.

---

**3643**

**EMPIRICAL PAPER**

**The Relationships Between Parent and Child Gesture Use**  
*Charlotte Wray & Courtenay Frazier Norbury, Royal Holloway, University of London*

Gesture is a key facet of human communication and selectively predicts oral language attainments in typically developing (TD) children (Rowe & Goldin-Meadow, 2009). In addition, links have been found between parental and child gesture use (Rowe, Özçalışkan, & Goldin-Meadow, 2008). Gesture may serve as an important compensatory mechanism for children with language impairment (LI) (Iverson & Braddock, 2011). However, gesture is a complex task integrating social, cognitive and motor skills. Thus, the ability to use gesture effectively in populations in which these precursor skills may be compromised is uncertain.

The current research explores the relationship between gesture and language in children with LI and their parents. Sixty children aged 7-8 years old and their parents participated. We observed parent-child interaction during tasks designed to measure both spontaneous and elicited gesture use. In addition we also have background measures of children's language
ability. This includes measures of expressive and receptive vocabulary and grammar. Through these tasks we will measure (1) the relationship between parent and child gesture use and child language ability and (2) the relationship between parent and child gesture rates. Specifically, we hypothesise that firstly, significant positive correlations will be found between child gesture use and language in both groups. Secondly, significant correlations will be found between parent and child gesture rates in both groups. We also predict that parents of children with LI may gesture more frequently than parents of TD children to compensate for their child’s language difficulties.

3750
EMPIRICAL PAPER
The relationship between attachment, parental supervision and antisocial behaviour in adolescents
Sajid Humayun, University of Greenwich
Background: We have previously reported that attachment security in adolescence predicted psychological adjustment including antisocial behaviour (ASB). However, the mechanism by which attachment security affects adjustment in adolescence is not clear. Some theorists have argued that this relationship is mediated by disrupted autonomy development and poor parental monitoring.
Methods: Data from three parallel studies of 237 adolescents (aged 9-17), ranging from normal- to high-risk were combined. Attachment security was assessed using the Child Attachment Interview. Parental Monitoring was assessed using the Alabama Parenting Questionnaire completed by parents and children. ASB was assessed using a self-report delinquency questionnaire, parent- and teacher-reported SDQ conduct problems and interviewer-rated clinical diagnostic interview of Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD) symptoms.
Finding: Whilst attachment security was predictive of parent and child reported monitoring, its effect on ASB was not mediated by parental monitoring. Attachment security predicted interviewer-rated ODD symptoms and parent and teacher reported SDQ conduct problems independently of parental monitoring. Both child and parent reported monitoring predicted CD symptoms, SDQ conduct problems and self-reported delinquency.
Discussion: In conclusion, the results confirm our previous findings that attachment security predicts adjustment in adolescence independently of concurrent parenting but do not provide evidence for the claim that the effect of adolescent attachment security on teenage delinquency is mediated by parental supervision. Instead attachment security and parental supervision are both important factors in reducing adolescent delinquency and operate independently. Therefore parenting interventions for adolescent delinquency should aim to both improve attachment security and parental monitoring.

3617
EMPIRICAL PAPER
‘Passing’ and the performance of identity amongst Hungarian Roma
Anna Dobai, University of Dundee
Background: One response to discrimination is to conceal the social identity devalued by the outgroup and exhibit an alternative (valued) one. Although an important interaction management strategy, ‘passing’ has received little empirical attention. This paper explores participants’ understandings of this strategy.
**Methods:** Semi-structured interviews were conducted with 24 Hungarian Roma (aged 22 – 65; 10 females, 14 males; 16 with higher education). The interviews focused on their identity concerns and presentational strategies. Data were analysed in accordance with the method of grounded theory and a variety of themes identified concerning the costs and benefits of passing.

**Findings:** Although often assumed to be a strategy adopted by those exhibiting a low group identification, these data show passing could also be adopted by high identifiers with this being context-dependent. Moreover, although passing is often assumed to be an individualistic strategy of social mobility, these data suggest passing can serve collective social identity concerns. For example, passing may allow individuals to access new experiences which can then be a basis for developing a Roma identity less constrained by outgroup stereotypes of the ingroup. These data also show that passing is not without risk: Because one’s Roma identity is hidden, majority group members may be less constrained in expressing prejudices. Accordingly, passing may be avoided because it increases exposure to prejudice.

**Discussion:** Often passing is characterised as a relatively 'easy' individualistic strategy. These data suggest this is a limited image and that passing has a variety of functions.

---

**3748**

**EMPIRICAL PAPER**

**A Longitudinal Exploration of Mother-Infant Interaction during Dyadic Book Sharing**

*Lisa Wheatley, University of Hertfordshire*

**Background:** This study aimed to examine the differences in the quantity and quality of verbal and non-verbal behaviour produced by low, middle and high socioeconomic status (SES) mother-infant dyads during book sharing. Furthermore, what features of this dyadic interaction are associated with infant developmental proficiency?

**Method:** Dyads from low, mid and high SES backgrounds were video-recorded looking at two novel picture-books with their infants for 10 minutes at two time-points. There were 44 dyads at time-point one, aged 10-14 months, and 33 dyads at time-point two, aged 16-20 months. Infant's language, gesture production, and stimulation in the home were measured in both visits and a micro-analysis was performed on the videos. At time-point 2 infant cognitive abilities were also assessed.

**Findings:** At time-point one low SES mothers produced less speech overall, less positive speech types, and fewer symbolic gestures during the book sharing activity than mid and high SES mothers. Low SES infants also spent more time disengaged than mid SES infants. Low and mid SES mothers produced less appropriate mind-related comments and reengaged their infants’ attention less often than high SES mothers. At time-point two micro-analysis data will be presented examining differences in the interactional style of dyads across SES and how these relate to time-point one. The developmental measures will also be explored in relation to interactional behaviours produced by mother and infant.

**Discussion:** The findings can help inform interventions to enrich the early learning environment for lower SES infants.

---

**3625**

**EMPIRICAL PAPER**

**Online parenting support: parents’ experiences of parenting forums and relationships with parenting dimensions**

*Alana James & Marco Cinnirella, Royal Holloway, University of London*
**Background:** Web-based parenting resources and interventions, and evaluations of their effectiveness, have proliferated. However, parents are also increasingly making use of internet forums where they may receive support from other parents. There is little investigation of this more informal support. This study explored parents' reasons for using online peer support, the nature of these experiences, and associations with parenting dimensions.

**Methods:** 177 parents in the UK (93.4% women) completed an online survey including questions on level of, and nature of, parenting forum use, as well as standardised measures of parental stress, parenting satisfaction, parenting behaviours, and child behaviour.

**Findings:** Over a fifth used forums at least once a week, a fifth at least once a month, and the remainder infrequently. The most common reasons for use were around gaining reassurance about their child and parenting practices, and the most common forums used were Mumsnet (46.57%) and Netmums (31.86%). Greater use was significantly associated with higher parental stress and lower parenting satisfaction. Positive and negative experiences within forums were both significantly associated with greater use, and with higher parental stress, negative parenting behaviours, and greater child behaviour difficulties. 18.0% reported having changed their parenting practices based on forum advice.

**Discussion:** Online parenting forums are important sources of peer support for parents, particularly those who are experiencing greater stress and less satisfaction, and negative experiences do not appear to deter parents from accessing such support. Future research could investigate causality directions in relationships between forum experiences and parenting dimensions.

---

**3721**

**EMPIRICAL PAPER**

**Impact of group praise on young people’s responses to success and failure**

_Yvonne Skipper & Rebecca Bebbington, Keele University_

**Background:** It has been found that when young people are succeeding, the type of feedback they receive has no impact on their feelings. However, when they are failing, those who have previously received person forms of feedback, i.e. “You are clever” show more negative responses than those who received process forms i.e. “You worked hard”. This has previously been examined in individuals but there is little understanding of how these forms of feedback could impact young people’s responses to success and failure in a group.

**Method:** The current study invited 99 young people (44 aged 14 years and 55 aged 17 years) to play a game of ‘Pointless’ in small groups. The game was fixed so that groups succeeded three times, failed twice and then succeeded one more time. After each of the first three successes the group were given either person, process or no feedback. Following the failures and last success they received no feedback. After each round of the game participants individually answered questions about their performance, affect, persistence and feelings about the group. Their discussions were audio recorded to allow analysis of the types of conversations they had.

**Findings:** Preliminary analysis suggests that following success, participants in the person condition felt most negative in terms of performance, affect and persistence. However, following failure all participants felt equally negative.

**Discussion:** The current findings are in direct contrast to previous research examining the impact of feedback on individuals. The group setting may therefore have a strong impact on how young people respond to feedback.
Families experience of Poverty Stigma in Education
Suzanne Day, University of Central Lancashire

**Background:** The objective of this study is to highlight and critically analyse perceived inequalities in the primary to secondary school transition, aiming to offer a critique of neo-liberal discourses towards “poverty” and education within the context of increasing family participation in secondary education.

**Method:** A qualitative design was used to identify factors impacting the primary to secondary school transition. Focus groups (n=27) and semi-structured interviews (n=43) were held with ‘hard to reach’ families, recruited via community groups. Semi-structured interviews (n=4) were held with secondary school staff managing school transitions, recruited via schools. Quantitative data was analysed using SPSS to identify any correlations in engagement, SES and attainment. Qualitative data was analysed using Grounded Theory, constructing theory from emerging data.

**Findings:** Public stigma was experienced sometimes manifesting itself in self-stigma and the ‘why try’ effect. Parents were fearful of stigma by association, in terms of family name, housing area and previous involvement with school. Parents felt that systematic stigma was present, with practices aimed at families with more financial resources and an increased awareness of the school system.

**Discussion:** The results contribute to emerging work around increasing ‘hard to reach’ groups’ participation in education, highlighting how home-school communications can have an impact on parental engagement. The findings can be used to inform policy when introducing social inclusion initiatives in education, and advise teacher training courses.

---

“A platform to leap off and jump off”. Contextualist pedagogy in a UK primary school
Alison Torn, Leeds Trinity University

**Background:** Early childhood education is reflected in two dominant models; a maturationalist model based upon a child-centred philosophy and an academic model based upon a pre-determined curriculum. This paper focuses on a third model emerging from a social pedagogy little used in the UK. This contextualist model is based upon a progressive ideology, where knowledge is co-constructed within a community of learning, and draws on Vygotsky’s concept of obuchenie, which refers to the dialectical relationship between teaching and learning. Reporting on a qualitative study conducted in a Reggio Emilia inspired infant school, the paper examines this contextualist style of learning by exploring how different stakeholders experience the teaching/learning relationship in a non-traditional educational setting. 

**Method:** 10 semi-structured interviews were conducted with parents and teachers, and 6 unstructured interviews were conducted with children across three educational year groups (reception, years 1 & 2) within 1 primary school. Interview data was transcribed and analysed using Interpretative Phenomenological Analysis.

**Findings:** Analysis of parents’ and teachers’ interviews revealed polarised themes of ‘education as liberation’ and ‘education as constraint’, with the concept of ‘freedom’ central to children’s cognitive, emotional and social development. This dichotomy between liberation and constraint was mediated by a third theme elicited from teachers’ interviews;
'negotiating agendas'. Analysis of teachers’ and children’s interviews revealed common themes around ‘child as citizen’ and ‘communities of learning’.

**Discussion:** Findings lend support to the co-construction of learning through an emergent curriculum, involving all participants engaging in learning collaborations, thus liberating teachers and children from role constraints.

---

**3416**

**REVIEW PAPER**

**Psychosocial support among refugees of conflict in developing countries: A systematic review**

*Khalifah Alfadhli & John Drury, University of Sussex*

**Background:** For the first time since WW2, there are around 52 million forced displaced people around the world, 86% of whom are hosted in developing countries. The aim of this paper is to explore the needs and stressors among refugees of conflicts in developing countries, and their group-based social support mechanisms, with a view to developing a social psychological analysis of the process.

**Methods:** A systematic literature search of peer reviewed journal articles was carried out. Literature was filtered from 1010 down to 64 using the following factors: type (refugee); cause (conflicts); location (developing countries).

**Findings:** As refugees move towards prolonged urban displacement phase, needs and stressors become different than those of acute phase; their concern shifts from loss of life to making a living. Refugees struggle the most with the stressors of daily life. Daily stressors affect far more people than PTSD, but many psychosocial support interventions focus on the latter. Studies of refugees suggest that this does not give enough attention to inner capacities and resilience of refugee communities, which have intrinsic natural social support mechanisms.

**Discussion:** The positive effect of social support on mental health of displaced people has been established; however the process of such effects is not clear. We found group identity was important, though this was not addressed from the perspective of social psychology. We therefore suggest that the social identity approach can be applied to shed light on the emergence of refugee identity and its role in empowerment through activating social support networks.

---

**DEVELOPMENTAL MARGARET DONALDSON AWARD**

**Development of Spontaneous Social Cognition: Infancy, Social Environment and Autism Spectrum Disorders**

*Atsushi Senju, Birkbeck, University of London*

A fundamental question in developmental psychology and developmental cognitive neuroscience is how the genetic and/or epigenetic predisposition (nature) interacts with experience in the environment (nurture) to navigate the course of functional brain development. My research programme aims at investigating how our brain develops the mechanisms to achieve social interaction and cognition. To better understand the interaction between predisposition and social environment, my research focuses on (1) early development of the spontaneous processing of social communication in infants, (2) the effect of postnatal social environment on the development of social cognition, and (3) the mechanisms underlying atypical development of social cognition in individuals with autism spectrum disorders (ASD). To achieve this goal, I have developed several experimental paradigms which can assess spontaneous processing of social information, with minimal
need of explicit task structure or verbal instruction. In this talk, I will discuss some of the representative studies in these three topics. Firstly, I will introduce a series of experiments demonstrating that young infants are sensitive to the communicative information conveyed by the social signals such as eye gaze, and respond adaptively to these signals. Secondly, I will present how postnatal social environment, such as the experience of eye gaze communication, affects the development of social cognition. The effect of cultural norm on the use of eye contact was studied by contrasting the attention to face and gaze between British and Japanese children and adults. The effect of familial environment has been studied by following the social skills development of infants of blind parents, who have qualitatively different experience of gaze communication with their primary caregivers. Thirdly, I will discuss how to characterize the atypical development of social cognition in individuals with ASD, with the focus on the potential dissociation between the capacity to process social information under explicit instruction and clear task structure, and the tendency to spontaneously process the same information without such task structures or instruction. These studies will highlight the role of predisposition and social environment on the development of social cognition, and in the functional brain development in general.

3517
EMPIRICAL PAPER
Making inferences from text: it's vocabulary that matters
Rebecca Lucas & Courtenay Norbury, Royal Holloway University of London

Background: Many children with communication disorders have reading comprehension difficulties, and in order to target interventions effectively it is important to identify which specific components of comprehension are especially challenging. The current study explored the relationship between text inferencing skill, autistic symptomatology and language phenotype.

Method: Typically developing children (n=32), children with autism spectrum disorders (ASD) and age-appropriate structural language skills (ALN; n=27), children with ASD and language impairment (n=15) and non-autistic children with language impairment (n=12) were administered the Neale Analysis of Reading Ability and responses to literal and inferential questions were analysed.

Results: For the sample as a whole, inferencing competence was predicted by oral language skill, with autistic symptomatology not contributing significant variance. However, whilst only 12.5% of typically developing children found answering inferential questions disproportionately challenging relative to answering literal questions, one third of children with ALN demonstrated inferencing deficits, as did over 50% of children with language impairments, regardless of ASD status.

Conclusions: These results indicate that children with language impairments are most likely to find inferencing challenging, but practitioners will also need to monitor the inferencing skills of children with ASD who have good language and single word reading skills.

2967
EMPIRICAL PAPER
Individual-Environment Transactions and Subjectivity: An Alternative Approach to Behaviour Change
Kimberley Hill, University of Northampton; Michael Pilling & David Foxcroft, Oxford Brookes University
Objectives: Using subjectivity to understand maladaptive alcohol consumption in young people.

Design: Prevention approaches for alcohol misuse typically specify intentions as an important antecedent of behavior, but intentions are often poor predictors of behavior. An Ecological approach understands behaviour as it emerges from individual-environment transactions. Meaning exists in the interdependence of an individual and their environment, in terms of affordances. As affordances are relational, subjectivity is no longer characterised by hidden representations, but could provide a window onto drinking behavior as it emerges from the relationship between individuals and their environment.

Methods: A non-participant observational study within UK licensed premises highlighted affordances for promoting or inhibiting consumption, from the subjective perspective of an independent observer. Photo-elicitation interviews and phenomenology were then used to uncover the individual subjectivity which exists between drinkers and their drinking environments. These findings provided a varied concourse of alcohol-related affordances for a Q-methodology study. Forty university students aged 18-33 ranked sixty statements along a symmetrical grid, based on their perceptions of their drinking behaviours and drinking environments.

Results: Factor analysis and post-sort interviews uncovered four factors: conscious & compliant; aware & autonomous; unaware & unanimous; canonical & concerned. These categories reflected functional differences in the subjective perspectives that are held by groups of individuals about their drinking behavior and drinking environments.

Conclusions: This research illustrated how subjectivity can be used as a tool to investigate consumption in context. As an alternative conceptual approach for understanding drinking behavior, these findings have implications for prevention, policy and for future research.

3544 EMPIRICAL PAPER

Exploring four to seven year olds' self-reports of solitary, prosocial and aggressive behaviours

Katie Rix, Pam Maras & Claire Monks, University of Greenwich

Background: Research into children's behaviours often makes use of reports from adults and peers and concentrates on solitary, prosocial and aggressive acts. However, little research makes use of children's self-reports, particularly as young as four years old. Therefore, this study aimed to explore four to seven year olds' behavioural self-reports over the course of 15 months.

Methods: Moving animations were used to ask four to seven year olds' how frequently (lots, sometimes, never) they engaged in 11 different solitary, prosocial and aggressive behaviours. Children (N = 273) were seen in one to one sessions at three time points over the course of fifteen months.

Findings: PCA and Cluster Analysis were used to consider children's self-reports across all behaviours over the three time points. Children's responses fell into the three categories of solitary, prosocial and aggressive, but that different reports were provided for excluding behaviour. In addition, there were five distinct groups of children at each time point - prosocial/social, excluders, anti-social/solitary, solitary and a group who provided low behavioural reports across all forms, although membership of these groups was unstable over the three time points.

Discussion: Results confirmed that there were distinct components within children’s behaviour self-reports and that these could be categorised as aggression, prosocial and
solitary behaviour. This overlaps with previous findings which make use of these categories and supports the idea that children are able to distinguish between different behaviour categories when providing self-reports. There were five distinct profiles of children’s reports at each time point, but there was an inconsistent change in this suggesting a lack of stability in their behaviour and/or reports.

3739 SYMPOSIUM

Psychology of inequality: Identity, stigma, and sense of control at the bottom of the socioeconomic spectrum

Jennifer Sheehy-Skeffington, Brunel University

Increased attention toward socioeconomic inequality has underlined the importance of studying psychological processes across the socioeconomic spectrum. Through four papers (20 minutes each, 20 minutes discussion), this symposium aims to bring new perspectives and methods to bear on this question. Its papers use novel experimental manipulations, field research, and analyses of cross-national datasets to shed light on the importance of identity and stigma as mechanisms central to the psychology of socioeconomic status (SES), and of education and personal control as domains in which their effects play out. Nieuwenhuis first presents research on SES-related disparities in educational outcomes, pointing to SES as an important source of identity that impacts pupils’ likelihood of applying to high status universities. Moving from SES to education as an identity marker, Kuppens presents evidence that the least educated have lower levels of identification with and less positive attitudes towards their educational group, and are more likely to be blamed for their situation than the poor. Sheehy-Skeffington moves onto the implications of the subjective sense of low SES, showing that it can lead to decreases in personal control, a self-appraisal central to achievement and well-being. Finally, Henry demonstrates how low subjective SES manifests in the attitudinal realm, with evidence that authoritarianism among the less educated is driven by the stigma attached to low education. By bringing social psychological methods to the study of low SES, this symposium reveals how one’s position in society can shape one’s attitudes, one’s aspirations, one’s self-efficacy, and even one’s sense of self-worth.

3740 PAPER 1

Accounting for unequal access to higher education: The role of social identity factors

Marlon Nieuwenhuis & Antony Manstead, Cardiff University; Matthew Easterbrook, University of Sussex

Background: Socioeconomic status (SES) plays an important role in explaining educational attainment in the UK, even after controlling for individual ability. Previous research has not paid much attention to the role of perceived psychological barriers in explaining this phenomenon. In this paper we examine how social identity factors, SES and individual ability influence higher education choices.

Method: In two cross-sectional field studies conducted in secondary schools (N = 223; N = 253) we assessed (using questionnaire measures) how well SES, grades, identity compatibility and psychological fit (defined by measures of permeability, belonging and identification) predicted the higher education choices of students aged 16-18.

Findings: The results provide support for the notion that social identity factors play a role in university choices, while controlling for grades. Using structural equation modelling, we show
that school students who expected to fit well into a higher or middle status university were more likely to apply for higher ranking universities in general (Study 1: \( \beta_{\text{high}} = .23 \); Study 2: \( \beta_{\text{middle}} = .16, \beta_{\text{high}} = .16 \)), whereas the opposite was the case for pupils who expected to fit well into a lower status university (Study 1: \( \beta_{\text{low}} = -.22 \); Study 2: \( \beta_{\text{low}} = -.27 \)). Expected psychological fit, in turn, was (in)directly influenced by socioeconomic status and identity compatibility.

**Discussion:** Together, these studies show that social identity factors play a significant role in explaining higher education choices among those from low SES backgrounds.

### 3741

**PAPER 2**

**Education-based groups: Identification, stigma, attributions, and in-group bias**

Toon Kuppens & Russell Spears, University of Groningen; Matthew Easterbrook, University of Sussex; Antony Manstead, Cardiff University; Bram Spruyt, Vrije Universiteit Brussel

**Background:** People's educational level is positively related to health and well-being but also to many social, political, and intergroup attitudes. It is therefore surprising that education is rarely studied as a basis for social categorization. We investigate whether education-based categorization is meaningful to people and can be a source of identification, group esteem, educational in-group bias, and negative attributions.

**Methods:** We used data from two representative UK surveys (n=57,709) that included a one-item measure of identification with one's educational level. Two MTurk studies (n=441 and n=875) included a multidimensional identification measure. In addition, in the latter two studies in-group bias was measured by participants' evaluation of four fictitious individuals for whom information about educational level was systematically varied. In a student sample (n=75) we assessed attributions for the low status of the less educated as compared to other groups, using self-report questions. All data were analyzed using the General Linear Model.

**Findings:** Higher educated people identify more with their educational level than less educated people do. This difference is strongest for measures of group esteem (\( R^2=.20 \)). Higher educated people also show education-based in-group bias (\( \eta^2=.02 \)), whereas less educated people do not. Finally, higher educated people blame less educated people for their situation (to a larger extent than they blame the poor, \( \eta^2=.26 \)).

**Discussion:** This work establishes education as a (heretofore neglected) source of social identity. For the less educated, this identity is a very negative one. The consequences of this stigma deserve more attention in research and public policy.

### 3742

**PAPER 3**

**Out of my hands: Low socioeconomic status diminishes personal sense of control**

Jennifer Sheehy-Skeffington, Brunel University; Jim Sidanius, Harvard University

**Background:** Despite cross-national evidence for the link between socioeconomic status (SES) and personal control, the causal nature of their interrelationship remains opaque. To address this, we implemented novel experimental manipulations of subjective SES in an online US sample.

**Methods:** Study 1 (n=81) examined the impact of receiving bogus SES feedback on state sense of power, while Study 2 (n=74) examined its impact on personal control. Study 3 (n=129) assessed whether the effect of perceived SES is specific to control-related self-evaluation, while Study 4 (n=201) investigated whether the effects are specific to status-related feedback, as opposed to any positive/negative feedback. Study 5 (n=96) and Study 6...
introduced two different experimental manipulations, of implicit SES perceptions, and of the experience of SES, respectively.

**Findings:** Results demonstrated significant negative effects of perceptions of low SES on state sense of power (Study 1, \( \eta^2 = .08 \)) and self-reported personal control (Study 2, \( \eta^2 = .07 \)). These effects were specific to control-related self-evaluation (Study 3, SESxTrait-Type interaction \( \eta^2 = .03 \)), and to status-related feedback (Study 4, SESxFeedback-Type interaction \( \eta^2 = .001 \)). They were replicated with an implicit manipulation of subjective SES (Study 5, \( \eta^2 = .09 \)), and with a manipulation of SES-related experience (Study 6, \( \eta^2 = .14 \)). The effect of subjective SES on personal control was mediated by its effect on state sense of power.

**Discussion:** By introducing novel methods for manipulating subjective SES, this paper shows for the first time that SES perceptions can cause changes in personal control—results pertinent both to debates on inequality and to the ability of psychological science to inform them.

**PAPER 4**

**A status-based explanation for endorsement of authoritarianism by the uneducated**

*P. J. Henry, New York University - Abu Dhabi; Mark J. Brandt, Tilburg University*

**Background:** For decades social scientists have documented the robust negative relationship between education and authoritarianism. This relationship has been explained largely as a function of deficiencies in intelligence, lack of sophisticated thought, and lack of a proper induction of democratic values among the uneducated. Our research, based on the theory of stigma compensation, adds to these explanations a factor that is external to the uneducated, that of the devalued social status of the uneducated in their environment.

**Methods:** Two studies using different methodologies showed evidence for the hypothesis. Study 1 was from the World Values Survey (WVS), including 218,696 respondents from 87 countries, analysing participant education and their endorsement of authoritarianism, alongside country-level measures of the value of education in the country. Study 2 surveyed a representative sample of 897 American adults concerning their education and endorsement of authoritarianism, with a manipulation of a worth affirmation.

**Findings:** The results showed, in Study 1, a stronger relationship between authoritarianism and education in countries that valued education more (b = -.18) compared to less (b = -.11), interaction p < .01. Study 2 provided evidence for a mechanism, showing that the relationship between education and authoritarianism (b = -.11) is significantly weakened when participants affirm their social worth (b = -.04), interaction p = .01.

**Discussion:** The results suggest that the devaluing of the uneducated may be responsible in part for their greater endorsement of authoritarianism, and not just about any cognitive deficiencies they may have. These data add to our understanding of authoritarianism among low-status groups.

**DISCUSSANT**

*Matthew Easterbrook, University of Sussex*

Discussant will provide comments on all four papers, integrating their insights and pointing to implications and unanswered questions.
**EMPIRICAL PAPER**

**Human egocentrism: Levels of personal fable and its relationship with the illusion of transparency and the self-serving bias**

*Roshan Rai, Chloe Herrick & Manissa Patel, De Montfort University; Peter Mitchell, University of Nottingham*

**Background:** Research investigated the relationship between the personal fable and the imaginary audience (egocentric beliefs in “specialness” and of being the “focus-of-attention” respectively) with two experimental measures of egocentrism: the illusion of transparency (the overestimation of the detectability of one’s thoughts and feelings) and the self-serving bias (the over-attribution of positive outcomes to oneself).

**Experiment 1**

**Methods:** Thirty-nine 18-23 year olds read to an audience. The reader and audience then rated how nervous the speaker appeared (1=not at all nervous, 11=completely nervous). Participants completed the personal fable and imaginary audience scales.

**Findings:** The illusion of transparency was obtained: readers indicated they looked more nervous than audiences indicated (F (1, 37)=9.3, p=.004). Lower levels of personal fable were associated with an overestimation of nervousness, whilst higher levels were associated with an underestimation (r (39)=−.37, p=.022); the same pattern was found for the subscale omnipotence (a belief in unrealistic competence) and the illusion of transparency (r (39)=−.35, p=.029).

**Experiment 2**

**Methods:** Twenty-one 12-13 year old, Twenty-two 14-15 year olds, and twenty 18-21 year olds rated their performance after a group task, whilst other group members also rated their performance (1=most effective, 5=least effective). Participants completed the personal fable and imaginary audience scales.

**Findings:** The self-serving bias was obtained as males overestimated their performance relative to group estimations (t (37)=−3.84, p<0.001). Higher levels of omnipotence were associated with larger self-serving biases (r (63)=−.37, p=.003).

**Discussion:** Over two experiments, those with higher levels of personal fable appeared systematically egocentric in a predictable manner.

---

**3454**

**EMPIRICAL PAPER**

**How do reading and listening to stories facilitate vocabulary acquisition?**

*Alessandra Valentini & Rachel Pye, University of Reading; Carmel Houston-Price, University of Reading – Malaysia; Jessie Ricketts, Royal Holloway University of London*

**Background:** Vocabulary learning is a multidimensional process: the acquisition of the word’s meaning, phonology and orthographic form are separable aspects of the word learning process. Studies have shown that both reading and listening to stories foster vocabulary development, and some work suggests that when new words are presented simultaneously in both oral and written modalities children tend to learn the words better than when words are presented in one modality. This study explores how children learn the phonological, orthographic and semantic information about novel words encountered in story context.

**Methods:** 63 Year 4 children were presented with two stories, each including 8 novel words repeated three times, the first mention accompanied by a definition. One story was presented orally (Listening Condition) and one orally and visually (Combined Condition), to test hypotheses about the added benefit of orthography.
**Findings:** Children learnt the orthographic forms of the words only when exposed to them, while showing reliable semantic and phonological learning in both conditions. While children showed similar performance in the two conditions in a semantic task that required them to recognise the category of the words, their performance was better in the Combined Condition than in the Listening Condition when the task required the recognition of detailed semantic features of the target vocabulary.

**Discussion:** In this study, detailed semantic learning was facilitated by the presence of orthography. A second study will clarify whether this benefit stems from the presence of orthography per se, or the simultaneous presentation of orthography and phonology.

---

**EMPIRICAL PAPER**

“I don't need that, but I'll buy it anyway”. Brand advertising – how much do we really understand?

*Hayley Gilman & Martin Rowley, Keele University*

**Background:** The ability to recognise advertising and understand its commercial intent (i.e. realising that ads aim to persuade people to buy something) has been seen as providing individuals with protection against advertising’s potential adverse effects. Results from our previous studies have shown that, in both adults and children, pairing celebrities with unknown brands, without endorsement, leads to more positive explicit and implicit attitudes towards the brand. The reported study examines the relationship between adults’ advertising literacy competence and how pairing a well-liked celebrity with a known brand influences their implicit and explicit brand judgments and ultimate brand choice.

**Method:** 72 participants completed an adapted version of the Advertising Literacy Scale (Rozendaal, Opree & Buijzen, 2014). After being presented with images of liked celebrities paired with well-known brands, participants’ implicit (using an IAT procedure) and explicit preferences for the brands were tested. Ultimate brand choice was also recorded.

**Findings:** Participants showed an explicit (p<.001) and implicit preference (d=.72) for celebrity brands. Most also selected a celebrity brand as their final choice. There was no correlation between scores on the literacy scale and explicit brand preference.

**Discussion:** Contrary to our predictions, high levels of advertising literacy did not prevent celebrity influence over brand judgments as expressed in implicit and explicit preference and brand selection. Simple pairing of liked celebrities with brands, without overt endorsement, leads to more positive explicit and implicit attitudes towards the brand and greater likelihood of brand selection.

---

**EMPIRICAL PAPER**

The Male Prosocial ‘Niche’: The Development of Differential Gender-Typing of Prosocial Behaviour in Late Childhood and Adolescence

*Benjamin Hine, University of West London; Patrick Leman, Royal Holloway, University of London*

**Background:** Previous research has suggested that traditional prosocial behaviours (helping, sharing etc.) are female-typed across development (Eisenberg, Fabes, & Spinrad, 2006). However recent studies have highlighted that early adolescents show differential preference, moral judgement and gender-typing of a wider range of prosocial behaviours based on the gendered characteristics of those behaviours (Hine & Leman, 2013). This
study used a wide range of prosocial behaviours to investigate whether differential gender-typing of these behaviours occurs across development.

**Methods:** 1300 children and adolescents aged 8 to 18-years-old rated 24 prosocial behaviours, traits and characteristics on a 5-point scale – very masculine (something only boys do) to very feminine (something only girls do). Ratings were subjected to exploratory factor analysis to examine how items grouped together based on their masculinity-femininity rating.

**Findings:** Participants were split into three age groups – late childhood (8-10 years), early adolescence (11-13 years), and mid/late-adolescence (14-18 years). Results showed that, compared to only one component in late childhood, a second component emerged in early adolescence for six behaviours, and by mid/late-adolescence this pattern had become distinct. These behaviours (e.g. providing physical assistance) were congruous with characteristics typical of the male gender role.

**Discussion:** These results suggest that in early adolescence both boys and girls acknowledge that some prosocial behaviours are distinctly masculine, compared to an all-encompassing feminine categorisation earlier in development. This may reflect a response by boys at this age to find behaviours that are both morally good and socially acceptable in terms of masculinity – a masculine prosocial ‘niche’.

---

**3703**

**EMPIRICAL PAPER**

**Restrained, Biased, Threatened: The Role of Moral Orientations on Implicit Prejudice and Ideology**

*David, S. M. Morris & Brandon, D. Stewart, University of Birmingham*

**Background:** Janoff-Bulman et al’s Moral Motives Model has been used to identify four distinct moral orientations: ‘self-restraint’, ‘self-reliance’, ‘social-order’ and ‘social-justice’, which have been used to investigate morality in relation to political ideologies. Whilst this is the case there is currently a lack of research examining how these four different moral orientations relate to implicit (or indirect) forms of prejudice as well as the Belief in a Dangerous World ideology.

**Methods:** To investigate the role of moral factors in predicting implicit prejudice and dangerous world beliefs. Participants were recruited as part of a batch of studies (Final N = 148), and received Janoff-Bulman et al’s Moral Motives Scale, the Affective Misattribution Procedure (AMP) to measure implicit prejudice and Altemeyer’s Belief in a Dangerous World (BDW) scale.

**Findings:** Results from multiple regression models using the four moral motives as predictors demonstrated that a ‘self-restraint’ orientation significantly and positively predicted implicit prejudice on the AMP (p <.05), whereas a moral ‘social-justice’ orientation significantly and negatively predicted implicit prejudice (p <.001). A second model further demonstrated that ‘self-restraint’ (p <.01) and ‘social-justice’ (p <.05) orientations also predicted belief in a dangerous world in the same directions as the implicit prejudice results, with ‘social-order’ (p <.001) additionally predicting BDW positively.

**Discussion:** Potential mechanisms for these findings (e.g. self-restraint cognitive rebound) are discussed along with implications of the findings for understanding the complex relationships between BDW ideology, morality and implicit bias.

---

**3694**

**EMPIRICAL PAPER**
Probing executive semantics in children; semantic distance effects in auditory probe memory tasks
Josie Briscoe, University of Bristol
Exercising cognitive control is a core developmental gain in early childhood (Diamond, 2013). Many paradigms tap into perceptual attributes of stimuli to probe flexible cognition. 'Semantic control' is an emerging construct that refers to the regulation of meaningful concepts and knowledge in the context of inhibitory and working memory task demands (Jefferies & Lambon-Ralph, 2006). Semantic distance effects arguably provide a measure of regulation within semantic cognition (Hoffman et al., 2011). One question is whether semantic regulation occurs primarily within the semantic network as a form of domain-specific interference control, or reflects a broader interface between semantic knowledge and general task demands. Here, two studies are reported that probe semantic distance effects in auditory short-term memory paradigms with adults and children aged 7-10 yrs. Study 1 used auditory probe recognition (3-item lists) to investigate semantic distance effects between probe and target items in children (n=35), whereas Study 2 used auditory probe recall of 3- and 4-item lists in children (n=48) and adults (n=24). Both studies identified a benefit in response latencies for proximal, rather than distal, relations between familiar probe-target pairs in children and adults that was stable over age. Study 2 found no interaction with list length, suggesting semantic distance effects are largely independent of task demands. Overall, children, like adults, show a stable benefit of proximal relations within category knowledge over developmental age implying a cost of inhibiting familiar concepts to access distal relations in a semantic network. Findings will be discussed in relation to domain-specificity of cognitive control.

EMPIRICAL PAPER
Smartphone data: Developing a new methodological approach for social psychology
Sally Andrews, David Ellis & Heather Shaw, University of Lincoln
Smartphones have become an extension of ourselves. Their use spans all aspects of social and work interests, and they are often the first thing we look at upon waking, and the last thing we look at before sleeping. As they become an extension of ourselves, smartphones have the potential to reveal a great deal about social behaviour. Most importantly, they are able to achieve this outside the lab. Current research suggests that smartphone use correlates with a variety of individual differences and related addictive behaviours. However, existing research typically relies on self-report estimates to determine smartphone use. This remains a serious methodological weakness. We explored the reliability of self-report phone usage by comparing estimates with objectively derived smartphone data. Specifically, we used a smartphone app to record the onset of each smartphone interaction (that is, when an individual uses their phone). The application was installed on 30 participants’ smartphones, and recorded data over a two-week period. Participants were asked to estimate their daily smartphone usage, and completed a number of other individual difference metrics at the end of the study. Our results highlight that using objective smartphone data is far more reliable than subjective estimates of phone use. They also demonstrate the usefulness of this data for categorising distinct types of smartphone use. We conclude by demonstrating how these data can be used to predict other individual differences.
Recalled Guilt or Imagined Guilt: An fMRI Study To Determine The Difference, and Why It Matters

Neil Mclatchie, Lancaster University

**Background:** Feeling guilty refers to a negative change in one's affective state, usually elicited by one's own social or moral transgressions (Haidt, 2003). It is often assumed that guilty thoughts – where the concept of guilt is cognitively active but the negative affect component is absent – motivate similar behaviours. Research has shown, for example, that guilty feelings (Ketelaar and Au, 2003) and guilty thoughts (Zemack-Rugar et al., 2006) both motivate prosocial behaviour. I argue that guilty feelings have been associated with a range of behaviours including reparation, general helping, self-punishment and self-indulgence. In contrast, guilty thoughts have been associated primarily with prosocial behaviour.

**Method:** I will present four studies that test the distinction between guilty feelings and guilty thoughts. Study 1 investigated the effects of guilty feelings and thoughts on self-indulgence. Study 2 investigated the distinction with regards to prosocial behaviour. Study 3 pitted two guilt behaviours – reparation and self-punishment – against one another to determine the influence of these behaviours on i) feelings of guilt and ii) goal fulfilment. Study 4 used fMRI to investigate the neural differences between guilty feelings (memory recollection) and guilty thoughts (hypothetical scenarios).

**Findings:** Both the literature review and the results of the four suggest psychologists should be trying to better understand the differences and similarities in the functions served by guilty feelings and guilty thoughts.

**Discussion:** The results have important implications for how we conceptualise guilt as a prosocial emotion. It also provides a framework by which to understand why guilt might often result in behaviour other than reparation.

EMPIRICAL PAPER

The influence of social preferences and reputational concerns on intergroup prosocial behaviour in gains and losses contexts

Jim Everett, Nadira Faber & Molly Crockett, University of Oxford

**Background:** To what extent is ingroup-favoring prosocial behaviour driven by social preferences favouring the outcomes of ingroup members, relative to strategic concerns concerning reputation management? And does this differ depending on whether the prosocial action is to help another gain, or lose, something positive?

**Methods:** We used a novel experimental task ('The Intergroup Lottery Task') where British University students chose whether to pay money to enhance the outcomes of others. We compared public and private prosocial decisions towards ingroup and outgroup members, in both a gains context where participants helped others gain positive outcomes (Study 1: N = 29), and in a losses context where participants helped others avoid negative outcomes (Study 2: N = 30).

**Findings:** In both gains and losses contexts, we found that participants were more prosocial towards ingroup members (Study 1, $\eta_p^2 = .19$; Study 2, $\eta_p^2 = .12$), and more prosocial in settings where decisions were public (Study 1, $\eta_p^2 = .22$; Study 2, $\eta_p^2 = .37$), but found no interaction between group membership and decision setting.

**Discussion:** Results are consistent with a preference-based account of ingroup favouritism. People help ingroup members more than outgroup members, even when decisions are private and reputation formation is impossible. Further, such preferences are not moderated by whether the prosocial act takes place in a gains or losses context: people value the
outcomes of ingroup members more than outgroup members, regardless of whether the ingroup member is faced with gaining or losing money.

3672

EMPIRICAL PAPER

The detection of action semantics during infancy predicts later language abilities
Katharina Kaduk, Gert Westermann, Judith Lunn & Vincent Reid, Lancaster University; Marta Bakker, Joshua Juvrud & Gustaf Gredeback, Uppsala University

Human action can be divided into two primary forms. Actions that are communicative in nature are designed to directly engender social understanding of information. Infants’ preverbal social-communicative capacities such as the ability to follow others’ eye gaze, and process pointing and gestures have all been related to various aspects of later language abilities. The second form of action incorporates all those actions that are non-communicative in nature. One example of this knowledge is the ability to determine outcomes of action sequences. Prior research has shown that the structure of such non-communicative actions parallels that of linguistic utterances and that both actions and language show comparable hierarchical structures. This raises the possibility that action processing in early development is related to later language abilities. A key question that has to date remained unanswered is whether language capacities are based on structures initially detected and interpreted within the action domain. Here we show that 9-month-old infants’ understanding of the semantic structure of actions, evidenced in an N400 like ERP response to action sequences with unexpected outcomes, predicts their language production scores at 18 months of age. Thus infants who showed a selective N400 response to unexpected action outcomes scored significantly higher on language production scores 9 months. This study highlights the parallels in the organization of actions and the structure of language, demonstrating that some basic cognitive mechanisms involved in the processing of sequential events are shared between conceptually different cognitive domains. These results further provide evidence for a developmental account, which focuses on how language function emerges from pre-linguistic social understanding skills over the first postnatal year and raises the intriguing concept that understanding actions in early development may well be foundational for language acquisition.

3047

EMPIRICAL PAPER

Reproducibility Project Psychology: A registered replication of Halevy, Bornstein & Sagiv (2008)

Manuela Thomae, Michael Wood & Nathali Immelman, University of Winchester

The present research is a registered replication of Halevy, N., Bornstein, G. & Sagiv, L. (2008). “In-group love” and “out-group hate” as motives for individual participation in intergroup conflict. Psychological Science, 19(4), 405-411 (see also https://osf.io/76qc5/). Halevy et al. (2008) investigate behaviour patterns during intergroup conflict that negatively impact on individuals but benefit the ingroup.

We used a 2 (communication vs. no communication) by 2 (Intergroup prisoner’s dilemma (IPD) vs. Intergroup prisoner’s dilemma – Maximising Difference (IPD-MD)) between participants’ experimental design. The number of tokens kept versus contributed to two different pools (W and B) were the dependent variables.

Once in the laboratory, we randomised 20 groups of six participants (n = 120) into two groups of three. Each smaller group read the game instructions and participants privately
allocated their tokens (no communication condition) or engaged in a five minute group discussion before private allocations (communication condition).

We largely replicated the findings of the original study. The contribution rate to Pool B in the IPD-MD game was significantly lower than the contribution rate to Pool B (the only pool) in the IPD game ($F(1, 36) = 26.76, p < .001$). In contrast to the original study, we did not obtain any effects of within-group communication on token allocation to Pool W ($t(18) = -1.17, p = .254$).

This registered replication strengthens our understanding of people’s motivations to engage in intergroup conflict. While the role of ingroup communication remains ambiguous, our evidence supports Halevy et al.’s (2008) finding that, given the choice, people engage in conflicts to help their own rather than harming others.

3714

EMPIRICAL PAPER

A case study of two boys who did not absorb hegemonic moral values from their culture

Ruth Woods, University of Aberdeen

Background: Cultural psychology and social intuitionist theory both state that children acquire the moral values that they are exposed to through their culture. This claim is implausible in that it negates children’s agency and individual differences. The current study utilises case studies of children’s moral experiences at school in order to further our understanding of how precisely culture impacts on moral development.

Methods: Fifteen months of participant observation was conducted in a primary school situated in a multicultural working class area of west London. In addition, the 30 children in one year 4 class (8 and 9 year olds) participated in sociometric and semi-structured interviews about their peer relations. This paper focuses upon two boys in this class, Zak (Somali Muslim) and Paul (English Christian).

Findings: The school emphasised one moral value above all others: harm avoidance (typically expressed as ‘we never hurt each other on the inside or the outside’). Case studies demonstrated that while Zak and Paul were very aware of this obligation to avoid harm, they were also orienting to other, conflicting values, particularly reciprocity and social status.

Discussion: The data show that each child’s response to culturally dominant moral messages (in this case, the edict to avoid harming others) is informed by their investment in competing and complimenting values, and the relationships in which those values are embedded. Thus although children certainly orient to hegemonic moral values, they do not absorb them passively.

3792

OTHER PAPER

The Impact of Repression Threat on Collective Action Tendencies: An Experimental Investigation

Rim Saab & Mona Ayoub, American University of Beirut

Background: Few social psychological studies have examined the impact of political repression on collective action, and existing research relies on retrospective data and shows inconsistent results. Given the recent Arab uprisings which occurred against highly repressive regimes, it is important to study motivators of collective action in high-risk contexts.
Methods: In this study, we experimentally examined the impact of repression threat on collective action tendencies (presence versus absence of repression threat). We examined the potentially moderating role of identification and the mediating roles of anger, efficacy and fear of punishment. We led female undergraduate students in Lebanon to believe that their university’s administration will raise the standards of accepting female students, and that they will repress (or not) any forms of protest against this decision.

Findings: We found that repression threat had a deterring effect on collective action tendencies, and fear of punishment mediated this effect. Anger and efficacy acted as suppressors of this effect rather than mediators. Identification as a supporter of women’s rights did not moderate the relationship between repression threat and collective action.

Discussion: The implications of this research are discussed, particularly how using this experimental paradigm can help further advance the study of collective action under high-risk contexts.

SOCIAL INVITED SYMPOSIUM
The relevance of Social Representations Theory today: towards inter-disciplinarity and criticality
In 2014 Serge Moscovici died and the Psychology community lost a great mind and a sharp advocate of an interdisciplinary and ‘mixed method’ approach to research. In the US Moscovici is most known for his work on minority influence, in Europe and Latin America it is Social Representations Theory which has been an influential and at times controversial theory. In this symposium we debate the relevance of Social Representations Theory for us today, with a particular focus on interdisciplinarity and criticality and examples from research on the circulation of knowledge (Zittoun), racialized othering (Phoenix) and anti-Roma prejudices (Tileaga). The symposium will conclude with a discussion by Howarth on the ways in which SRT can develop more critical approaches within Psychology and time for a discussion with the audience.

PAPER 1
On the circulation of knowledge
Tania Zittoun, University of Neuchâtel
Serge Moscovici’s work did not respect strict boundaries between disciplines in psychology and in the social sciences; and in turn, his theoretical propositions have circulated within, but also beyond social psychology. I wish to evoke three of the developments of the theory of social representations at the borders of social psychology: 1) in developmental psychology; 2) in sociocultural psychology; 3) in a more interdisciplinary approach to the circulation of knowledge. In these three domains, the heuristic power of the notion of social representations appears, and in each case, the confrontation to different perspectives or empirical realities raises some questions back to theorization. Altogether, I thus hope to show the actuality of the theoretical dialogue around this notion.

PAPER 2
Coming to understand positioning: Social representations, identities and racialised othering
Ann Phoenix, Institute of Education, UCL
Serge Moscovici’s (1972) notion of social representations has proved ingenious in allowing many researchers to theorise and operationalise ideas about how what is unfamiliar in the social world becomes familiar. It is now a commonplace that systems of values, ideas and
practices are shared within social contexts and are central to experiences of social life, communication and understandings of social interactions and relationships. It is, however, less clear how shared codes for social exchange and for categorising the social world come to be taken up, recognised and sometimes taken for granted. This paper focuses on the ways in which adults recollect that, as children they came to recognise themselves as racialised/ethnicised others and begin the process of negotiating their identities and positioning. It draws on a study of adults looking back on childhoods that many consider to be non-normative to examine the ways in which various social experiences and interactions enable them to achieve understanding of a shared social reality as would be expected from social representations. However, since this understanding constructs them as other, the adult retrospective accounts suggest that it also impels them to puzzle about the meaning of their experiences and to contextualise understandings of themselves and their families. In Moscovici’s (1984) terms, it might be said to encourage ‘cognitive polyphasia’. The paper demonstrates that a complex understanding of social representations is assisted by drawing on other elements of social theory such as intersectionality, positioning and performativity.

PAPER 3
Prejudice and common sense: social representations and moral worth
Christian Tileaga, University of Loughborough
In this paper I explore the significance of some of Serge Moscovici’s insights on researching everyday prejudices against ethnic minority groups. I use the example of European anti-Roma prejudices to argue that in order to understand the manifestations of both extreme and subtler prejudices we need to be able to describe their ‘life-space’ (Moscovici, 2011) around current and historic, symbolic themata. Moscovici has made convincingly the case that prejudices are not simply a matter of negative attitudes and/or flawed psychology – they have deep societal and symbolic roots and are tied to traditions of persecution and modifying people’s moral worth. Finally, I discuss how a critical project of researching societal prejudices as cultural and historical representations can be seen as a contribution to Moscovici’s vision of social psychology as anthropology of modern culture.

PAPER 4
The critical potential of Social Representations Theory: an invitation to debate
Caroline Howarth, London School of Economics and Political Science
Serge Moscovici stated that “For me a theory exists only insofar as it fosters a practice of discovery, of facing social problems, and gives some meaning to our lives” (Moscovici, 1997). In the previous papers we have already seen the very different ways in which SRT is applied to examine social problems and produce meaning. For me, this also demands a critical approach to social representations theory. That is, it allows us to ask questions about the necessary conditions for challenging and transforming representations that defend social practices of exclusion, discrimination and othering. I conclude the symposium with an examination of the critical potential of SRT, connecting back to examples given the previous papers, and with an invitation to develop discussion across the panel and with the audience.
**Claudine Clucas, University of Chester**

**Background:** The research aimed to further our psychological understanding of the construct of self-respect. Self-respect is not clearly distinguished from self-esteem, although the philosophical and scarce psychological literature on the topic suggests they are different constructs. Abiding by one’s principles and moral standards appears to be key to one’s self-respect but this has not directly been tested.

**Methods:** Two experimental questionnaire-based studies presented university students with two vignettes manipulating protagonists’ (study 1, N = 94) or their own (study 2, N = 159) adherence to moral standards together with academic competence, or adherence to moral standards together with interpersonal appraisals, and invited them to indicate on 5 or 7-pt Likert scales the protagonists’ or their own levels of self-respect and self-esteem in the situation presented. Data was analysed using 2 (morals: high/low) X 2 (competence: high/low) or 2 (morals) X 2 (interpersonal appraisals: positive/negative) between-subject ANOVAs and regressions.

**Findings:** Both studies found a significant main effect of morals on self-respect for each set of scenarios (all ps <0.010, ηp²=.09-.30). Unlike for self-esteem, any effect of competence on self-respect was explained by adherence to moral standards. Interpersonal appraisals also influenced self-respect but through indirect pathways in contrast to self-esteem. Competence, interpersonal appraisals and self-respect all uniquely contributed to perceived/felt self-esteem.

**Discussion:** The studies support that adherence to moral standards is a key defining feature of self-respect and show self-respect and self-esteem are related yet distinct constructs. Fostering self-respect may thus benefit society in ways that reinforcing self-esteem more generally may not.

---

**3623**

**EMPIRICAL PAPER**

**Swings and Roundabouts: Pretend Play and Imagined Contact with Children with Physical Disabilities**

*Sian Jones, Frances Burrow & Michaela Thomas, Oxford Brookes University*

**Background:** Previous research has shown that imagined contact might be particularly useful as a prejudice reduction technique for young children. This paper tests a novel form of imagined contact with a child with a physical disability, namely pretend play, and investigates the social identity processes that might accentuate the effectiveness of this form of imagined contact.

**Method:** In two studies, children without a physical disability, aged 5-9 years (N = 40, Study 1 and N = 42 Study 2) spent time playing with Playmobil™ figures on an adventure playground. One of the four figures had a physical disability (e.g., used a wheelchair). Measures of friendship intentions and attitudes towards children with physical disabilities were measured before and after interacting with the Playmobil™. In Study 2, the presence of an adult toy figure was manipulated to look at self-presentation concerns.

**Findings:** Friendship intentions and outgroup attitudes became more positive following imagined contact using the Playmobil™. Additionally, outgroup attitudes towards peers with a physical disability became more positive for those with low (versus high) social identification with their school class (Study 1). The presence (versus absence) of an adult toy figure increased friendship intentions for those with high (versus low) social identification with their school class.
Discussion: This study suggests that social identity concerns might drive the effectiveness of imagined contact in the form of pretend play with children with a physical disability, in this age group. Directions for future research using this paradigm are discussed.

3641
EMPirical paper
An exploratory eye-tracking study on numerical discrimination in infancy
Claudia Uller, Kingston Psychology
The development of numerical abilities in young infants has been the focus of attention in developmental psychology for several decades. Current research (Xu & Spelke 2000; Uller et al. 2013) investigates the role of ratio in numerical discriminations with 6- to 10-month-old infants. The aim of this study is to examine 3- to 6-month-old infants’ ratio assessment with the use of an eye-tracker. This methodology has been employed to investigate iconic memory (Blaser & Kaldy 2010); goal directed action (Corbetta et al. 2012); perceptual learning (Johnson et al. 2004); face processing (Liu et al. 2010; Franck, Amso & Johnson 2014), amongst others, but little evidence exists that numerical discrimination has been studied with the use of an eye-tracker. Participants were twenty 3- to 6-month-old infants tested in the Baby Research Unit at Kingston University. The experiment consisted of two sets of dots presented on the left and right of the visual field at the same time in the following ratios: 1:2 (1 v 2, 2 v 4, 4 v 8), and 2:3 (2 v 3, 4 v 6, 6 v 9). Results show a clear pattern between the discrimination of small and large numbers, thus providing never before shown support for the existence of two systems of counting early in infancy. The entailments of such results will be discussed.

3562
Symposium
The development of social and moral judgments or behaviors
Adam Rutland, Goldsmiths, University of London
This symposium draws from theory and research within both developmental and social psychology to address how social and moral judgments or behaviors develop from childhood through to adolescence and young adulthood. This focus is reflective of an increasing synergy between research conducted within developmental and social psychology. The symposium will concentrate on decisions about social exclusion, intergroup helping, altruistic punishment and resource allocation. From early childhood individuals have to make these types of decisions to successfully navigate the social world. Research will be presented within this symposium showing that group identity, group norms, emotions and social-cognitive changes are all important to understanding the development of these judgments or behaviors. The symposium will begin with a presentation by Rutland et al showing that children and adolescents, due to important development and contextual factors, do not automatically show in-group bias when deciding about social exclusion. Second, McGuire et al will present two studies which demonstrate a developmental shift in the influence of group norms and group membership on biased resource allocations. Thirdly, Gummerum et al will present research indicating children punish unfair resource allocation more than adolescents and adults, and anger is a motivation for this type of behavior. Next Sierksma et al will present research showing children balance both morality-based and group-based considerations when making judgments about helping behavior. Finally, Leman will act as a discussant and highlight some key issues and discussion points for research into the development of social and moral judgments or behaviors.
Social and moral judgments about exclusion and inclusion: Developmental and contextual differences
Adam Rutland, Goldsmiths, University of London; Aline Hitti, Tulane University; Kelly Lynn Mulvey, University of South Carolina; Dominic Abrams, University of Kent; Melanie Killen, University of Maryland

Background: Recent research has shown the early development of in-group bias, with children generally preferring their own ethnicity or race, language group, gender and minimal group. Two studies will be presented to examine whether children and adolescents show in-group bias when judging group members who either conform or not to norms in the moral and social-conventional domains.

Method: In Study 1 participants, aged 9.5 and 13.5 years, evaluated members of their own gender group who deviated from group norms about resource allocation (moral). In Study 2 participants, in the 4th and 8th grades, chose between including someone in their group who shared their group norm (moral or conventional) or group membership (school affiliation or gender).

Results: In Study 1, when deciding between group loyalty and equal allocation, children and adolescents gave priority to equality, rejecting group decisions to dislike in-group members who advocated for equality. In Study 2, younger children were more likely to include an out-group member who supported equal norms than were older children and, in the context of a social-conventional norm, there was greater in-group preference in the school than in a gender intergroup context.

Discussion: These studies suggest children and adolescents do not automatically show in-group bias, and from middle childhood into adolescence individuals develop increasingly complex judgments about social exclusion and group dynamics.

Group identity and group norms guide children’s and adolescent's resource allocation
Luke McGuire, Goldsmiths, University of London, Adam Rutland, Goldsmiths, University of London, Antony Manstead, Cardiff University

Background: There is mixed evidence as to how children and adolescents begin to understand and distribute resources. In some cases, they show a preference for strict equality, and in others favour more selfish allocation. The present work explores how an inter-group context might account for divergent findings in this area.

Method: In study one, 87 participants (8 – 15 years old) were inducted into simulated groups and delivered an in-group norm of competition or cooperation, before playing the Ultimatum and Dictator Games, ostensibly with out-group partners. In study two, the intergroup context was extended, with 333 participants in simulated groups given both an in-group norm, and information about an out-group norm.

Results: In study one, participants in the younger age bracket (8 – 11 years) were significantly motivated to distribute resources in line with their prescribed in-group norm. Older participants (13 – 15 years) showed more in-group serving behaviour independent of the in-group norm. In study two, younger participants again showed significant norm-dependent allocations. Older participants’ most in-group serving behaviour was only
apparent in a state of mutual competition – that is, when the out-group also proposed to behave competitively.

**Discussion:** From a young age, when asked to distribute resources between teams, participants were uniquely motivated by the wants of their in-group. Most interesting is the shift from explicit normative influence to a more general in-group serving behaviour pattern. Further still, with age, adolescents develop the skills necessary to understand when it is acceptable to behave in an openly competitive manner.

**3565**

**PAPER 3**

**Children’s, adolescents’, and adults’ altruistic punishment of unfairness**

*Michaela Gummerum & Belen Lopez-Perez, University of Plymouth; Lotte Van Dillen & Eric van Dijk, Leiden University*

**Background:** People’s interpersonal behaviour is regulated by social and moral norms, and violations of these norms are often met with punishment. People are willing to enforce a moral norm by punishing a violator, even if this entails significant personal or material costs. This study examined developmental differences and the role of anger in altruistic second-party (when the punisher was the victim of a violation) and third-party punishment (when the punisher was an unaffected by the violation) of unfairness.

**Methods:** 140 9-year-old children, 141 14-year-old adolescents, and 143 adults were induced to either a neutral or an angry mood. Participants were then instructed to the role of the punisher in either an ultimatum game (second-party punishment) or a third-party punishment game. They had to decide whether to punish unequal or equal allocation of resources.

**Results:** Manipulation checks indicated that participants in the angry condition experienced significantly more anger than those in the neutral condition. In all age groups, participants in an angry mood showed significantly higher second-party punishment and marginally higher third-party punishment than participants in a neutral mood. Children punished significantly more than adolescents and adults.

**Discussion:** Children, adolescents, and adults were willing to forgo material rewards to punish unfairness, both when they were the victim of unfairness and when they observed others being treated unfairly. Anger seemed to be one of the proximate motivations for altruistic punishment in all three age groups. Implications of this research for real-life punishment situations (e.g., in the legal domain) will be discussed.

**3566**

**PAPER 4**

**Ethnic Helping and Group Identity: A Study among Majority Group Children**

*Jellie Sierksma, Radboud University; Jochem Thijs & Maykel Verkuyten, Utrecht University*

**Background:** Research investigating children’s cognitions about ethnic groups and inter-ethnic relations predominantly focuses upon prejudice and social exclusion. There has been much less interest in children’s views about the lack of positive inter-ethnic behaviors, such as the refusal of help.

**Methods:** Two vignette studies were conducted on children’s evaluations of ethnic helping. In the first study, 272 native Dutch children (mean age = 10.7) evaluated a child who refused to help in an intra-group context (Dutch–Dutch or Turkish–Turkish) or inter-group context (Dutch–Turkish or Turkish–Dutch). In the second study, 830 children (mean age = 10.7) read the same vignettes after their ethnic group membership was made salient.
**Findings:** Results of the first study showed that children evaluated not helping in intragroup situations more negatively than not helping in inter-group situations (b = .11, p < .05). This suggests that they applied a general moral norm of group loyalty that states that children should help peers of their own group. When ethnicity was made salient in the second study, results for the inter-group contexts changed. Children who strongly identified with their ethnic group evaluated an out-group member not helping an in-group member more negatively than vice versa (b = .09, p < .001).

**Discussion:** Children used morality-based and group-based considerations when making judgments about helping behavior. Intra-group helping was perceived in terms of moral expectations of loyalty to one’s own group, but when ethnic identity was salient, children tended to focus more on group identity rather than on the principle of group loyalty.

---

**3567 DISCUSSANT**

*Patrick Leman, Royal Holloway, University of London*

---

**3457 REVIEW PAPER**

**Computational support for Self-Categorization Theory – A theoretical and methodological review**

*Richard Philpot, The University of Exeter*

**Background:** Self-Categorization Theory (SCT) remains one of the most influential principles in social psychology. Yet, and in common with most models concerning group dynamics, the empirical findings supporting SCT are primarily obtained from single participants in cross-sectional studies. These studies present isolated and static snapshots of the phenomena of interest. However, by definition group dynamics are ‘dynamic’ – with the complex social phenomena arising from the recurrent interactions of numerous individuals over an extended period.

**Method of Interest:** Given this consideration many researchers are now turning to dynamic computational modelling – in particular, Agent-based modelling. Agent-based modelling provides a platform in which a virtual population of autonomous agents iteratively executes a variety of theoretically derived behaviours. These behaviours, operating with real-time feedback loops, in turn alter how the agent interacts with others, and how they perceive and reason within their world. These micro-interactions at the individual level result in macro social phenomena.

**Discussion:** In this paper, we review computational evidence supporting the central processes of SCT – namely optimal distinctiveness and meta-contrast. We demonstrate how computational modelling can offer new insights into even the most well-established theories. We discuss how in addition to providing greater dynamism, Agent-based models are useful instruments in theory development and theory testing. We illustrate how the introduction of self-categorization principles into Agent-based modelling environments helps us to understand phenomena, such as ‘social influence’, ‘intergroup helping in emergencies’, and ‘violence in public spaces’. We conclude by arguing that rather than supplanting the more traditional analytical techniques, Agent-based modelling may work to complement current methodology.

---

**3385 EMPirical PAPER**
Mental health considerations in Williams syndrome
Sinead Rhodes & Amanda Gillooly, University of Strathclyde, Deborah Riby, University of Durham

Recent research has highlighted that mental health issues may be highly prevalent in individuals with the neurodevelopmental disorder Williams syndrome (WS). We conducted a UK nationwide survey of families with children with WS to examine the presence of both neurodevelopmental diagnoses (e.g. ADHD and ASD) and other mental health conditions (e.g. anxiety and depression) in individuals with WS. Sixty-four parents/guardians of children with WS (who are children or adults) participated in the survey that was adapted from a similar survey conducted with WS families in the US (Martens et al., 2013). The survey revealed that a relatively small proportion of the sample had received diagnoses of other neurodevelopmental disorders: 12.5% (ADHD) and 11% (ASD) while a large number had been diagnosed with other mental health conditions. Anxiety disorders were the most commonly reported with almost two-thirds of the sample (66%) having previously been diagnosed with an anxiety disorder. A third (33%) of the sample had been diagnosed with behaviour problems and a quarter with depression (25%). The findings highlight that despite the prevalence of ADHD symptoms in WS samples (e.g. Rhodes et al., 2011), few children with WS are diagnosed with the condition. Notably only 3 individuals in the sample were receiving stimulant medication for ADHD symptoms. The findings also support the growing body of evidence that other mental health conditions, in particular anxiety, are highly prevalent in WS samples.

EMPIRICAL PAPER
The role of physical evidence and context in fantasy-reality judgments: looking at novel animals
Allan Laville, Rachel McCloy & Fiona Knott, University of Reading

Objectives: To examine the role of physical evidence and context in how 3- to 8-year-old children categorise novel animals as either real or make-believe. Previous research (e.g., Tullos and Woolley, 2009) has shown that children are more likely to categorise novel animals as real when relevant physical evidence (e.g., when an animal is introduced as having yellow feathers and yellow feathers are provided as evidence) pertaining to their existence is provided. However, local context (i.e., novel animal introduced alongside a familiar cartoon character such as Sleeping Beauty) manipulation has not yet been explored in this task.

Method: 62 3- to 8-year-old children (school recruitment) and 19 adults (research panel) sorted four groups of four novel animals (relevant evidence/irrelevant evidence/no evidence/local context) into categories of real, make-believe or not sure.

Results: ANOVA showed that 5- to 6-year-old and 7- to 8-year-old children categorised novel animals with either relevant or irrelevant evidence as real on more occasions than 3- to 4-year-old children and adults. In addition, 3- to 4-year-old and 5- to 6-year-old children categorised novel animals with local context as real on more occasions than 7- to 8-year-old children and adults.

Conclusion: These findings suggest that physical evidence and context can influence fantasy-reality judgments. Furthermore, they highlight developmental differences as younger children use local context to confirm a novel animal’s existence whereas older children more often use physical evidence. These findings have direct application to the ongoing debate of
whether children are skeptical or credulous of new information (Woolley and Ghossainy, 2013) and how children use physical evidence/context as part of their daily learning.

3640
EMPIRICAL PAPER
Numerical abilities in 24- to 48-month-old children: Further evidence
Claudia Uller, Kingston Psychology

Children have been shown to enumerate and count numerosities from the age of 18, 20 months. It is clear that young children understand the concept of number and can represent small arrays of numerosities (Bullock & Gelman 977; Wynn 1990, 1992; Le Corre & Carey 2007; Halberda & Feigenson 2008, among others). Different capacities have been shown to be present early in childhood, albeit in relatively fragmented fashion. One area of contention regards what Gelman Gallistel (1978) have coined the Cardinality Principle. Research has shown extensively that the proficiency in the ability to determine the cardinality of sets is a late development. What research has scarcely shown is how the lack of this principle impacts children’s capacity to count, to determine ordinal relationships between numerosities, and to discriminate between two numerosities. The present study aimed to investigate children between the ages of 24 and 48 months. A total of 60 children (30 girls) participated in the study. In the counting task, children were asked to interact with a puppet to count as high as they could. In the one-one correspondence task, children were given a set of 20 marbles and were asked to count them by pointing to each of them as they counted. In the numerical discrimination task, children were shown nonsense objects constructed out of LEGO in discrimination pairs to choose the “winner” set. Results show that there is a clear developmental divide between two and three year old children. This result parallels all previous findings in the literature. What is novel, however, is that the children overall were successful in discriminating even smaller ratios such as 3:4 or even 4:5, when previous research utilising computer generated stimuli failed to do so.

3593
EMPIRICAL PAPER
Tapping into group opinions: Individual differences that predict consensus sensitivity
Victor Swift, Caitlin Burton & Nick Rule, University of Toronto

Background: Consensus sensitivity represents the degree to which one observer’s judgments about a target agree with other observers’ judgments. This study sought to investigate the individual differences of observers that contribute to consensus sensitivity when making judgments of targets’ personalities on the basis of photographs. To our knowledge, this has never been done before.

Methods: Data were collected online through Amazon’s Mechanical Turk. 85 participants (66% female; M age=38 years, SD=15) rated the Big Five personality traits of 28 targets (75% female; M age=19 years, SD=2.3), using a 7-point Likert scale, on the basis of single photographs of neutral facial expressions, presented in random order. To control for random estimation effects, participants estimated how much each target liked the number 7 (1 = Not at all, 7 = A lot). Participants then rated their own personalities using the Big Five Aspect Scale, provided demographics, and indicated whether they had recognized any targets (none did).

Findings: Consensus sensitivity was positively associated with observers’ age and level of agreeableness, and negatively associated with extraversion. Thus, even when blind to group
opinion, older agreeable and introverted people are more likely to agree with the group opinion.

**Discussion:** Possible mechanisms underlying this effect are discussed, as well as implications for group dynamics.

---

**3514 EMPIRICAL PAPER**

In their own words: a qualitative analysis of adolescents’ accounts of living with an eating disorder

Lesley O’Hara & Fiona McNicholas, University College Dublin; Niamh McNamara, University of Bedfordshire; Cliodhna O’Connor, Lucena Clinic, Dublin

**Background:** Despite a growing prevalence of eating disorder diagnoses, and a particular vulnerability to onset during adolescence, very little is known about the holistic experience of adolescents living with eating disorders. The existing literature often provides the parents’/carers’ perspective rather than that of the adolescent. The aim of this study therefore was to describe the lived experience of dealing with an eating disorder, as informed by adolescents currently in treatment.

**Method:** In-depth interviews were conducted with 8 adolescents (6 female and 2 male). Participants ranged in age from 15-19 years (M=15.75, SD=1.39) with diagnoses of Anorexia or Bulimia. At the time of interviews, participants had held their diagnosis for an average of 10 months. Data were analysed using a grounded theory approach.

**Findings:** Three categories were identified: The disordered solution; Entrenching morality; and Re-aligning morality. Adolescents viewed their eating disorder as providing a way of coping with life stressors. Living as someone with an eating disorder involved a strict eating behaviour code, which maintained a sense of order and control. Engaging with treatment involved dispensing with this ‘code’ and was associated with the loss of a valued coping mechanism.

**Discussion:** The task of treatment is to realign adolescents' beliefs of what is 'good' and what is 'bad'. The challenge is that their very identity is so strongly informed by their eating behaviour code that treatment poses a threat to their self-concept. It is vital that adolescents are effectively supported during this 'identity transition.'

---

**3415 EMPIRICAL PAPER**

Children copy peers over adults on a novel ‘toy’ task

Lara Wood, Rachel Harrison, Amanda Lucas, Emily Burdett & Andrew Whiten, University of St Andrews; Nicola McGuigan, Heriot-Watt University

**Background:** Children's social learning is influenced by context including model characteristics. We investigated whether presenting a novel tool-use task in a playful context influences the likelihood that a child will copy either a peer or adult model.

**Methods:** A ‘Slotbox’ puzzle-box, labelled as a game, contained a toy that could be extracted using alternative tools. In a mixed counterbalanced design, 140 four-to-six-year-olds watched a video of both a child and an adult model operate the Slotbox using different tools. The demonstration completeness for both models was varied between subjects, ranging from no demonstration to models inserting a tool and extracting the prize. Subsequent success was analysed using non-parametric statistics.

**Results:** Children were more likely to match the tool used by the child than the adult model (p < .01). This effect interacted with demonstration order; when the first demonstrator was
the peer, children were significantly more likely to copy the peer than the adult \( (p < .001) \) whereas when the first demonstrator was the adult, children were equally likely to copy either model \( (p = .89, \text{ all Binomial}) \). In comparison to children that saw a demonstration, no-demonstration children were less successful \( (p < .001) \), but if successful they were more likely to use their hands to obtain the toy \( (p < .001, \text{ FETs}) \).

**Discussion:** When novel tool-use tasks are presented as toys and play children may selectively copy peers rather than adults. However, small contextual changes moderate this affect, demonstrating the flexibility of children’s social learning strategies.

3508

**EMPIRICAL PAPER**

The effects of self-referencing on children’s mathematical processing

*Sheila Cunningham & Aisha Ferguson, Abertay University*

**Background:** Research suggests that when information is processed in a self-referential context, this elicits processing biases in cognition such as increased attention and memory enhancement. These self-reference effects arise early in childhood so may have useful educational consequences. Testing this idea, the current study assessed the effects of applying a self-referential context during mathematical problem solving on both task performance and attentional availability in children.

**Method:** 108 participants (54 female, aged 6-9 years) completed mathematical processing questions that included either only third-person names (‘other-referent questions’ – e.g., Tom has 3 apples. Ben has 5 apples more than Tom. How many apples does Ben have?) or a third-person name and a self-referential pronoun (‘self-referent questions’ – e.g., Tom has 3 apples. You have 5 apples more than Tom. How many apples do you have?). Participants simultaneously completed a secondary monitoring task designed to measure attentional availability.

**Findings:** Participants responded significantly more quickly and accurately to the self-referent than the other-referent questions. They also responded more quickly to the secondary attentional task when processing the self-referent questions.

**Discussion:** The mathematical performance findings show that there are clear benefits of creating a self-referential processing context in children’s numeracy. Further, the finding that attentional availability was higher for self-referenced than other-referenced questions suggests that self-processing may decrease the attentional load of problem solving. Together, these patterns suggest that testing the efficacy of self-referential strategies in education should be a research priority.

3619

**EMPIRICAL PAPER**

University students’ definitions of, and experiences of, bullying

*Alana James & Hanna Böck, Royal Holloway, University of London*

**Background:** Bullying involves repeated aggression, with intent to harm and a power imbalance. However, the nature of what is considered bullying can differ: children’s definitions become narrower with age but even adults in the workplace tend not to include repetition or power imbalance in their definitions. It is unknown how university students, transitioning from school to the workplace, define bullying. University is a time where social relationships are at the fore, and bullying has been shown to affect a significant minority of students.
Methods: 133 current university students (73% female/27% male; 52.3% undergraduate/47.7% postgraduate) completed an online survey consisting of two open questions on their definition of bullying and the behaviours they associated with this, and a questionnaire about their bullying experiences.

Findings: Bullying definitions were coded for 4 key features from the literature: repetition (identified by 24.3%); power imbalance (14.0%); intent to harm (32.7%); negative effect (32.7%). Most identified none of the key features (29.9%) or just one (43%). The most common forms of behaviour associated with bullying were physical and verbal, and the least were cyber and sexual. 15.2% reported victimisation whilst at university and 6.3% reported bullying others. Number of key features identified was not associated with either victimisation or level of study.

Discussion: University students, like adults in the workplace, typically do not include features such as repetition and power imbalance in their bullying definitions. It is recommended that anti-bullying strategies in higher education take this into account, to promote help-seeking and accurate reporting.

3695
EMPIRICAL PAPER
Developmental age trends of general distress and specific components of mental well and ill health
Michelle C St Clair, Department of Psychology, University of Bath; Ian M Goodyer, Department of Psychiatry, University of Cambridge

Background: Recent investigations of the structure of psychiatric symptoms and disorders provide empirical support for a trans-diagnostic distress component to mental illness in addition to specific factors potentially differentiating individual diagnoses. The well documented developmental trends of psychopathology symptoms across adolescence may need re-evaluation within the context of general distress and disorder specific components.

Methods: Within the Neuroscience in Psychiatry Network, large scale factor analysis was implemented across 116 items measuring mental well-being and specific domains of psychopathology (depression, anxiety, antisocial behaviour, OCD, and psychotic symptoms). The sample was 2228 individuals between the ages of 14 and 24. Developmental age trends of a general distress factor and five specific factors (measuring confidence, antisocial behaviour, worry, OCD/Psychotic symptom, and mood) were evaluated for boys and girls.

Findings: The confidence and OCD/Psychotic specific factor did not show gender differences and declined across the age range. The antisocial specific factor also showed decline across the age range with higher levels for boys, while the worry specific factor showed increasing levels with higher levels for girls. Girls showed increasing followed by decreasing levels in the general distress and mood factors. Boys showed an increase then a levelling off in general distress and a developmental increase in mood throughout the age range.

Discussion: While the general distress factor replicates established developmental trends, the specific factors show unexpected developmental trends indicating potential differences in developmental trends dependent on how we conceptualise mental well and ill health.

3624
EMPIRICAL PAPER
Can drawings facilitate symbolic understanding of figurative language?
Melissa Allen & Harriet Butler, Lancaster University
**Background:** Understanding the symbolic aspects of figurative expressions (e.g. metaphors and idioms) develops during middle childhood. Drawing can facilitate recall and may aid other aspects of linguistic expression. We examine whether children aged 5-9 provide more symbolic interpretations of figurative statements in drawings relative to verbal explanations, and whether drawing can facilitate overall symbolic interpretation.

**Methods:** 96 children participated, and were evenly split into three age groups (5, 7, 9). Within each group, children were randomly assigned to one of two conditions and presented with 4 figurative expressions (e.g. raining like cats and dogs). In the ‘draw first’ condition, they were asked to depict then explain the statements, and in the ‘explain first’ condition they were asked to explain then draw the expressions. Drawings and explanations were coded for symbolic or literal content.

**Findings:** A Mixed ANOVA revealed a main effect of response type (F(1, 90) = 25.46, p < .001, ηp2 = .221), with more symbolic responses for explanations rather than drawings. Main effects of condition (F(1, 90) = 4.27, p < .05, ηp2 = .045), and group (F(2, 90) = 70.49, p < .001, ηp2 = .610), were also obtained. Children provided more symbolic responses in the ‘draw first’ condition, with older children providing more symbolic responses overall.

**Discussion:** Drawing figurative expressions can facilitate subsequent symbolic verbal explanations, but overall children provide more symbolic interpretations when they describe metaphors and idioms. Results are discussed in terms of the symbolic links between drawings, figurative language and development.

---

**THEORETICAL PAPER**

**Investigating children’s changing concepts of the earth, sun and moon**

Alan Martin & Sherin Salem, University of Buckingham

There are a range of theories attempting to explain the patterns of misconceptions that children have about scientific concepts. Each addresses different aspects of the origin, structure and development of children’s (and naïve adult’s) concepts. However, as noted by Siegler, developmental psychologists often focus upon snapshots of change and make deductions about the change that occurs. This can tell us about the structure of different concepts but little about the change that occurs and why.

In this presentation a test-intervention-retest method that has been used to explore children’s understanding of the earth, sun and moon will be outlined. Children’s understanding of these three astronomical concepts is assessed individually, then in paired combination exploring the day / night cycle and then all three in combination by exploring the phases of the moon. The method is designed so that the child’s concept is assessed, they are presented with scientific information and their concept is reassessed to establish what information “sticks” and why.

The method is explained and evaluated and the findings in relation to children’s developing concepts of the earth, sun and moon are described. The origin of children’s concepts about astronomy are outlined as well as the range of ways in which they synthesise scientific knowledge into their misconceptions. Data from three research studies is presented but the focus is primarily upon the method employed.

---

**EMPIRICAL PAPER**

**Social Support for Homeless People: Implications for Mental Health and Self-Mastery**

Jessica Rea & Anat Bardi, Royal Holloway, University of London
Background: The homeless culture is formed through shared experiences, social context and socialisation at institutions, such as shelters. While there is literature that establishes the link between social support and mental health in the homeless population, there is limited evidence for social support and self-mastery. The relative influence of practical or emotional support for homeless people has yet to be established in the literature which has implications for intervention design.

Methods: The present research examined the relationships between practical social support and emotional social support, self-mastery and psychological mental health of homeless people (n=112) across the UK using questionnaires. Comparisons were made to low socio-economic-status (n=108) and more affluent population (n=104) samples.

Findings: Homeless people had significantly lower levels of overall social support (p <.01), mental health (p <.001) and self-mastery (p <.001) than comparison groups. Social support was significantly positively correlated with mental health (p <.05) and self-mastery (p <.01) in homeless people, with practical support having the strongest relationship. Surprisingly, social support did not have a significant relationship with mental health in the control samples. Self-mastery was significantly positively correlated with mental health in all samples (p <.01).

Discussion: As the homeless community have different relationships between social support and adjustment outcomes to control groups, interventions designed to support homeless people back into the wider community should account for the homeless perspective.

PEB WORKSHOP
‘Teaching Contemporary Social Psychology at Pre-tertiary Level’
Abigail Locke, University of Huddersfield/Chair of Social Psychology Section; Jane Montague, University of Derby; Daneil Jolley, Lancaster University
This workshop introduces a project that the Social Psychology Section are working on, funded by the BPS Psychology Education board, to examine teaching contemporary social psychology at pre-tertiary level. We conducted a review of the core A level social psychology areas covered in current and upcoming A level syllabi (e.g. OCR, Cambridge) resulting in the conclusion that there remains a heavy reliance across each of them on the same or similar classic studies (such as Haney, Banks and Zimbardo’s (1973) works of prison interactions and Milgram’s (1963) study of obedience), as well as on key psychology text books. Given the very social scientific nature of social psychology and its application in many areas of the A level syllabi, we feel this is an area for which we are well placed to positively contribute and one from which school teachers and those involved in further education contexts might derive substantial benefit. We suggest that social psychology has a ‘superordinate identity’ which enables practitioners to adapt and develop their theoretical understanding and methodological skills in many areas of contemporary research and practice. This launch of the project will provide a space for social psychologists to reflect on novel approaches to teaching those social psychology topics included in A-level syllabi.

3284
EMPIRICAL PAPER
Mundane yet Miraculous: The Central Role of Divine Attribution in Religious Enhancement of Daily Gratitude and Well-Being
Jonathan Ramsay, SIM University; Eddie Tong, National University of Singapore
**Background:** Religious individuals have been found to experience heightened gratitude, which has also been shown to enhance well-being in both religious and non-religious individuals. Recent research has further indicated that gratitude mediates the relationship between religiosity and well-being. Nonetheless, the mechanism by which religion promotes gratitude has not been examined. The present research examined role of divine attribution in the relationship between religious belief, gratitude, and well-being.

**Methods:** Study participants (N=120) were asked to list and causally explain significant personal events from the past week. Participants also reported resulting gratitude, their average well-being for the week, and completed trait measures of religiosity and spirituality, teleological beliefs, and gratitude. Differences in variables between Christians, Muslims, and atheists were examined using MANOVA. The mediating roles of God and fate-related attributions were examined using correlation and regression.

**Results:** Trait variables differed significantly between groups. Christians exhibited the highest religiosity, gratitude, and well-being, followed by Muslims then atheists. Divine attribution fully mediated the effect of religiosity on event-contingent gratitude. Gratitude fully mediated the effect of divine attribution on well-being in Christians, but not in Muslims. Among atheists, fate attribution correlated positively with gratitude, which in turn correlated positively with well-being, although the overall mediation model was non-significant.

**Discussion:** This study is the first to have demonstrated the critical role of divine attribution in the relationship between religion, gratitude, and well-being. The central role of grace in Christian teachings may account for the enhanced gratitude, well-being, and stronger mediating effects observed in Christians.

3674

**EMPIRICAL PAPER**

Creative arts and family coaching interventions with at-risk youths: How and why might they impact the socio-emotional and motivational development of marginalised youths?

*Fidelma Hanrahan & Robin Banerjee, University of Sussex*

**Background:** The psychosocial processes underpinning the success of interventions with at-risk youths (including low school attendance and/or engagement in antisocial behaviour) remain little understood despite interest in how alternative interventions – such as creative arts interventions and family coaching models – may offer new routes to re-engaging young people.

**Methods:** A mixed-methods approach was utilised. First, a cross-sectional survey study was carried out with young people (n = 45; M = 15.5 years of age) taking part in interventions – including creative arts projects and family-support interventions – to support at-risk youths, as well as from a comparison group (n = 98; M = 15.5 years of age). Questions tapped into key psychological processes implicated in theoretical work on social-exclusion. Second, semi-structured interviews with a sub-sample of 17 at-risk young people involved in interventions, were conducted.

**Findings:** Significant differences between at-risk, and comparison, young people were found, with analyses of survey data showing that the at-risk sample reported significantly lower intrinsic, and significantly higher extrinsic, values. Findings from the thematic analysis of interviews indicated that intervention practitioners offered uniquely nurturing relationships characterised by acceptance, belief, and mutual trust which in turn underpinned perceived changes identified by the young people in self-construals, motivation and aspirations, and behaviour.
Discussion: The results are discussed in relation to core psychological processes underpinning re-engagement and key implications for practice, such as how interventions which successfully nurture intrinsic values may be particularly effective for at-risk youths. Furthermore, how more joined-up service approaches can better support young people is discussed.

3716
OTHER PAPER
An Investigation on Culture and Language Differences in Object Categorisation
Mohd Atif Amsyar Md Amurad, Graham Schafer & Carmel Houston-Price, University of Reading
Cultural differences in cognition have been linked to cultural differences in analytic and holistic thinking (Peng & Nisbett, 1999; Norenzayan & Nisbett, 2000; Nisbett & Miyamoto, 2005). It has been claimed that people in Western and Eastern cultures show different ways in the process of categorizing objects (thematic versus taxonomic categorisation). When we talk about culture, it is inevitable for us to link it with language (Masuda & Nisbett, 2001) and do these language differences affect our way of thinking? This research was carried out to find out if there are cultural and language differences in the process of categorizing objects. Experiment 1 was conducted on 76 bilingual adults from Universiti Teknologi Malaysia (UTM) and Universiti Kebangsaan Malaysia (UKM). This experiment consisted of completing the questionnaire of Language Experience and Proficiency (LEAPQ) by Marian et al. (2007), picture-naming task, picture-matching task and categorisation task where participants were tested in English and Malay Language. The picture-naming task results show that there is a significant differences in terms of performance when participants were tested in different languages; t (75) = 4.59, p < 0.01. There was a significant main effect of language and marginally significant main effect of distractor in picture-matching task. There were no significant interaction between these two measures; F (2, 42) = 0.02, p = 0.98, η2p < .001). No significant difference was found; t (75) = 0.29, p = 0.77 in categorisation task where participants tended to categorize the objects thematically despite being tested in different languages. Further work is clearly needed if we are to show any effect of language on cognition, in this type of categorization task.

3668
EMPIRICAL PAPER
The Development of Children's Understanding of Death
Michelle Hopkins, Sussex Partnership NHS Foundation Trust; Georgia Panagiotaki, University of East Anglia
Background: This cross-sectional study explored British primary school children’s understanding of death as a biological event. The key aim was to examine the influence of age and cognitive ability on children’s understanding of five subcomponents of death: irreversibility, applicability, inevitability, cessation and causality. The relative influence of variables such as socioeconomic status (SES), religious beliefs, previous experience of serious illness and/or death was also examined.
Methods: A mixed-methods design, with between and within group variables, across four comparison groups (4-5, 6-7, 8-9, and 10-11 years) of participants (N = 92) was employed. Participants were individually interviewed with the ‘Death concept interview’ (Slaughter & Griffiths, 2007) and cognitive ability was measured by age-appropriate standardised
Wechsler assessments. Parents completed a brief questionnaire to provide all other information. ANOVA, MANOVA and Pearson’s correlation tests were chosen for analysis.

**Findings:** Age and cognitive ability were positively associated with higher scores in the death concept interview. Children as young as 4 knew that death is irreversible and had an emerging understanding that all people eventually die, death applies to all living things, and physical and mental functions stop. By 10 years, children’s responses about irreversibility combined biological and religious/spiritual explanations, offering a dualistic approach to reasoning. Non-religious children with previous experience of death, but not of serious illness, had a more advanced understanding of death than any other children.

**Discussion:** These findings suggest that age and cognitive ability influence the development of children’s biological understanding of death. In line with previous research in this area (Astuti, 2007; Harris, 2011), children’s death understanding develops according to a U-shaped developmental curve.

3574

**EMPIRICAL PAPER**

**Children’s Creative Intentions: Where do their ideas for their drawing come from?**

*Sarah Rose & Richard Jolley, Staffordshire University*

**Background:** Although there has been over 100 years of research in children’s drawings, little attention has been given to the early stage in the drawing process – where do children get their ideas of what to draw? This study aimed to explore the creative intentions of pupils from Mainstream schools where the focus is on observational and expressive drawing and from Steiner Waldorf schools where the focus is on imagination and expression.

**Methods:** Fifty-nine 6- to 16-year-olds participated, 32 from Mainstream and 27 from Steiner schools. All children drew a picture, no direction about what or how to draw was given. Children were encouraged to talk about their drawing. Children’s verbal accounts were transcribed and thematic analysis used with the aim of describing where children got the ideas for the content of their drawings from.

**Findings:** The analysis resulted in four key themes: 1) direct observation of an object from the immediate environment, 2) an object or scene from memory, 3) imagination and 4) expression. The narratives of Mainstream schools pupils more often referred to direct observation and drawing objects from memory whereas Steiner pupils tended to refer more to imagination as the source of their ideas.

**Discussion:** Findings may reflect a number of differences between the two education systems, including differing emphasis within the curricula on representational compared to imaginative drawing skills and the attitudes and practices of teachers.

3216

**EMPIRICAL PAPER**

**Curiosity optimises learning in a simulated infant categorisation task**

*Katherine Twomey, Lancaster University, UK*

**Background:** A fundamental cognitive skill, categorisation, is present from birth and highly sensitive to environmental structure. However, how this structure affects learning is unclear. While some studies indicate that maximally complex input supports learning, others argue for simpler stimuli, and still others show that intermediate difficulty optimises learning (Goldilocks effect). Importantly, in these paradigms stimuli are selected a priori. Infants, in contrast, are curious, and drive their own development by actively selecting stimuli. Understanding how infants structure their own learning environments is therefore critical.
**Method:** Using a connectionist network we simulated a recent novelty preference study in which 10-month-olds (n = 24) learned categories from maximally, but not minimally, complex stimulus sequences. In a second simulation the network chose its own sequences based on “curiosity”, calculated using its internal states as well as environmental structure.

**Findings:** With proportion test error as a proxy for looking time, our first simulation showed strongest categorisation after maximally complex sequences (M = 0.99, p < .0001), capturing the empirical data. However, our curious network learned equally well (M = 0.97, p < .0001, maximum vs. curiosity: p = 0.28), and critically, selected stimuli of intermediate complexity, exhibiting a Goldilocks effect.

**Discussion:** These simulations represent the first computational investigation of curiosity-based categorisation, making the novel prediction that infant-driven exploration can optimise learning with stimuli of intermediate complexity. Overall, this work illustrates development as a system in which learning is driven by dynamic interactions between learner and environment.
Posters- Wednesday 9 September 2015

3427 POSTER
Questioning identity: How the issue of mental health impacts on police-victim interactions
Serina Fuller & Paula Reavey, London South Bank University; Rachel Wilcock, The University of Winchester

Victims with mental health issues are frequently reporting negative experiences of the police, with an identified reason being that such victims are experiencing apprehensions of not being believed and being deemed as unreliable. Additionally, the label of a psychiatric diagnosis has been found to negatively impact on police officers’ perceptions of and behaviour towards this subgroup of victims.

The current qualitative PhD research is exploring whether victims and police officers are experiencing identity threat, particularly stereotype threat, as a result of the identification of the victim’s mental health diagnosis.

On supportive evidence of identity threat in such police-victim interactions, interventions can be devised to reduce threats to ensure that victims have a positive experience of the police, and that police officers are confident in handling disclosures of mental health issues. An appropriate approach to identifying mental health issues during police interactions can also be developed.

3673 POSTER
Understanding Horse-Rider Relationships in Elite Sport: A Qualitative Study
Rachel Hogg, Gene Hodgins & Rachael Fox, Charles Sturt University

The relationship between horse and rider is widely regarded as central to equestrian sport, yet interspecies relationships have received relatively little attention in psychological research. Using a social constructionist, grounded theory methodology, this study examined the horse-rider relationship in equestrian sport, with thirty-six in-depth interviews conducted with an international sample of equestrian athletes. Four theoretical categories developed from an analysis of the ways participants constructed their relationships with horses. The category “managing personal-professional relationships with horses” explicated the complex, embodied relationships participants’ experienced with horses and the ways these relationships crossed the boundary between personal- and professional-relational dynamics. The category, “bridging the species-gap: individualising and personifying horses”, outlined how participants’ accorded individuality and personhood to horses in ways that served to create a sense of equality, facilitating the development of a close relationship. Notions of “partnership” were explored in the category, “he knows his job’: conceptualizing a sporting partnership”, with horse-rider partnerships developing from a shared work agenda and deep personal bond. The final category, “a blessing and a burden: bonding and being competitive” outlined the ways the horse-rider relationship impacted upon sporting performances. In some contexts, a strong horse-rider relationship was an impediment to competitive success, bringing into question the ethical status of equestrian sport. Equestrian sporting disciplines must be examined to determine why, and under what circumstances, the horse-rider relationship may become antithetical to competitive success. While further theoretical sampling is required to develop a theoretical framework of horse-rider relationships in
equestrian sport, a salient nascent theory has been constructed, with implications for the moral and ethical status of horses in sport, and the development of a sporting milieu that values and prioritises animal lives and interspecies relationships.

3453
POSTER
Stigmatising attitudes to eating disorders among young people in Ireland
Clíodhna O'Connor, Dept of Psychology; Maynooth University Fiona McNicholas, Lucena Clinic, Dublin; Niamh McNamara, University of Bedfordshire; Lesley O'Hara, University College Dublin

Background: Eating Disorders (EDs) comprise a significant portion of the mental health morbidity of young people, yet underdetection is a major problem. This study sought to illuminate barriers to help-seeking by exploring young people’s ED literacy and their attitudes towards people with EDs.

Methods: 290 young people (51% female, age-range 15-19) completed a questionnaire that was available in both paper and electronic form. Participants were randomly allocated to read one of five vignettes depicting a young person with symptoms consistent with Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge Eating Disorder (BED), Depression or Type 1 Diabetes. Participants were asked to identify the illness depicted and report their attitudes to the vignette target. Data were statistically analysed using SPSS.

Findings: Six participants had been affected by an ED themselves, and 62.4% knew someone with an ED. However, responses to the vignettes showed poor recognition of the symptoms of EDs in comparison with Depression ($\chi^2[4]=36.1$, $p<.001$, $n=283$). All three EDs were rated more individually-caused than Depression or T1 Diabetes ($F[4,269]=18.5$, $p<.001$), and participants believed that the BED target had significantly more personal control over their disorder than Depression or T1 Diabetes ($F[4,264]=3.6$, $p=.008$). All three ED targets were ascribed significantly more negative ($\chi^2[4, n=104]=44.581$, $p<.001$) and less positive ($F[4,255]=12.9$, $p<.001$) personality traits than other vignettes.

Discussion: The vignette responses indicate the need for greater public education regarding the symptoms of EDs, to enable young people to identify and seek help for problematic eating in themselves and their peers. Health promotion initiatives should also address the stigmatising attitudes that can inhibit disclosure and service engagement.

3525
POSTER
When describing immigrants serves a purpose: Strategic variability in stereotypical contents as a function of the nature and salience of political goals
Rita Morais & Rui Costa Lopes, Institute of Social Sciences of the University of Lisbon, Portugal; Denis Sindic, Centre for Psychological Research and Social Intervention (CIS-IUL), ISCTE-IUL, Portugal; Olivier Klein, Faculté des Sciences psychologiques et Education, Université Libre de Bruxelles, Belgium; Manuela Barreto, University of Exeter, United Kingdom

One experiment ($n = 180$) was conducted with the purpose of showing the impact of political goals in relation to immigration (i.e., promoting more or less restrictions on immigration) on the strategic use of immigrants stereotypes (Klein et al., 2007). We hypothesized that, when political goal are made salient, participants whose goal is to increase restrictions would present immigrants as more hard-working when the study allegedly focused on the issue of
jobs availability (since it stresses the competitive threat they represent in this area), but as less hard-working when the study allegedly focused on the issue of social security (since it stresses the threat they represent to its resources). The opposite pattern was predicted for participants with the opposite goal. Political goal salience was manipulated by providing (or not) participants with an opportunity to convince others to sign a petition supporting decreasing or increasing restrictions on immigration. Overall the results confirmed our hypotheses, showing that stereotypical contents may be used with more flexibility than suggested by current models (e.g., Fiske et al., 2002). However, whilst a strategic explanation is evidenced experimentally through stereotypical variability, on a societal scale it may also contribute to explain stability and the perpetuation of stereotypes about immigrants: Where there is stability in political goals and context, so should there be in the stereotypical contents that are used. A follow-up study was also conducted to address the question whether strategic variability in the use of stereotypes is matched by variability in intra-psychic cognitive representations, by using an implicit measure of stereotyping based on the IAT.

3614
POSTER
Collective action and peripheral cues to social categorisation in online environments
Denise Wilkins, Andrew Livingstone & Mark Levine, University of Exeter

Background: This study examined whether online banner adverts can affect individuals' collective action motivation by influencing social categorisation. Although individuals are more likely to engage in collective action for their ingroup, peripheral features like banner advertisements in online environments can potentially influence social categorisation, which in turn is likely to affect collective action intentions.

Method: English participants (N=71) viewed a screenshot of an online article by a blogger asking them to take collective action for Wales. The article included ostensibly incidental banner advertisements related to Britain, Wales or neither.

Measures: Collective action motivation, influence, perceived blogger nationality and typicality of relationship with Welsh people.

Analyses: Chi-square and multiple regression.

Findings: When banner adverts related to Wales, participants were more likely to categorise the blogger as Welsh X2(2, N=71) = 18.51, p <.001. This categorisation interacted with participants' self-typicality ratings to affect collective action motivation B = -.73, t = -2.30, p = .02. Categorising the blogger as Welsh increased collective action motivation for participants who saw themselves as relatively positive towards Welsh people, but decreased motivation for those who saw themselves as relatively negative towards the Welsh.

Discussion: While peripheral features of online environments can affect social categorisations and collective action motivation, the nature of this effect is not simply determined by ingroup vs outgroup categorisation. Individuals' beliefs about whether their own attitudes to the outgroup are typical of the ingroup are important too, and in certain circumstances, seeing an activist as an outgroup member can increase collective action.

3699
POSTER
Do ingroup and outgroup members' body sizes influence adolescents' own body satisfaction?
Can images of average and overweight individuals influence adolescents’ self-perceptions of body image and body shame? And does it make a difference if the target individual is an ingroup or outgroup member? Individuals are motivated to maintain similarities with ingroup members and differences with outgroup members. Therefore, this study not only set out to examine whether targets of varying body sizes can affect the way adolescents’ feel about their own bodies, but also whether body-satisfaction differs when the comparative target belongs to one’s own group or another group. 130 children (12-13-year-olds) took part in this study, employing a 2(Body Type: Average weight vs. Overweight) x 2(Group: Ingroup vs Outgroup) between-subjects design. Participants completed two measures concerning their own body satisfaction; body shame and body image. The body image measure required participants to provide self-perceptions of their actual body size and ideal body size. A MANOVA test revealed that when viewing average weight targets, adolescents tended to rate their own body sizes as larger than when viewing overweight targets. The discrepancies between adolescents’ actual and ideal body image was also larger when viewing average weight targets. In fact, when viewing average weight targets, adolescents expressed a significantly stronger desire to be thinner than they currently are, than when viewing overweight targets. The group membership of the target member did not affect participants’ body satisfaction. This study highlights the strong and often dangerous influence that images displayed in the media can have on young people’s perceptions of ‘good’ and ‘bad’ body size.

**3723**
**POSTER**
**Motivation to drink and to quit drinking among AA attendees, self-quitters, and drinkers.**

*Robin Waterhouse & Marina Rachitskiy, Regents University London*

**Background:** Investigations into the motivations that lead individuals to drink alcohol comprise an important and comprehensive segment of the literature on alcohol and alcoholism. Comparatively less is known about the motivations for quitting alcohol and abstinence from alcohol. Further to this, even less is known about the relationship between the two. The study aims to close that gap by exploring the motivations to drink and motivations to quit among those who quit with support (AA attendees), those who quit on their own, and those who are still drinking.

**Methods:** The study is a quantitative design that utilises the following self-report questionnaires: Drinking Motives Questionnaire Revised, Drinking Context Scale, Reasons for Quitting Questionnaire, Drinking Refusal Self-Efficacy Questionnaire. Snowball sampling was used to recruit 25 participants within each of the conditions: AA Attendees, Self-quitters, and Drinkers (control).

**Findings:** MANOVA was used to explore the differences between the AA attendees, Self-quitters and Drinkers on the variables of interest. Higher scores on the extrinsic motivation to drink and quit are associated with AA attendees, while higher scores on intrinsic motivation to drink and to quit are associated with Self-quitters. Higher self-efficacy scores are linked with Self quitters.

**Discussion:** The study is designed to close a gap in the literature on the relationship between motivation to drink and quitting behaviour in those who quit with support and those who quit on their own. The findings have direct implications on development and improvement of alcoholism interventions and anti-drinking campaigns.
**3745**  
**POSTER**  
The Effects of Adult Attachment and Depressive Symptoms on Close Relationships Under Relationship Threat  
*Samantha Chan, Durham University, Harriet Rosenthal, Durham University, Judi Walsh, University of East Anglia*  
**Background:** In romantic relationships, couples often encounter relationship-threatening situations that could have significant impacts on their relationships. Past literatures have shown that attachment and depressive symptoms influence how individuals seek and maintain proximity with close others. Integrating research on adult attachment, depression and group process, the current study investigated the effects of insecure attachment and depressive symptoms on romantic and group relationships under relationship threat.  
**Methods:** Forty couples in a heterosexual romantic relationship were randomly assigned to two conditions in which they rated photos of attractive people (threat) or animals (control) in the presence of their partners. Relationship threat was induced in the threat condition and participants’ interpersonal closeness and approach tendency related to their partners and friendship groups were measured following the task.  
**Findings:** Correlation results showed that higher depressive symptoms were significantly associated with higher attachment anxiety and lower group identification. Moderation analyses revealed that the presence of threat moderated the impact of attachment avoidance and depressive symptoms on perceived closeness with partner and group identification. In times of threat, individuals with higher depressive symptoms or attachment avoidance perceived lower closeness with their partner than those with lower depressive symptoms or attachment avoidance. Individuals with higher depressive symptoms also identified less with their friendship group.  
**Discussions:** The current study conducted the first study to my knowledge to induce real relationship threat in couples to study the impact of dyadic attachment on group identification and provided initial evidence on the impacts of attachment avoidance and depressive symptoms on social relationships under relationship threat.  

**3581**  
**POSTER**  
The phenomenon of polyamory as a type of concurrent partnership that may enhance HIV prevention programmes in South Africa  
*Stanley Molefi, University of Pretoria*  
This study sought to investigate people’s conceptualisation of the meaning of polyamory as a type of concurrent partnership that may enhance HIV prevention programmes in South Africa. The research question of the study entails finding out how people conceptualize the meaning of polyamory as a basis to enhance HIV prevention programmes in South Africa. Indeed, this falls against the backdrop of the established policy framework and scholarly throughput that advocate for the wholesome reduction of concurrent partnerships as a potential behavioural prevention strategy regarding HIV/AIDS in South Africa and largely the broader region of Southern Africa. Although, the idea of some forms of concurrency driving HIV infection is not disputed; however, the preceding policy framework ignores the on-going debate about whether all forms of concurrent relationships pose the same risk to HIV infection. The lack of substantial evidence, inconsistent definition, and difficulty in measuring concurrent partnerships are factors that show that not all forms of concurrency may necessarily drive the epidemic.
The Structuration and Social Cognitive theory is used as an integrated model that provides a nuanced and comprehensive explanation for the theory of concurrent partnerships. A non-random sampling method targeting individuals who are in polyamorists relationships in Gauteng Province, South Africa is utilized. In-depth individual interviews are used as data collection methods on the sample size of 10 participants. Interpretative Phenomenological Analysis is used to analyse the data. Preliminary findings reveal that in some polyamorous relationships safer sex practices is insisted. Furthermore, condom use is common in new relationships but less frequent in primary relationships.

3577
POSTER
Creating a United Kingdom Relevant Home Numeracy Environment (HNE) Scale
Abbie Cahoon & Victoria Simms, University of Ulster, Coleraine
Objective: Early mathematical achievement is predictive of later educational achievement, employment, and future life chances (Williams, Clemens, Oleinikova & Tarvin, 2003). Yet, there is a paucity of research on early mathematical experiences outside of the school context, thus ignoring the science of early development (High, 2008). The Home Numeracy Environment (HNE) and the assessment of its influence on the development of mathematical abilities is in its infancy (Skwarchuk, Sowinski & LeFevre, 2014). This study aimed to develop a HNE scale suitable for use in the United Kingdom as existing scales were either a) not culturally appropriate, b) very brief or c) outdated. The tool is designed to measure the frequency of direct and indirect mathematical experience at home.
Method: Informal, semi-structured interviews with parents (N=10) of 3-4 year old children, recruited through local public leisure facilities were carried out. The interviews were used to investigate children's interests, parent-child interactions and specific parental attitudes and expectations in relation to mathematical practices at home. This study involved the adaption of a scale originally established in Canada for a United Kingdom context. Thematic analysis determined themes and questions that assess the HNE and inter-coder reliability testing was performed to enhance coding credibility.
Conclusion: Interviews provided an in-depth picture of the natural HNE a parent creates for their child. Identified themes included; technology-based educational experiences, rehearsing counting through rhythm, and parents adjusting behaviour to suit their child. This tool provides a foundation for further exploration of the interplay between direct and indirect home numeracy experiences and later mathematical ability. The adaption and updating of the HNE scale has opened an important avenue for mathematical development research in the UK.

3667
POSTER
How Collectivistic Values Moderate the Relationship between Maternal Control and Adolescent’s Perceived Legitimacy of Maternal Authority in Turkey
Melike SAYIL, TED University, Arcan TIGRAK Hacettepe University; Yeliz KINDAP TEPE, Cumhuriyet University; Yusuf BAYAR, Deniz KURT & Helin YABAN, Hacettepe University
Background: Cross cultural studies indicates the protective role of collectivistic values on parental control. However, relatively little is known about the associations of these values with parental control and judgments of parental authority. This study examined adolescent’s
collectivistic tendencies and filial piety as moderators in the relationship between maternal control and adolescent’s perceived legitimacy of maternal authority.

**Method:** Participants were 527 (274 girls) middle SES urban adolescents between the ages of 11 and 18 (M = 14.44 years, SD = 1.38). The reciprocal filial piety, collectivism, maternal behavioral control (monitoring), maternal responsiveness/support and perceived legitimacy of maternal authority were measured with statistically reliable scales. Adolescents voluntarily filled the scales in a class environment.

**Findings:** Hierarchical regression analysis results revealed that the main effects of maternal support, maternal behavioral control, and filial piety were significant. Adolescents’ filial piety beliefs explained 8% of the variance in perceived legitimacy of maternal authority over the maternal support and control. The interaction of filial piety with maternal behavioral control was also significant explaining only 1% of the variance in perceived legitimacy. Simple slope computations revealed that when maternal control is high adolescents who have higher filial piety beliefs perceive their mothers’ authority more legitimate. Although the main effect of collectivism was significant, interaction effect was not found.

**Discussion:** Adolescents whose filial piety attitudes and collectivistic tendencies are intense can perceive their parent’s authority more legitimate in a non-western country and then probably they may not react negatively to strict control exerted by their mothers.

3550
**POSTER**

The development of aesthetic judgments of abstract and realistic artworks from 4 to 10 years

*Julie Kirkham, University of Chester*

Art and aesthetics are defining features of human culture. Children’s aesthetic judgements have received little attention in comparison to adults despite claims that this could reveal important information about their developing socio-cognitive abilities (e.g., Parsons, 1987). This research investigated children’s justifications for their aesthetic preferences for both abstract and realistic artworks and how these develop with age. Twenty 4-, 6-, 8- and 10-year-old children (n=80) were shown 20 artworks and were asked to rate how much they liked each image and to explain their decision. Children’s verbal justifications were recorded, transcribed, and then analysed using a coding scheme produced via content analysis. Results revealed that the most frequent reasons for judgements across all ages were the subject matter, formal properties, and colour of the artwork, as well as the extent to which it could be understood. There was no significant association between age and reference to colour, indicating that this factor remained consistently important. Reference to formal properties, understanding and subject matter increased with age, with significant development between 6- to 8- years, and additionally, between 4- to 6-years for formal properties. There was a significant effect of image type upon judgements, with references to colour and formal properties higher for abstract compared to realistic images, but lower for subject matter. References to understanding the artwork did not differ according to image type. Findings are discussed in relation to the shift from pre-operational to concrete operational thought (Piaget, 1947) and adult models of aesthetic understanding (e.g., Leder et al., 2004).
Developing an Iterative, Task-orientated Model of Metacognition in Primary School Education  
Heather Branigan, University of Stirling

Existing research has clearly demonstrated the benefits of metacognition on educational attainment, however this research has been framed around existing models which generally frame metacognition as a compartmentalised construct. In contrast, analysis of the literature highlights confounds between metacognitive knowledge and regulation components in measures of metacognition, and difficulties in isolating components for investigation. In addition, results from a pilot survey investigating Scottish Primary School teachers’ (N=61) perspectives of metacognition reveal that teachers generally perceive metacognition to be a skill which can be encouraged in the classroom environment, and which is embedded within other influencing factors such as motivation and desire. Drawing from these conclusions, an alternative model is proposed which conceptualises metacognition as an iterative task-orientated process. The proposed model adds to traditional conceptualisations by considering the dynamic and fluid interactions between metacognitive knowledge and regulation before, during and after task completion in a cyclical model. It is proposed that this conceptualisation will provide a more practical understanding of the way metacognitive components interact with each other and with social and environmental factors in the context of conducting real-life tasks. By developing theory focusing on metacognition in the classroom environment, this contribution works towards bridging the gap between psychological theory and educational practice.

Semantic regulation and goal utilisation in children's auditory probe recall  
Josie Briscoe, University of Bristol

With age, children become more able to exercise cognitive control using self-generated, abstract representations to facilitate goal-orientated behaviour (Munkata, Snyder, Chatham, 2012). Stronger utilisation of abstract goals arguably facilitates the selection and controlled retrieval of meaningful concepts from semantic memory e.g. retrieving category exemplars on verbal fluency tasks. The present study adopted an auditory probe recall task to explore goal utilisation in relation to children’s ability to select and retrieve related concepts from long-term semantic knowledge. Semantic distance metrics were used to capture within-category relations that were proximal [e.g. CAT-MOUSE] or distal [e.g. CAT-TORTOISE], and therefore manipulated selection demands for retrieving meaningful concepts in the probe-target pairs. Goal utilisation was manipulated using category blocked presentation of trials (vs mixed presentation) to provide exogenous support for access to category knowledge, and facilitate the matching of probe-target relations within a trial. Comparison of adults (n=23) and school-age children (n=34) identified a stable benefit to response latencies in probe-target pairs that shared proximal relations, in both age groups. However, children, rather than adults, benefited from category blocking with faster responses in the blocked trials. This was consistent with previous suggestions that developmental time facilitates the use of endogenous goals to support flexible cognition. However, the manipulation of exogenous support available to support matching did not interact with semantic distance manipulations in the probe-target pairs, implying different loci to the retrieval and selection demands inherent in manipulating meaningful concepts in children's memory.
The role of race salience in moderating children’s implicit racial attitudes

Amanda Williams, Sheffield Hallam University; Jennifer Steele, York University

Although a great deal is known about adults’ implicit racial attitudes, researchers have only recently begun to investigate the development of implicit racial biases in childhood. Developmental Intergroup Theory (DIT; Biger & Liben, 2006, 2007) suggests that children for whom race is a psychologically salient dimension will be more likely to develop race-related stereotypes and prejudice. To better understand the development of children’s implicit racial attitudes, we extended initial research findings by examining one potential moderator of children’s implicit attitudes: racial salience. In line with the DIT, we hypothesized that children high in race salience (as determined by a card sorting task) would show stronger implicit racial bias on a category (IAT; Greenwald et al., 1998). Children (N=91; aged 5-12 years) completed a racial salience measure and the ch-IAT. Regardless of age, race salience moderated bias on the category-based IAT, F(1, 87) = 5.30, p = .02. Children high in race salience (D = .25, SD = .40) showed greater pro-White (versus Black) bias on the race IAT than those low in race salience (D = .07, SD = .38). This is the first demonstration that individual differences in race salience moderate not only children’s explicit attitudes, but also their implicit racial bias. This finding is consistent with theorizing that the psychological salience of social categories is critical to the development and expression of implicit intergroup biases.

Why Joint Attention Matters for Language: Assessment of Stability in the Development of Language from Infancy to Early Childhood

Rhiannon Fyfield, Amy Louise Paine & Dale Hay, Cardiff University; Siwan Roberts, NH

A key principle in child development is the stability/change of behaviour across time. It informs the study of individual differences and can address the origins and overall course of a phenomenon. In the context of the development of language, stability across time contributes to understanding how language functions and develops. Language is a core skill that contributes to all domains of development. Early forms of pre-verbal communication such as joint attention depends on the ability to coordinate attention with another person and underpin later interaction (Striano & Rochat, 1999). Gaze regulation and the use of communicative gestures are important components of early interaction. Gestures that serve to regulate another person's attention are incorporated into interaction as early as 12 months of age. When toddlers acquire words, they use them in interaction, although nonverbal interaction remains more important for some time. As children acquire language and fluent vocabularies, they spend more time talking.

Theoretical accounts propose that an important relation exists between joint attention and language. However, little empirical evidence supports these claims for putative precursor status. We assessed 332 participants recruited to the nationally representative Cardiff Child Development Study; a prospective longitudinal study of first time mothers and their children from pregnancy to early childhood. We studied the early precursor to language; joint attention. We assessed whether this skill at approximately 12 months predict to a latent variable measure of early language (parent report) and predict to an observed measure of communication to a peer, at 33 months. We assessed long-term stability of language at 33
months and receptive language during early childhood, measured by the widely accepted psychometric analysis, BPVS. Significant associations were found and are presented.

3751
POSTER
Local and Global Processing in Perception and Language throughout Development
Dorota Smith & Joel Talcott, Aston University; Mila Vulchanova, Norwegian University of Science and Technology

Background: Local and global processing can be examined in different domains: While processing styles in visual perception have long been in the centre of attention, in language they remain underexamined. In vision, local features are details, whereas the ‘big picture’ is the global aspect; In language local refers to single words or simple grammar and global processing to using context and being able to make inferences. To our knowledge, processing styles have not yet been examined in these two domains within the same participants. Further, the developmental aspect of local and global processing in perception and language is yet to be clarified. We are reporting first results gained from a cross-sectional sample with participants aged 8-30 years.

Methods: Visual tasks involved hierarchical figures with geometrical forms, manipulation of contingencies of local and global trials, and backward-masking versus no masking. Language tasks included ambiguous words and sentences and a sentence ordering task. All tasks required local or global processing for successful completion.

Findings: In adults a global perception bias was found which could be adjusted depending on the contingency of local and global trials. Masking significantly impaired accuracy in local but not global trials. These effects were less pronounced in young children. All groups showed context facilitation in language tasks. Children were less efficient in activating subordinate meanings and using context information.

Discussion: Preliminary data confirms global processing abilities develop and increase in typically developing individuals with age. Although adults have a global perception bias, it can be adjusted voluntarily.

3458
POSTER
Multisensory category learning in primary school children
Hayley White, Hannah Broadbent, Natasha Kirkham & Denis Mareschal, Centre for Brain and Cognitive Development, Birkbeck, University of London

Background: Research suggests that multimodal information can support some learning in adults and even infants. However, despite wide acceptance in early education communities, there has been no systematic research examining whether multisensory information is actually helpful for children’s learning. We investigated the influence of visual, auditory and audiovisual information on primary school children learning a novel category-learning task.

Method: Children aged 5-, 7- and 10- years (N=180) participated in a multimodal learning paradigm. Participants were allocated to one of the three ‘modality’ conditions and asked to learn the category membership of individual exemplars (cartoon aliens). Category membership was determined by audio-only, visual-only, or a multisensory combination of audiovisual features, depending on the learning condition. Immediate feedback was given on each learning trial.

Results: A significant interaction between age and sensory condition was found. Five year olds were significantly better at category learning when presented with multisensory,
compared to unisensory information. The 7-year olds demonstrated no significant effect of sensory information on learning. In the 10-year old group, learning was facilitated by auditory information only, compared to visual-only or multisensory information, with no significant difference between the latter two.

**Discussion:** The findings suggest that the usefulness of multisensory information is far from universal, only supporting learning in the younger children. For the older two groups, multimodal information does not facilitate learning beyond unisensory learning; in fact in the older age group it is auditory information that supports learning. These findings are discussed within a framework of attentional control across development.

3451

**POSTER**

**Effects of Distance on the Proxemics and Signalling Propensities of Young Adult Humans (Homo sapiens)**

*Rose-Anne Roy-Chowdhury, Zoe Boarer-Pitman & David Leavens, University of Sussex*

**Background:** van der Goot et al. (2014) reported that human 1-year-old infants communicated from a distance about unreachable referents (DISTAL), but that apes did not; all ten of their apes approached the referents and then signalled about them (PROXIMAL). They claimed that distal signalling implicated uniquely human cognitive processes. However, five sampling and procedural factors were confounded with species classification: (a) age (apes’ mean age = 18 years); (b) caging (infants not caged); (c) type of referent (toys vs. food treats); (d) the distances between the rewards and the subjects (.95 and 1.8 metres vs. 6.0 metres), and (e) the substrates (human infants: pillows; apes: floor).

**Method:** 68 human adults (mean: 22 years) were matched with the apes on life history stage (young adults), caging, and reward type (food treats), manipulating the distance between the rewards and the participants (1.8 m. vs. 6.0 m.) and the type of substrate (pillow, chair, floor). Each participant was pseudorandomly assigned to a NEAR or FAR condition and a substrate, receiving four trials each. **RESULTS:** On three of the four trials, the human adults were significantly more likely to move proximally to the reward in the FAR condition and to locomote when standing on the floor. **Conclusion:** when age, testing environment, and reward type were approximately matched between humans and apes, similar communicative behaviour was elicited; adult humans, like adult apes, are more likely to communicate proximally, in the FAR condition, suggesting that procedural, not evolutionary factors, explain van der Goot et al.’s findings.

3354

**POSTER**

**Exploring Young Adults’ Experiences of Growing Up with Dyslexia. An Interpretative Phenomenological Analysis**

*Nicola Ralph & Claire Fox, Keele University*

**Background:** This research was conducted to explore young adults’ experiences of dyslexia, more specifically, coming to terms with the diagnosis, understanding it, and the influence of teachers and peers. Previous research had explored the experiences of students with dyslexia who were currently in schools, finding that they often felt stupid due to their difficulties and that teachers were perceived as unsupportive. Experiences with peers can be mixed, with bullying more likely, while friendships can be a source of support for children with dyslexia.
**Method:** Eight interviews with young adults (mean= 20 years) with dyslexia were conducted. Interviews were transcribed verbatim and Interpretative Phenomenological Analysis was the analysis method used.

**Findings:** Five main themes emerged. Firstly, participants talked about a general lack of understanding that seems to exist with respect to dyslexia. Secondly, participants expressed their positive and negative attitudes towards dyslexia and the consequences of the diagnosis, including negative and positive emotions such as hatred and relief. Thirdly, participants recalled their positive and negative experiences with teachers, identifying what characterised a good teacher. Fourthly, participants explained their reasons for informing their friends and the mixed responses they received. Finally, participants’ outlined positive and negative attitudes towards education and the desire to focus on achievable goals rather than struggle in difficult areas.

**Discussion:** The findings from this study suggest that more awareness-raising is needed so that teachers and schools can improve dyslexic students’ experiences of school and reduce the potential for negative perceptions held by dyslexic students later in life.

---

**3493 POSTER**

**Imitation in children with autism spectrum conditions and children with language impairment**

*Hannah Hobson & Dorothy Bishop, Oxford University*

Imitation deficits have been suggested to characterise individuals with autism spectrum conditions (ASC), and to point to the core underpinnings of the disorder, perhaps involving a “broken mirror system”. Children with ASCs and children with language impairment have been proposed to show overlapping deficits, including social deficits, and imitation skills have previously been suggested to be important for language and social development. This study is a cross-disorder comparison of children with ASCs and children with language impairment on imitation and language skills, in order to assess whether imitation deficits represent a point of overlap for these groups, and whether imitation skills are related to children’s language abilities. We present data on 15 children with ASCs and 21 children with language impairment, alongside data collected from 47 typically developing children, aged between 7 and 12 years. Our findings suggest an autistic-like pattern of imitation abilities in children with language impairment, with a deficit in the imitation of meaningless body movements and intact imitation of actions with objects. We argue that children’s imitation skills can be impoverished for a number of reasons, and that imitation deficits are not unique to children with autism.

---

**3441 POSTER**

**Developmental Differences in the Pedestrian Behaviour of Children with and without ADHD**

*Martin Toye, James Thomson & Sinead Rhodes, University of Strathclyde; David Coghill, University of Dundee*

**Background:** Children with ADHD are disproportionately vulnerable to accidental injury, one of the most common causes of which amongst children, are pedestrian road accidents (UN, 2011). Few studies have examined pedestrian safety in the ADHD population. Those few which have, identify executive function deficits as being causal (Stavrinos et al., 2011). This
study aimed to establish developmental trends in EF and pedestrian safety amongst children with and without ADHD.

**Method:** 61 children with ADHD and 61 typical control children matched on age and verbal ability (using the BPVS) completed 3 subtests of the CANTAB (measuring inhibition, working memory, delayed short term memory) and tasks assessing 3 key pedestrians skills (safe place finding, visual timing and predicting road user intentions).

**Findings:** Results reveal significant between group differences in the developmental trajectory of both EF and pedestrian skill level in relation to age. Children with ADHD select fewer safe crossing routes, are poorer at timing gaps which are big enough to cross through and are less able to correctly predict the future actions of other road users compared with controls ($p<.001$).

**Discussion:** These findings carry implications for educators, clinicians and public health practitioners. They highlight the scope of and need for specialist intervention to improve accident outcomes amongst children with ADHD.

---

3545
POSTER
**Essentialist beliefs and gender differences in adolescents' academic choices**

*Hayley White & Patrick Leman, Royal Holloway, University of London*

**Background:** When young people explain sex differences in ability or academic aptitude as essential, inevitable or unchangeable, women often perform significantly worse than men on academic tests. However, when experiential explanations are used, which focus on the social or environmental causes of such differences, women’s performance is equal or even slightly better than that of men. The present study investigates whether priming essentialist or experiential beliefs about sex differences extend to influence academic choices in adolescence.

**Methods:** Male and female year 9 students (14 years) completed a short reading comprehension task. Participants were randomly assigned to a condition. The four conditions presented the readings to prime either: no sex differences (Control), sex differences (Standard prime), sex differences caused by genetics (Genetic prime) or sex differences caused by environmental learning (Experiential prime). Students were asked to indicate which academic subjects they would wish to pursue, and why, from a list of possible A-level choices.

**Findings:** An effect of gender was found, with more males choosing maths subjects as a first choice, than females. This effect was most pronounced in the genetic priming condition. Analysis of further choices and of the reasons behind choices indicated important variations in how different primes affect decisions relating to education.

**Discussion:** This study is the first to demonstrate a link between different belief types and academic decisions at school. It has important implications for understanding gender differences in academic performance and decision-making.

---

3733
POSTER
**Cognitive Development in 4-to 6-Year Old Children: Does the Cambridge Neuropsychological Test Automated Battery (CANTAB) Provide a Reliable Assessment?**
Background: The Cambridge Neuropsychological Test Automated Battery (CANTAB) is used widely in the neuropsychiatric screening of children. However, its test-retest reliability has not been well established. Further, its validity for use with young children has been questioned, necessitating an investigation of its suitability for this population.

Methods: The sample was comprised of 312 male and female children, who completed the following tests at ages 4, 5, and 6: Big/Little Circle (BLC), Intra-Extra Dimensional Set Shift (IED), Information Sampling Task (IST), Stop Signal Task (SST), and Spatial Working Memory (SWM).

Findings: Intra-class correlations of learning and reversal (BLC; ICC = 0.67), impulsivity (SST; ICC = 0.62), and decision-making (IST; ICC = 0.53) showed moderate to substantial test-retest reliability. However, the cognitive flexibility (IED) task, and strategy use when completing the SWM showed little stability over time (ICC = 0.21 and 0.06, respectively). Both the age 4 and 5 time-points were found to be predictors of performance at age 6 on most of the variables of interest, with the exception of inhibition (SST Proportion of Successful Stops) for which only age 4 was a significant predictor (beta = 0.30, P < .01).

Discussion: Repeated administrations of the CANTAB to assess the development of some facets of cognition are appropriate in 4- to 6-year old children. Additionally, performance in these areas appears to predict later functioning. However, cognitive flexibility and strategy use may not be sufficiently developed at this age to show stability over time.

3473

POSTER

The role of mental representations of order in the early development of maths skills
Patrick O'Connor, Kinga Morsanyi & Teresa McCormack, Queen's University Belfast

Background: Much of maths development research focused on the role of magnitude processing in the acquisition of symbolic number knowledge. However, recent evidence suggests that the ability to process numerical order may also be related to maths skills. Our aim was to investigate the role of ordering ability in early maths skills.

Methods: Using a longitudinal design, we tested 90 children during their first year of school (mean age at the start of testing = 4 years, 11 months). Children’s magnitude-processing ability was assessed using symbolic and non-symbolic tasks. Order processing skills were tested using numerical ordering tasks, a non-numerical ordering task and parental ratings of children’s ability to perform everyday ordering tasks (e.g. recalling the order of typical daily events). We will also assess children’s maths skills at the end of the school year.

Findings: We found that the number ordering tasks correlated with each other and with the non-numerical ordering task. Some aspects of numerical ordering also correlated with everyday ordering ability. Whilst numerical ordering skills were also related to numerical magnitude skills, non-numerical magnitude skills were not related to non-numerical ordering skills. We predict that both magnitude and order processing skills will predict children’s maths scores at the end of the school year.

Discussion: This study highlights the importance of ordinality (including the ability to order non-numerical stimuli) to maths development, potentially influencing the direction of future research on the topic. Furthermore, the study could provide the basis for research into the effectiveness of order-processing training in improving maths in children.
POSTER
Differences between secure and insecure mothers’ responses to their toddlers’ negativism: Focusing on mothers’ attuned responses
Shinsuke Kabaya, Aichi Shukutoku University
Background: Some researchers have focused on a kind of empathetic response exhibited by mothers with secure internal working models (secure mothers) called an “attuned response.” This factor might promote children’s socioemotio

POSTER
Teacher Beliefs Towards the Inclusion of Children with Intellectual Disabilities in Mainstream Schools.
Claire Wilson, Lisa Woolfson & Kevin Durkin, University of Strathclyde
Background: Inclusion relates to ensuring participation of all children within a general education setting. While policy can mandate inclusion in schools, it is the classroom teachers who determine its success. Drawing on the Theory of Planned Behaviour, two studies examined teacher beliefs towards including children with intellectual disabilities (ID) in the classroom.
Methods: Using a prospective design, Study 1 recruited 145 mainstream primary teachers who completed questionnaires assessing attitudes, social norms and control towards inclusive teaching. Actual teaching practices were recorded two weeks later. Study 2 was cross-sectional and recruited 120 primary teachers who completed questionnaires assessing perceptions of school climate, efficacy beliefs and inclusive teaching practices. Regression analyses investigated relationships between psychological variables and inclusive teaching.
Findings: Study 1 identified self-efficacy as the most important predictor of inclusive teaching. Further, attitudes, perceptions of other staff and control were important in predicting self-efficacy, suggesting a role of the school environment. Study 2 therefore examined perceptions of school climate and found relationships between this and efficacy beliefs. Moreover, inclusive teaching practices were, again, related to efficacy beliefs.
Discussion: The results suggest the importance of efficacy beliefs in use of inclusive strategies and bring us closer to understanding how these beliefs are fostered. School climate impacts on teachers’ beliefs and self-perceptions. Teachers’ perceptions and beliefs in turn impact on inclusive practices. Implementing inclusivity is a social cognitive process.

POSTER
Assessing the Effectiveness of an Animal Welfare Education Programme for Primary School Children
Jo Williams & Roxanne Hawkins, University of Edinburgh; Gilly Mendes Ferreira, Scottish SPCA
Background: The relationship between children and animals is a scientifically neglected topic in Psychology. 70% of UK children live with pets, which have an important role in children’s development. Children also influence animals’ welfare. Animal cruelty by children may indicate compromised psychological well-being and falls under the diagnostic criteria for Conduct Disorder. Animal welfare education aims to promote reciprocally beneficial relationships between children and animals, thus improving both child and animal wellbeing, yet little scientific evaluation of these programmes exists. The current research aimed to
systematically evaluate the short and long-term effectiveness of an education programme ‘Prevention through Education’ of the Scottish Society for the Prevention of Cruelty to Animals designed for children 7-13 years old.

**Method:** Pre- and post-test questionnaires were employed in a case control design to measure changes in attitudes, knowledge, empathy, and self-reported compassionate behaviour. A sample of 1,739 children (mean age 9.8) participated in the study from all areas of Scotland.

**Findings:** One-way ANOVA with repeated measures indicated significant positive changes in children’s knowledge ($F(2,985)=124.3, p=.000$), measures of empathy ($F(2, 900)=10.32, p=.000$), reported humane behaviour ($F(2,792)=5.57, p=.006$), attitudes and responsibility towards animals ($F(2,654)=4.32, p=.015$), attitudes towards animal cruelty ($F(2,886)=3.25, p=.042$) and children’s belief in animal mind ($F(2, 868)=71.73, p=.000$).

**Discussion:** The study confirms the potential of animal welfare education programmes for increasing the safety and wellbeing of children and animals, contributing to scientific understanding of child-animal relationships.

3596
**POSTER**

**Providing a novel framework to measure the key components of executive function in Down syndrome, with applications for efficient early clinical diagnosis of dementia**

*Liz Smith & Chris Jarrold, University of Bristol*

**Background:** Individuals with Down syndrome (DS) are at a greatly increased risk of developing early onset Alzheimer’s disease (AD). Executive function (EF) decline is one of the most consistent early signs of AD in this population. Detecting decline in EF in those with DS is complicated as individuals are expected to have cognitive performance below average prior to AD. It is vital to obtain baseline measures of EF for individuals with DS such that meaningful decline can be determined. There are however an array of components under the umbrella term of EF, and various different tasks are used to test these functions; such differences can lead to different results.

**Method:** In this study 20 adults with DS (aged 25-45) and 20 typically developing (TD) children matched for non-verbal mental age participated. We extract measures of three core components of EF using one simple framework, allowing for controlled comparisons of performance across these three key components. Specifically, we measure individuals’ ability to deal with the memory updating, inhibitory, and temporal components of EF. We tested participants on two occasions separated by approximately 4 weeks.

**Findings:** The reliability and validity of this novel task in obtaining independent measures of these three components of EF in those with DS and TD matched children will be presented.

**Discussion:** The potential to use this framework to provide a simplified, fast screening measure to assess decline in DS will be discussed, as well as the implications of this for allowing increased efficiency in early detection of AD in those with DS.

3592
**POSTER**

**Developmental change of mother-infant interaction (4-42 months) through microanalytical investigation.**

*Masatoshi Kawai, Kumiko Namba, Megumi Sasaki, Michiko Ishikawa & Naoko Obanawa, Centre for the Study of Child Development, Mukogawa Women’s University; Hatsumi*
Yamamoto, Noriko Yamakawa & Shigeki Tanaka, Clinical Research Institute, Mie-chuo Medical Centre, National Hospital Organization; Kohta Tamai, Hokkai School of Commerce

Objectives: An early interaction pattern between Mother and infant is one indicator of adjustment process in communication. In this report, relationship between mother-infant interactions in free play from 4 months to 42 months were analysed through microanalysis from the perspectives of mutual pattern ie. frequency of mother-gaze at baby and of baby-gaze at mother. The developmental changes of synchronicity are discussed from the viewpoint of a mother’s speculation of her baby’s competency in communication.

Methods: The participants of the study were part of the Japan Children’s Longitudinal Study which is investigating a wide range of environmental influences on later social development, including direct observations at home. Infants and mothers were videotaped in laboratory playrooms when the infants were 4, 9, 18, 30, 42, 60, 72 months. 87 mother-infant dyads (21 males and 25 females) were analysed. Mothers were from middle or higher household income families, and had at least graduated high school. All the babies were full-term infants who had no medical complications. Mother and infant vocal/gaze behaviours were analysed through microanalysis. Latency of onset of behaviour and frequencies of BV-MV (Baby vocalize to Mother - Mother vocalize to Baby) and BGM-MGB (Baby gaze at Mother - Mother gaze at Baby) were recorded.

Results: Frequencies of MVBV/BVMV are synchronously changing and increase after 18 months. Latencies of MVBV/BVMV are not synchronously and changing pattern after 18 month.

Conclusions: The changing point of mother-infant interaction occurs at around 18 month for Verbal interaction but not for gazing.

3616

POSTER

The light from above prior is intact in children with autism
Themelis Karaminis & Abigail Croydon, UCL Institute of Education

Background: Sensory information entering the retina is inherently ambiguous. The brain makes sense of this ambiguous sensory input by anticipating or predicting the sensory environment based on certain assumptions about the world. We have proposed that this process may be atypical in autism, in that the internal assumptions, or priors, are under-weighted, less utilized than in typical individuals. Here, we tested this hypothesis by examining whether children with autism use prior information to estimate the shape of an object, i.e., whether they show the so-called ‘light-from-above prior’.

Methods: 18 children with autism and 37 typical children, of similar age and ability, participated in this study. In the context of a developmentally-appropriate game, children were asked to judge the shape (whether it was concave or convex) of an object (a hexagonal stimulus) from its shading pattern. Children completed 360 trials presented in a randomised order.

Findings: The assumed light source direction was estimated for each participant using a multivariate logistic regression and the resulting figures plotted against age for the two groups. No significant differences between the autistic and typical groups were found [children with autism: M = -37.26, SD = 3.39; typical children: M = -35.65, SD = 3.66; t(53) = 1.57, p = 0.12].

Discussion: Contrary to expectations, we show that children with autism are able to use prior assumptions to make sense of three-dimensional information, just like typically
developing children. Future research should examine whether this prior is just as adaptable (modifiable with training) as it is in adults.
Presentations – Thursday 10 September 2015

3701
SYMPOSIUM
Social Psychology and Citizenship
Stephen Gibson, York St John University

As Condor (2011) has pointed out, many core social psychological constructs are implicated in matters of citizenship, but social psychologists have tended to avoid direct engagement with the concept. Recent work has, however, begun to address this lacuna, and the present symposium draws together findings from a range of projects which, taken together, highlight some of the key emerging trends in the social psychology of citizenship. In particular, recent and ongoing political events, such as the continuing economic crisis in Greece, the challenges of building a post-conflict society in Northern Ireland, the debates around migration in the build up to the 2015 UK General Election, and the so-called Trojan Horse Affair in Birmingham, raise questions concerning the definition and framing of matters of citizenship. Using these specific contexts as case study examples, the four papers in the present symposium seek to explore how matters of citizenship are constructed, represented and mediated, as well as their relationship with core social psychological concerns such as social identity, intergroup relations, prejudice, and social representations. In bringing together these four contributions in rather different contexts, the present symposium aims to enable the articulation of common threads across the papers, and to facilitate the continuing emergence of a specifically social psychological approach to matters of citizenship. Each of the four papers will be allocated a 20 minute timeslot (15 minutes plus 5 minutes for questions), with a final 20 minute slot for discussion led by the discussant.

3702
PAPER 1
The construction of extremism in ‘The Trojan Horse’ affair: implications for dialogue, identity and citizenship
Caroline Howarth, London School of Economics; Eleni Andreouli, The Open University; Martyn Barrett, University of Surrey; Natasha Brigham, London School of Economics; Stephen Gibson, York St John University

Background: This paper discusses research into the social, political and psychological significance of the Trojan Horse Affair (THA) – a recent political controversy about alleged plots to ‘Islamify’ certain schools in the UK. Our research project is less concerned with ‘what really happened’ but rather seeks to explore how the competing representations of what happened are consequential for local and national identities, intercultural dialogue and citizenship practices. Using a critical social representations approach, we examine competing discourses about the THA and explore the consequences of such for identity and citizenship practices.

Methods: These issues are explored through a) fieldwork consisting of interviews with stakeholders (e.g., school governors, teachers) and b) a media analysis of the debate on THA in the BBC program “Question Time” (aired on British television on 12/06/14).

Findings: The media analysis shows that discourses about community engagement, islamophobia, social inclusion, and the role of religion in schools more generally are often silenced while discourses about indoctrination, gender discrimination, extremism and threats to British values dominate the debate. The interview analysis shows that although some
people within the Muslim community voice their perspectives on the THA and engage in community activities, many are afraid (aware they may be labeled ‘extremist’) and feel disempowered, disengaged, discriminated against and disconnected to British society.

**Discussion:** We conclude with an examination of how discourses around extremism work ideologically to shut down dialogue and so marginalize minority perspectives. These conclusions are discussed in relation to existing work on citizenship and intercultural relations.

### 3718

**PAPER 2**

**Lay Theories of Citizenship and Migration in a Divided Society: The experience of incomers to newly mixed areas of Northern Ireland**

*Clifford Stevenson, Anglia Ruskin University; Thia Sagherian Dickey, Queen’s University Belfast*

**Background:** The study of citizenship has focused on the ways in which everyday understandings of the concept can be used to marginalise and exclude social groups (Barnes, Auburn & Lea, 2004; Gibson & Hamilton 2011). This is particularly the case in divided societies where the very framework, composition and future of the nation or state are disputed and the population is segregated (e.g. Horowitz, 1993; Lister, 1998; 2007; Niens, O’Connor & Smith, 2011). In such cases, movement across local community boundaries can be perceived and experienced as a form of micro-migration between citizenries (Lloyd, Shuttleworth & Wong, 2014). The present research examines how different understandings of citizenship shape experiences of residential mobility in increasingly mixed areas of Northern Ireland.

**Methods:** 26 semi-structured interviews were conducted with a range of incomers (18) and long-term residents (8) in increasingly mixed areas of Belfast. A thematic analysis identified different lay understandings of ‘good citizenship’ in the interviews.

**Findings:** Participants gave various accounts of their rights and responsibilities, including in relation to displays of political identity and cross-community interaction. The degree to which these expectations converged or diverged with those of long-term residents shaped their experiences of contact and level of community engagement.

**Discussion:** The findings add depth to the understanding of population mobility and contact in divided societies by indicating the need to examine the lay theories of citizenship as well as the identities of residents. It also points to the role of communication within mixed communities in preventing exclusion and conflict.

### 3719

**PAPER 3**

“**Othering**” and managing accountability while talking about migration and citizenship in Greece

*Maria Xenitidou & Antonis Sapountzis, Democritus University of Thrace*

**Background:** This paper draws on interview-based research with indigenous and non-indigenous residents of Greece and discusses the lines of argument identified in the ways in which participants negotiated (Greek) citizenship in the context of ‘the current situation in Greece’.

**Methods:** Semi-structured interviews were conducted with 50 participants, indigenous and non-indigenous residents of Thessaloniki. The interview protocol invited discussions on the everydayness of Greece ‘in crisis’, the trajectory of the new citizenship law (Law 3838/2010),
the state management of migration, in general, and undocumented migrants, in particular, and the rise of the extreme right. The interviews were analysed based on the premises of rhetorical and critical discursive social psychology, focusing in particular on regularities in the arguments developed.

**Findings:** The emphasis in this paper is on the ways in which research participants – indigenous and non – managed accountability in talking about migration and citizenship policies in Greece. For example, indigenous participants often used explicit admissions to racism to account for the prejudice of the Greek people in general or for their own beliefs, normalizing the language of prejudice and discrimination; non-indigenous participants often argued for stricter criteria for citizenship acquisition and stricter migration policies, othering ‘others’ through making distinctions between migrants of different origin, between first and second generation immigrants, and between ethnic and civic belonging.

**Discussion:** We discuss these in light of the stigma against prejudice and in terms of their function in negotiating inclusion and exclusion, within the political milieu in Greece at the time of the research (2012-13).

### 3720
#### PAPER 4

‘Plain-spoken patriotism’: Constructions of economics and citizenship by the United Kingdom Independence Party in broadcast debates in the 2015 UK General Election campaign

*Stephen Gibson & Rachael Booth, York St John University*

**Background:** The rise of the United Kingdom Independence Party (UKIP) has been one of the more striking trends in recent British politics, and the General Election of 2015 saw their involvement in the campaign assume a higher profile than in previous elections. Given UKIP’s flagship policies on immigration and the European Union, the present analysis seeks to explore how matters of citizenship were constructed by UKIP representatives in broadcast media debates ahead of the election.

**Method:** Data are drawn from a series of broadcast media debates in the build up to the general election, up to and including the ITV Leaders’ Debate of 2nd April 2015, and also taking in episodes of the BBC programmes Question Time and Any Questions. Data were analysed using the principles of discursive and rhetorical psychology.

**Findings:** The analysis draws attention to the way in which representatives of UKIP construct economic matters in their articulation of criteria for citizenship and related concepts. Such constructions allowed speakers to position themselves and their party as reasonable, tolerant and rational, and to resist the implication (and sometimes direct accusation) that they might be racist, xenophobic, or otherwise intolerant.

**Discussion:** The foregrounding of economic matters performs a key role in UKIP’s presentation of itself as a party of reason and common-sense. This is considered in light of existing research on social psychology and citizenship, as well as in relation to work on the discursive construction of ‘new’ racism, and on the management of accusations of racism.

### 3715
#### EMPIRICAL PAPER

Individual differences in executive function are related to school readiness in preschoolers’ with autism

*Lorcan Kenny, Elena Klaric, Hannah Lichwa, Janina Brede, Rebecca McMillin & Elizabeth Pellicano, Centre for Research in Autism and Education (CRAE), UCL Institute of Education*
Background: Long-term developmental outcomes of autistic individuals are highly variable, even for individuals at the more able end of the autism spectrum. This research aimed to investigate one potential source of this variability; autistic children's emerging executive function (EF). Poor EF is well documented in autism and recent developments in the understanding of EF in typical development indicate that well-regulated EF is predictive of young children's social awareness and school readiness. This study, therefore, aimed to test whether individual differences in autistic children's EF explain some of the variability in children's functional outcomes.

Methods: 30 autistic (M=4.44, SD=1.02) and 30 typically developing (M=4.43; SD=0.88) preschool children matched on age and ability, were assessed on a battery of tasks measuring components of EF (working memory, inhibition, set-shifting) and school readiness (as measured by the Bracken School Readiness Scale).

Findings: Autistic children performed significantly worse on measures of school readiness and on all measures of EF relative to typical children. Furthermore, individual differences in children’s EF skills, especially in working memory, were related to variation in their school readiness for both autistic and non-autistic children. The findings from this cross-sectional study provide further support for the potential role of EF in explaining the variability in autistic children’s functional outcomes. Intervention programmes to boost EF development in preschool children with autism – especially those that ‘exercise’ EF or rely on implicit rather than explicit instruction of such skills – should be a key priority for future research.

3727
SYMPOSIUM
From fetus to infant: Comparative and developmental approaches to emotional expressivity and intersubjectivity in a social context
Emese Nagy, School of Psychology, University of Dundee
The aim of the symposium is to identify how social aspects of development are integrated within and across species from fetal to neonatal life. The methodological and conceptual challenges studying the beginnings of intentionality and the emerging intersubjectivity in fetal and neonatal psychology will be discussed in the symposium.

Nadja Reissland explores the developmental significance of combinations of facial movements resulting in expressions or gestalts by exploring the dynamics of emotion (distress) and feeling (pain) and what this signifies in terms of the development of physical and psychological development of feelings. Hannah Harvey takes up this theme by examining pain reactions of a vaccination in 200 young infants and exploring parental management of these pain reactions and emotional expressions.

Viola Marx presents evidence for fetal behavioural responsivity to maternal stimulation and suggests that fetuses' differential responses are affected by fetal maturation. Emese Nagy investigates neonatal intersubjective sensitivity measuring behavioural and psychophysiological reactions to communication disruptions in 322 neonates. She proposes a dynamic interactive process towards an increasingly efficient self-other regulation in the first days of life.

Via comparative developmental approach, Kim Bard investigates evolutionary continuous hominid- versus uniquely human characteristics in the earliest development. Examining 97 chimpanzee and human neonates she proposes that state regulation and emotional states are universal and are very sensitive to caregiving environment across the species in neonatal stage.
The 5 papers are integrated by Vasudevi Reddy in a discussion of the nature, and the mechanisms underlying the roots of intersubjective sensitivity.

3728
PAPER 1
The importance of facial expressions in foetal life
Nadja Reissland and James Mason, University of Durham; Brian Hopkins, University of Lancaster

Background: The question of whether and at what age we can identify facial expressions in general and, specifically, facial expressions of “pain” or “distress” in the foetus or premature infant takes on greater importance as medical procedures and pain involved to prolong life, develop. Although it is acknowledged that the experience of “pain/ distress” is subjective, functional aspects of pain, such as the ability to express distress is vital for an evaluation of a pain experience in fetal, premature or early life of the infant. The purpose of the study was to examine the development of the ability of healthy foetuses to express “distress”.

Participants: Fifteen healthy foetuses, (8 girls, 7 boys), underwent 4 ultrasound scans (24-36 weeks gestation).

Results: showed that as foetuses mature, they demonstrate increasingly complex facial movements making up the pain-facial gestalt. Based on the definition that an identifiable pain-face expression comprises 3 or more co-occurring facial movements, we found that at 24 weeks gestation the pain/distress gestalt was rarely observed (5% of facial events showing 3 relevant facial movements). In contrast, at 36 weeks gestation, healthy foetuses showed more facial pain expressions, with 21.2% of facial events having 3 facial movements making up the pain gestalt.

Discussion: Results are discussed in terms of the importance of facial expressions in fetal life.

3731
PAPER 2
I can’t tell you how much it hurts: Parental responses to pre-verbal infant pain expression during vaccination
Hannah Harvey, Department of Psychology, University of Durham

Injections given during vaccination are the most common source of iatrogenic pain in childhood. Pre-verbal infants cannot verbally communicate pain and rely heavily on their care-givers ability to accurately assess, and relieve pain. During infancy, pain is typically expressed via cry vocalisations, facial expressions and body movements. Early pain experiences, and the associated soothing strategies adopted by care-givers, have been found to influence individual responses to pain across the lifespan. Therefore, the identification of effective parental soothing strategies could highlight beneficial strategies for future intervention to reduce pain-related distress during infancy. However, little evidence has examined what parents naturally do to manage infant pain during vaccination appointments.

The present study examined parental responses to infant pain expression during vaccination. A total of 200 care-giver-infant dyads were recruited from 9 GP practices in Co. Durham, UK and video-taped during the first vaccination given to infants at two-months-old. Video-tapes were subsequently coded in terms of infant pain expression and parental soothing strategies.
Preliminary results (n=53) suggest that parents adopt a variable range of strategies in response to infant pain expression. In the 30 seconds after vaccination, reassuring vocalisations (M=20.2, SD=16.9), the offer of a pacifier (M=19.5, SD=30.4) and rocking the infant (M=17.9, SD=25.6) were the most commonly employed soothing strategies. Results will be discussed in terms of the efficacy of specific strategies in reducing infant pain expression and their utility for intervention development.

3730
PAPER 3
The origin of social responsiveness: What does the still face paradigm tell us about neonatal sociality?
Emese Nagy, School of Psychology, University of Dundee
Neonates’ intersubjective sensitivity is largely unexplored. Seven studies, involving 322 newborn infants (0–72 hours old) aimed to measure their behavioural, psychophysiological reactions to communication disturbances, modifications of the SFP. Studies 1-3 examined how newborns’ bio-behavioural regulation can account for their reactions to the SFP. Whether communication is a primary motive, was investigated in Study 4. Study 5 explored whether newborns responded selectively according to the experimenter’s intent with regard to the still face. Finally, co-registration of behavioural and psychophysiological measures allowed the examination of the complexity of the responses (Studies 6-7).
Results showed that all types of communication disturbance caused prolonged distress, but the pattern was related to babies’ initial dispositions as measured by the NBAS. The experimenter’s intention also mattered, when the experimenter communicative with someone else in place of the still face, babies cried less after the disruption. Additionally, although the procedure remained stressful even after repeated examination, babies changed their behaviours, and re-established eye contact faster after the still face phase, allowing quicker repair. Finally, psychophysiological changes showed that unlike controls, babies who experienced the communication disturbance increased their heart rate, concurrent with their behavioural signals of distress.
In summary, newborns found communication disturbances stressful, understood intersubjective intentions, and efficiently co-regulated behavioural and psychophysiological distress signals. Instead of viewing their behaviour as an outcome of the caretaking process, the evidence highlights a dynamic interactive process where the neonate, based on her intersubjective sensitivity, adaptive learning from previous experiences; actively uses increasingly efficient self-other regulatory processes

3729
PAPER 4
Fetal behavioural responses to maternal voice and touch
Viola Marx & Emese Nagy, School of Psychology, University of Dundee
Previous research on fetal responses to external stimulation primarily focused on fetal heart rate responses and the study of behavioural responses is scarce. The aim of the research was to measure fetal behavioural responses utilizing 3D real-time (4D) sonography in reaction to maternal voice and touch of the abdomen compared to a control condition. Behavioural responses of 23 fetuses (21st - 33rd week of gestation; N=10 2nd; N=13 3rd trimester) were frame-by-frame coded and analysed across the conditions.
Results indicate that fetuses decreased their arm and head movements to maternal voice and displayed more head, arm, and mouth movements when the mother touched her abdomen. Fetuses in the 3rd trimester displayed increased self-touch (hands touching the body), resting (arms crossed), and regulatory (yawning) responses to the stimuli compared to younger fetuses in the 2nd trimester.

Overall, results from this study suggest that fetuses selectively respond to external stimulation earlier than previously reported. Fetuses regulated their behaviours actively as a response to external stimulation, and their differential responses to the environment were affected by fetal maturation.

3732
PAPER 5
Infant state, emotion, and primary intersubjectivity in comparative perspective
Kim Bard, Department of Psychology, University of Portsmouth
What are the inborn capacities of chimpanzees? How do chimpanzees compare to humans? These questions typify the long-standing interest in ‘what makes us human’. In this talk, I will present data from two studies of comparative development.

In the first study, 55 newborn chimpanzees raised in four different settings were compared with 42 human newborns on the Brazelton Neonatal Behavioral Assessment Scale across the first 30 days of life. We assessed infant states, that is, states of arousal, state regulation, and emotion states. We found significant differences across the four chimpanzee groups but found that the human group was indistinguishable from at least one chimpanzee group on these measures. We conclude that the state regulation systems in chimpanzees are sensitive to caregiving variables, and these effects are manifest very early in development.

In the second study, we compared mother-infant engagement states in two groups of chimpanzees, across the first three months of life. We found dramatic differences in the preferred modality of engagement. In some chimpanzees, positive face-to-face interactions (visually-based mutual gaze) emerged from 6-8 weeks of age, whereas in other chimpanzee mother-infant pairs, close physical contact (tactile-based cradling) was preferred for mutual engagement. This interchangeability in the modality of engagement state is found also among humans, exclusive dyadic attention is valued in Euro-American settings, whereas physical contact and distributed attention is valued in interdependent cultures. Comparative developmental studies are valuable for understanding hominid evolution, and essential for delineating those characteristics that are uniquely human.

3045
EMPIRICAL PAPER
The effects of sexist humour on women’s perceptions of joke funniness, offensiveness, self-esteem and coping
Manuela Thomae & Fahad Hossain, University of Winchester; Afroditi Pina & Tom Page, University of Kent
Research has often examined the impact of sexist humour on men, whereas the evidence base on women’s reactions to sexist humour is relatively small. Our aim here is to add further research to the existing literature on women’s reactions to sexist jokes.

We present two online studies with joke condition (sexist vs. non-sexist) as the independent variable. The dependent variables in Study 1 (n = 157) are women’s perceptions of joke funniness, joke offensiveness, and their level of self-reported self-esteem. Study 2 (n = 176) adopts the same design but adds a set of coping strategies as dependent variables.
For Study 1 we find a significant effect of joke condition on women’s perceptions of joke offensiveness ($F(3, 154) = 140.94, p < .001$). Participants find sexist jokes significantly more offensive than non-sexist jokes. There are no significant main effects of joke condition on perceived joke funniness or self-esteem. Study 2 reveals significant effects of joke condition on perceived joke offensiveness ($F(4, 172) = 315.03, p < .001$), funniness ($F(4, 172) = 9.75, p = .002$) and coping strategies ($F(4, 172) = 9.77, p = .002$). Sexist jokes are perceived as more offensive, less funny and evoke greater coping responses than non-sexist jokes. However, joke condition does not impact on women’s self-esteem. These findings indicate that women’s self-esteem is not affected by sexist humour. Nevertheless, women do find sexist jokes offensive and are willing to adopt coping mechanisms, including formal reporting, in response to sexist humour.

EMPIRICAL PAPER

Close encounters of the imagined kind: A longitudinal test of temporal proximity specifications within imagined contact

Emma Pape, Judi Ellis & Laurie Butler, University of Reading

Background: Research shows that imagining intergroup contact can improve intergroup relations. However, many studies demonstrating the longevity of such effects have involved repeated exposure to the paradigm, amongst a child sample. The aim of the present study was to examine the longitudinal efficacy of a single episode of imagined contact, amongst an adult sample. Moreover, given its putative role in facilitating social attitude change, temporal proximity was explored as a way of enhancing the effectiveness of the paradigm.

Methods: In an experimental design, 86 non-Muslim undergraduate students imagined a positive interaction with either a British Muslim stranger (imagined contact) or a British stranger (controls). Furthermore, participants were asked to imagine the encounter as occurring either in the close future or at an unspecified future time point.

Findings: Mixed-design ANOVAs revealed that participants who engaged in imagined contact reported more positive attitudes, and strengthened behavioural intentions, towards British Muslims. Contrary to expectations, temporal proximity specifications did not serve to enhance the efficacy of imagined contact. Instead, temporal proximity was found to be independently effective in improving out-group attitudes and behavioural intentions. Importantly, the effects of both manipulations were found to last over a period of three days.

Discussion: The findings not only provide support for the longitudinal efficacy of imagined contact, but also suggest that specifying out-group membership may not be necessary, providing that the encounter is imagined as occurring in the close future. Temporal proximity is posited as a viable alternative in circumstances whereby out-group salience may prove detrimental.

EMPIRICAL PAPER

Second-order learning following fear-related vicarious learning in children

Gemma Reynolds, Middlesex University; Andy Field, University of Sussex; Chris Askew, Kingston University

Background: Vicarious fear learning refers to the acquisition of fear via observation of the fearful responses of others. Previous research (e.g., Reynolds, Field & Askew, 2014) has
demonstrated changes in subjective report, behavioural avoidance, physiological responding and attentional bias follow vicarious fear learning.

**Method:** Two experiments used a prospective vicarious learning paradigm in which pictures of two marsupials or two caterpillars were presented on a screen to children aged 5-11. One animal was always paired with fearful faces and the other appeared alone on the screen. Fear cognitions and avoidance preferences were measured before and after vicarious learning.

**Findings:** Two experiments replicated the finding that children’s fear beliefs for animals and caterpillars increased when they were seen with fearful faces compared to no faces. Additionally, the results indicated a second-order effect in which fear-related learning occurred for animals seen together with other animals that had previously been paired with scared faces, even though the animals were never directly paired with fearful faces themselves. Experiment 2 demonstrated that this second-order effect occurred regardless of whether the first and second order stimuli were a caterpillar or a marsupial. Furthermore, Experiment 2 showed increased avoidance preferences following first- and second-order learning.

**Discussion:** These are the first results in children to indicate that vicariously learnt fear responses for stimuli can be elicited in other stimuli they are subsequently associated with. Findings aid understanding of how some individuals are unable to recall a traumatic event associated with their fear or phobia and informs intervention targeting.

**3685**

**EMPIRICAL PAPER**

**Recognising the same face in different contexts: Testing within-person face recognition in typical development and in autism**

*Louise Neil, UCL Institute of Education*

**Background:** Unfamiliar face recognition follows a particularly protracted developmental trajectory and is more likely to be atypical in children with autism than those without autism. Yet previous research has focused almost exclusively on the ability to tell different people apart, rather than the ability to recognise the same face across varying images.

**Methods:** In Experiment 1, 77 typically developing children aged 6-14 years and 15 adults were given 40 different photographs of two distinct male identities (20 of each face) and asked to sort them by identity. Experiment 2 used the same procedure with 32 cognitively able children with autism.

**Findings:** Children mistook images of the same person as images of different people, subdividing each individual into many perceived identities (median = 15). Younger children divided images into more identities than adults and made more errors (placing two different identities together in the same group) than older children and adults. In Experiment 2, 32 children with autism reported a similar number of identities and made similar numbers of errors to 32 typical children of similar age and ability. Fine-grained analysis using matrices revealed marginal group differences in a measure of overall performance – the ratio of same-identity to different-identity matches – suggesting children with autism may have difficulties forming consistent internal representations of facial identity.

**Discussion:** We suggest that the immature performance in typical children and particularly children with autism arises from problems extracting the perceptual commonalities from different images of the same person and building stable representations of facial identity.
EMPIRICAL PAPER
Why don't women need feminism? Online constructions of the movement and its members by Women Against Feminism

Jenny Cole, Manchester Metropolitan

The rejection of the feminist label by women is not a contemporary phenomenon; there is a large body of research which shows that although women may agree with feminist principles of equal rights for women, many are reluctant to accept the label. However, previous research has relied on self-selecting samples to take part in surveys and interviews on feminist views, potentially neglecting women who actively reject the movement. In the summer of 2014, a movement called Women Against Feminism (WAF), primarily based on the social networking and microblogging site Tumblr, became a viral phenomenon. The site features pictures of women holding placards stating why they do not want or need feminism, and was reported on by news sites internationally. The present research examined the reasons given by WAF posters for their rejection of the movement and their constructions of feminism, feminist ideals and feminists themselves. A discourse analysis conducted on over 300 WAF placards suggests that WAF posters are appropriating the idea of victimisation by constructing feminists as claiming victimhood while also acting as an oppressive force designed to restrict women's choices and victimise men. Under this oppression, WAF posters talk a lot about their own agency, which has been 'taken' by feminists and about female gender identity being misused in a political war against the sexes. This study shows that the rejection of feminist ideas is more complex than simply reluctance to use the label or misunderstanding feminism; WAF posters express their rejection of feminism as a form of rebellion. Given the research showing that feminism is a protective factor against damaging ideals about appearance, and can contribute to positive romantic relationships, these findings show that rejection of feminism needs further attention.

OTHER PAPER
Incidental exposure a single Black academic improves Black students' motivation and performance

Keon West, Goldsmiths, University of Longon

Background: Black students in British universities typically under-perform compared to their White peers. Prior research shows that incidental exposure to counter-stereotypical exemplars can alter expectations of an outgroup. However, it has not yet been shown that incidental exposure (as distinct from to role models) can alter expectations of one's own ethnic group and oneself. Two studies investigated whether incidental exposure to a single Black academic can improve Black students’ motivation and performance at university.

Methods: In Experiment 1 (N = 160), students were recruited from the same university, but two different departments; one of which only had White staff members while the other had a single Black staff member. Student participants were either Black or White, making this a 2 (Student ethnicity: Black vs. White) x 2 (Staff ethnicity: All White vs. 1 Black), independent, quasi-experimental factorial design. Participants completed measures of motivation to succeed at, and expectations of, university; it was hypothesised that Black students would be less motivated and have lower expectations, but that the presence of a Black academic would reduce this gap. In Experiment 2 (N = 60), Black students were randomly assigned to view a video containing a White academic or a Black academic before completing an (ostensibly unrelated) mathematics test.
Findings: In Experiment 1, Black students with a single Black staff member were as motivated as their White peers and had indistinguishable expectations, while those without a Black staff member were less motivated and had lower expectations. In Experiment 2, Black students who saw a video containing a Black academic subsequently performed better on a mathematics test.

Discussion: Implications of these findings are discussed, particularly in relation to reducing the Black-White university achievement gap.

3736
EMPIRICAL PAPER
The prevention and reversal of vicarious learning of fear in children aged 6 - 11 years
Chris Askew, Kingston University; Gemma Reynolds, Middlesex University; Andy Field, University of Sussex

Objectives: Evidence has shown that children can develop fear beliefs and avoidance behaviour for a stimulus by observing someone else’s fear of it. The current set of studies investigated interventions to prevent or reverse vicarious fear learning in children.

Method: Across three studies, a total of 195 children (aged 6-11 years) were presented with a vicarious fear learning procedure consisting of pictures of novel Australian marsupials together with either pictures of fearful adult faces or no faces. Prior to vicarious learning in Experiment 1, two groups of children saw the animals either with happy faces (immunisation) or alone (latent inhibition). In Experiment 2 some children were informed post-vicarious learning that the fearful model was less scared than they appeared to be (US devaluation). In Experiment 3 a group of children saw the animals again after vicarious learning but this time with happy faces (vicarious counterconditioning). Measures of children’s fear beliefs, avoidance, heart rate and attentional bias were taken for the animals.

Findings: Results showed that: a) prior neutral or positive modelling experiences with animals can prevent vicarious learning; b) vicariously learnt fear responses can be reversed using US devaluation; and c) vicarious counterconditioning can successfully reverse vicariously learnt avoidance preferences, heart rate responses and attentional bias for animals.

Discussion: Vicarious learning can increase children’s fear-related beliefs, avoidance behaviour, physiological responses and attentional bias for stimuli. Positive modelling can be used to prevent or reverse vicarious learning. Additionally, changing how children think about the fearful model’s behaviour can also reverse fear.

3686
THEORETICAL PAPER
Autistic adolescents’ and young adults conceptions about their past, present and future – a developmental study
Jayne Hamilton, Kinga Morsanyi & Teresa McCormack, Queen’s University Belfast

Background: About 60% of individuals with autism have IQs within the normal range, however, the majority of these people have profound difficulties living an independent life, i.e., in the UK, only about 15% of people with autism are in full-time employment (NAS). It may be that individuals with autism have problems thinking about and making plans for their future. The aim of our study was to test this hypothesis.

Methods: The first sample was adolescents: 21 autistic (16males) and 44 control (32males) mean age 13years. The second sample was young adults: 26autistic (23males) and 27control (16males) mean age 21years. They were matched on general and fluid
intelligence. They were administered Zimbardo’s Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999), an individual’s subjective assessment of their own past, present and future, the Future Milestones Task (FMT; Wilson & Daly, 2006), which assesses the quality of an individual’s plans for their future, and the consistency of those plans and a Time Management Questionnaire.

**Findings:** In ZTPI, there was a significant interaction between time perspective and diagnosis (F(3,277, 456)= 7.921, p< .001; ηp2= .065) and a significant interaction between time perspective, diagnosis and age (F(3,277, 456)= 3.875 p= .008 ηp2= .033). In the FMT, there was a significant effect of age (F(3, 117)= 24.332, p< .001) and a significant interaction between age and diagnosis (F(1, 117)= 4.816, p= .030). In the TMQ, there was a significant effect of age (F(1, 117)= 66.624, p< .001) and a significant effect of diagnosis (F(1, 117)= 1.491, p= .026).

**Discussion:** These findings indicate a difference in thought related to forward thinking and planning between groups, showing that adolescents and young adults with autism think about their time differently to control populations.

---

**3301**

**EMPIRICAL PAPER**

**Gender Differences in Identities and their Socio-Structural Correlates: How Gendered Lives Shape Parental and Work Identities**

*Ruth Gaunt, University of Lincoln; Jacqueline Scott, University of Cambridge*

**Background:** This study draws on identity theory to explore parental and work identities. It examined gender differences in identities, as well as the moderating role of gender in the effects of individuals’ socio-structural characteristics.

**Methods:** A sample of 148 couples (n = 196) with at least one child aged 6 years or younger completed measures of parental and work identity salience and centrality, and socio-structural characteristics.

**Findings:** As hypothesised, couples’ paid work strategy moderated gender differences in the salience and centrality of parental and work identities. Whereas significant differences in identities were found between stay-at-home mothers and their breadwinning husbands, no differences were found among dual-earner couples. Moreover, men’s work identity centrality increased when they had more and younger children, whereas women’s work identity centrality decreased. Finally, men’s parental identity centrality increased with their income, whereas women’s parental identity centrality decreased the more they earned.

**Discussion:** These findings attest to the importance of examining differences within as well as between genders, by taking into account the interactive effects of gender with other socio-structural characteristics.

---

**3456**

**EMPIRICAL PAPER**

**Understanding the perception of everyday micro-contacts in an intergroup context**

*Tina Keil, Miriam Koschate-Reis & Mark Levine, University of Exeter*

**Background:** There is an almost inherent understanding of what contact means, yet when challenged to assess a multitude of experiences, we begin to realise that it can take on many forms and meanings. Research on intergroup contact has neglected ordinary people’s lay constructions of the meaning of contact, as well as the concept of public space as an integral dimension of everyday intergroup contact.
**Methods:** A maximally diverse sample of participants (N=17) were asked to record every contact they had to someone of a different nationality to their own. This was followed by a semi-structured interview and thematic analysis. Then, a large online survey (N=525) asking participants to rate how much they perceived various example contact situations to be contact was analysed using exploratory factor analysis.

**Results:** Study 1 showed that concepts and perceptions of contact were diverse, contrasting and often ambiguous. Although often mundane and brief in nature, everyday interactions can also be meaningful and important. Study 2 revealed four main types of contact, which will serve as the basis for a new data collection tool to simplify and aid data collection in public settings.

**Discussion:** Despite its ubiquity and potential to create meaningful intergroup interactions, everyday contact remains understudied. In part, this is due to a lack in suitable methods that can capture such small-scale interactions. We argue that advanced mobile phone applications and integrated sensors can aid us in this quest by supplying objective data and enabling the collection of real-time data in real-world settings. We discuss ideas on how technology can further our understanding of the processes involved in intergroup contact.

---

**EMPIRICAL PAPER**

**Cognitive predictors of inattention and hyperactivity/impulsivity in children born very preterm in comparison to full term peers**

Lucy Cragg, & Jennifer Tellett, University of Nottingham; Sarah Clayton & Camilla Gilmore, Loughborough University; Neil Marlow, University College London; Victoria Simms, Ulster University; Samantha Johnson, University of Leicester

**Background:** Children born very preterm (VP; <32 weeks) are at increased risk of developing attention deficit/hyperactivity disorder (ADHD). However, their symptom profile often differs from children born at term, with increased levels of inattention but not hyperactivity/impulsivity. This study examined the cognitive skills of children born VP compared with children born at term in order to determine whether ADHD symptoms in the two groups have the same or different underpinning cognitive mechanisms.

**Methods:** 88 VP children and 62 term-born (≥37 weeks) controls were assessed at 8-10 years of age in the Premature Infants' Skills in Mathematics (PRISM) study. Children completed tests of working memory, inhibition and processing speed from which three standardized factor scores were derived. In addition, a parent and teacher completed the Du Paul ADHD Rating Scale for each child.

**Findings:** VP children showed a greater number of inattentive symptoms but a comparable level of hyperactive/impulsive symptoms to controls. VP children demonstrated poorer working memory but comparable processing and inhibition compared to controls. The same cognitive processes predicted ADHD symptoms in both groups. Working memory was related to inattentive symptoms while inhibition was linked to both inattentive and hyperactive/impulsive symptoms. Processing speed did not predict either symptom domain.

**Discussion:** These findings suggest that, despite a different behavioural profile of ADHD symptoms in VP children and their term-born peers, the cognitive underpinnings are the same in both groups. The increased diagnosis of inattentive symptoms in VP children appears to result from their poor working memory skills.
Adaptation of a measure of anxiety for children with high functioning autism spectrum disorders
Sarah Wigham, Newcastle University

Background: Many children with autism spectrum disorders (ASD) experience high levels of anxiety. A widely used measure for typically developing children is the Revised Child Anxiety and Depression Scale (RCADS). However, such anxiety measures may require adaptation to accommodate characteristics of those with ASD.

Method: An adapted version of the RCADS - the RCADS-ASD - was created based on empirical evidence of anxiety phenomenology in ASD, with three new subscales (sensory related anxiety, intolerance of uncertainty and phobias). Content validity was refined during focus groups with 11 parents and clinicians. Adapted 76 item parent and 74 item child measures were piloted with children with ASD aged 8-15 years and their parents (N=140).

Findings: The measures have promising psychometric properties including subscale internal consistency with alphas ranging from .67 to .91 (child) and .78 to .93 (parent version). Convergent and divergent validity with other measures were established. One month test-retest reliability was demonstrated for child (r = .9, p

3618

EMPIRICAL PAPER
When Do Men’s Positive Behaviors towards Women Inspire Favorable Inter-gender Attitudes in Other Men?
Chuma Owuamalam, University of Nottingham

Background: Previous research has shown that masculinity threat elicits negative attitudes/behavior towards women (Maass et al. 2003). Consistent with a social learning perspective, we examined whether men who experience masculinity threat would orient positively (rather than negative) towards women when they have been exposed to scenes of other men helping women. We predicted that scenes of other men helping women would exert a positive influence on men’s attitude towards women particularly when one could attribute the positive behavior to factors that are internal rather than external to the role model.

Method: We manipulated masculinity threat by exposing 120 Malaysian men to a female feminist that violated traditional gender expectations in Malaysia. Afterwards, they were either exposed to video scenes of other men helping women that were applauded (so that external attributions can be made for their behavior); scenes of men helping women that was not applauded (internal attribution condition); or a control condition that saw an auto advert. Prior to this, concern over their personal image was measured as a moderator. The dependent variables were partner abuse orientation and advocacy for gender equality.

Results: Exposure to scenes of men helping women increased men’s advocacy for gender equality and lowered partner abuse tendencies particularly in the internal attribution condition, but only when concern for personal image was low.

Discussion: In light of assaults on women in this South-Eastern region, our findings suggest that campaigns highlighting other men’s positive behaviors toward women might be one means of promoting healthy inter-gender relations.

3611

EMPIRICAL PAPER
Improving attitudes towards ‘future generation outgroups’ encourages environmental action
Background: This research introduces an entirely new, intergroup approach to environmental decision making. The consequences of present day energy consumption will fall upon future generations of people. In the same way that dissimilar others are categorised as ‘outgroups’ we postulate that future generations are also seen as a (temporally) differentiated. Here we test whether an intervention designed to reduce intergroup bias may be an effective way of encouraging pro-environmental engagement.

Method: A bias-reduction method from the intergroup relations domain was adapted. Participants in the experimental condition were asked to think of 5 similarities between people from the ‘present generation’ and people from the ‘future generation’. Those in the control condition generated similarities between two irrelevant categories. Three studies examined the effect of the intervention on attitudes towards the temporal outgroup, and pro-environmental behavioural intentions (Total N = 496).

Findings: Participants in the experimental condition reported more positive evaluations of the future generation group and greater intentions to engage in pro-environmental behaviours, compared to those in the control condition. The effect of the bias-reduction intervention on pro-environmental intentions was explained (i.e. mediated) by improved evaluation of the temporal outgroup.

Discussion: We suggest that a hitherto unexamined reason for variability in engagement with pro-environmental practices is the perception of future generations as an outgroup. Pleas to protect to the planet for future generations may only be effective to the extent that they reduce differentiation and establish perceived commonalities with ‘future generation outgroups’.

EMPIRICAL PAPER

Reflective rumination in adolescence predicts decreases in cognitive control impairment for emotional information

Tracy Stewart, Sinead Rhodes & Simon Hunter, University of Strathclyde

Background: Psychological research has suggested that adolescence is one of the greatest risk periods for the development of depression with approximately two thirds of adolescents experiencing depressive symptoms by the age of 18. Cognitive science has begun to highlight the significance of examining underlying cognitive control processes in the development of depression. Rumination, a prominent vulnerability factor for depression, has recently been linked to cognitive control impairment in adults however research in adolescent samples is limited. The current study tested a large cohort of adolescents, at two time points 9 months apart, to examine whether brooding or reflective rumination at Time 1 would prospectively predict impairment in cognitive control on both emotional and non-emotional tasks at Time 2.

Method: A longitudinal designed study. Adolescents (N=146, 13-16 years) completed a computerised internal valenced measure of cognitive control and a multifactorial scale as a measure of rumination. Depressive and anxiety symptoms were measured via self-report.

Findings: A hierarchical multiple regression model was applied to the data. After controlling for age, gender, Time 1 cognitive control, depression and anxiety symptoms, reflective rumination at Time 1 predicted decreases in cognitive control impairments for emotional information at Time 2, F (2, 138) = 8.53, p = < .001. R² = .03.

Discussion: Reflective rumination could be considered as a protective factor against impairment in cognitive control. School based preventative interventions aimed at increasing
reflective ruminative thinking may reduce cognitive control impairments, and subsequently depressive symptoms.

3291
EMPIRICAL PAPER
Why did Scottish Teenagers Vote for Scotland’s Independence? A Social Psychological Explanation using the SIRDE Model of Social Change
Peter R Grant, University of Saskatchewan; Mark Bennett, University of Dundee; Dominic Abrams, University of Kent
What is driving increasing support for the Scottish Nationalist Party in Scotland? We used a recently developed Social Identity, Relative Deprivation, collective Efficacy (SIRDE) model of social change to predict how 16 and 17 year old Scottish teenagers (N = 573) voted in the referendum on Scotland’s independence. All respondents (48.8% female) completed a questionnaire following the referendum while attending a high school in Dundee or in the surrounding area. Only students eligible to vote were included in the study and 95.3% did so. Structural equation modeling showed that the SIRDE model fit the data well; sSRMR = .059, CFI = .94, χ²S-B(240, N = 433) = 553.60, p < .001. As hypothesized, endorsement of a radical separatist ideology fully mediated the relationships between Scottish identity and voting behaviour, affective collective relative deprivation and voting behaviour, and collective efficacy and voting behaviour. Further, this separatist ideology was a very strong predictor of voting for independence (β = .79, p < .001). In contrast, political engagement was only a weak predictor (β = .05, p < .05) of voting behaviour, but a strong predictor of involvement in a variety of political actions during the referendum campaign (β = .33, p < .001). The evidence also supported that part of the model which specifies that the affective component of collective relative deprivation is both the perception that Scottish people are discriminated against by the English and feeling angry and frustrated by this unfairness. These and other results will be discussed in detail.

3627
EMPIRICAL PAPER
The Janus face of adult ASD diagnosis
Jennifer Mayer & Paul Dickerson, University of Roehampton
The value of diagnosis within the field of ASDs (Autistic Spectrum Disorders) is a topic of debate. Different perspectives on whether diagnoses themselves (particularly those received by adults) are enabling or debilitating exist. It has been argued a diagnosis of an ASD can enable access to therapies that may ameliorate the effects of the condition. However, since there is no specific curative intervention for ASDs, the diagnosis has been portrayed as debilitating, labelling as different and thereby presenting problems rather than solutions. The danger in these perspectives on receiving a diagnosis of an ASD is that the voice of those with an ASD themselves can be lost. This paper draws on ten semi-structured interviews with adults who received a diagnosis in adulthood. These data suggest that the diagnosis is construed as having a dilemmatic nature. On the one hand diagnosis is portrayed as making sense of the past and liberating the present, enabling the individual to understand previous difficulties, and forge contact with others who share and/or understand aspects of their experience. On the other hand the diagnosis is construed as raising problems for the individual’s self-concept as a ‘normal’, well-functioning member of society and presenting a somewhat difficult version of the future in terms of relationships, integration and acceptance. Implications of this dilemmatic nature of adults receiving a diagnosis of an ASD will be
discussed and the wider issue of listening to the voice of those with an ASD in order to better understand the phenomenon will be considered.

3717

EMPIRICAL PAPER
The Decline of Homophobia: Causes and Consequences
Sebastian E. Bartos, Peter Hegarty & Chris Fife-Schaw, University of Surrey
There is broad evidence that homophobia has been decreasing over the last few decades in many countries around the world. Both the causes of this change and its broader social consequences have been debated. On the one hand, we investigate the putative causes of the reduction in societal homophobia, such as the decline of religiosity. On the other hand, we investigate the possible consequences of reduced homophobia, such as the reinforcement of other prejudices. Specifically, we look into a well-documented shift in political discourse termed homonationalism, whereby Western tolerance towards gay people is used as a rhetorical tool to justify anti-immigration policies, economic sanctions, and even wars. Most research on the mechanisms of prejudice reduction originates in the West (especially in the US), and the cross-cultural validity of most models of change remains an open issue. We conducted therefore two studies using diverse data from two countries, Romania and the UK. In Study 1, we reanalysed data from the World Values Survey. First, a theory-driven model of homophobia was developed and tested on UK and Romanian data. The model included such predictors as demographic data, authoritarian personality, post-materialistic values, national pride and religiosity. The model fit the data from both countries, but it had little explanatory value for medium-term change (i.e., 1990 to 2010). In Study 2, we used questionnaires and an experimental task in order to operationalise and measure homonationalism. Agreement with ‘homonationalistic’ statements was associated with low levels of homophobia in both Romania and the UK, but it was unrelated to ethnic prejudice. We conclude that the homonationalism concept has a limited utility in understanding contemporary changes in homophobia.

3447

EMPIRICAL PAPER
Beyond the contact hypothesis: Insights into facilitating social change through intergenerational projects
Katie Wright-Bevans, Michael Murray & Alexandra Lamont, Keele University
Intergenerational projects (IPs) are designed to bring older and younger people together in mutually beneficial activities and are advocated as a tool for increasing health, wellbeing and positive attitudes. Previous research has been dominated by experimentally driven methods and theories, namely surveys and the contact hypothesis. This paper aims to offer a critical approach to understanding IPs, illustrated through ‘OAYSES’, a pilot project which brought together five older volunteers and six secondary school students for six one-hour sessions where they shared stories and participated in structured activities. The research aimed to both enhance social relationships as well as explore the social psychological processes and outcomes of OAYSES. Mixed qualitative methods informed by an ethnographic methodology included observations of participants, a reflexive research diary, photographs of activities, semi-structured interviews with facilitators and focus groups with the separate participant groups, before and after the project.
Data was subjected to a thematic analysis underpinned by Social Representations Theory which recognises both the dynamic nature of psychological processes as well as the social origins of representations of self and other. Findings revealed that the OAYSES participants benefitted from the processes of relationship building in a variety of ways. The value of this IP was found not in its formal outcomes but rather in that it offered safe spaces for critical discussion, reflection and challenges to negative representations of self and other. IPs therefore hold much value, however practitioners should be cautious to treat projects simply as social ‘interventions’ targeted at changing attitudes.

3594
EMPIRICAL PAPER
Why do 2- and 3-year-olds make distraction errors on measures of cognitive flexibility?
Emma Blakey & Daniel Carroll, The University of Sheffield
Background: Cognitive flexibility (CF) allows us to switch our behaviour in line with changes in the environment. The development of CF has been commonly characterised as a shift from perseveration at age three to flexibility at age four. However, recent research using measures of CF capable of detecting different types of error show that distraction errors are as common as perseverative errors. However, both the developmental trajectory and cause of distraction errors is still unknown.
Method: 180 two- to three-year-olds completed a rule-switching task where they sorted stimuli according to a rule (e.g., colour) and then after eight trials switched to a new rule (e.g., shape). Crucially, we manipulated the type of task irrelevant information when the rule changed so that it was either related to the first rule or was novel. This allowed us to test whether distraction errors are due to persisting attention towards the previous task or temporary lapses of attention.
Findings: Both two- and three-year-olds made significantly more distraction errors when the irrelevant information was related to the previous task (p= 0.002). In addition, performance significantly improved between the ages of two and three (p= 0.001).
Discussion: Young children’s distraction errors when switching are not simply caused by temporary lapses of attention. They are in fact goal related in nature: two- to three-year-olds’ attention is still drawn towards the previous task. More broadly, the findings emphasise a need to move away from a characterisation of CF as a three- to four shift from perseveration to flexibility.

3551
EMPIRICAL PAPER
Personal space regulation in young people with Autism Spectrum Disorders and Williams syndrome
Emma Lough & Deborah Riby, Durham University
Background: Personal space refers to the distance that individuals strive to maintain between themselves and other people. Intrusion of another person’s personal space can have significant implications on the social interaction, prompting feelings of discomfort and anxiety, or transferring fallacious social intentions. In the current study, we investigated personal space awareness in two groups known to have difficulties with social functioning – Williams syndrome (WS) and Autism Spectrum Disorder (ASD) – and compared them to their typically developing (TD) peers.
Method: Parent report questionnaire data was collected for individuals with WS (n = 77), ASD (n = 101) and TD individuals (n = 118). The age of the participants ranged from 4 – 36 years old.

Findings: The parent report data showed that individuals with WS and ASD were significantly more likely than their TD peers to invade the personal space of others ((H(2) = 114.2, p

3386
EMPirical paper
The immediate impact of fast/slow paced television on pre-schoolers executive function
Sinead Rhodes & Claire McFadden, University of Strathclyde
A recent research study has suggested that television viewing can have negative consequences on cognitive function in pre-school age children. The findings of Lillard and Peterson (2011) suggested that the pacing of television may be a fundamental factor which undermines executive functions; a brief exposure to a fast paced programme had an immediate negative impact on executive functions, assessed using a composite measure. The current study examined the impact of a brief exposure to a fast versus slow paced programme on 3 individual aspects of executive functions (inhibition, working memory and shifting). The current study also used a within rather than a between groups design. Twenty-one 4 year old children participated, and completed the 3 executive function tasks after watching a slow paced and fast paced television clip of the same programme on separate visits. No significant difference was found between children’s performance during the fast and slow paced conditions on any of the executive function tasks. The current findings suggest that watching fast paced television programmes may not negatively impact on executive functions in pre-school age children.

3569
EMPirical paper
Contact without the contact: piloting an experiential mental health stigma-reduction approach
Tresoi (Chloe) Tyler and Rachel Calogero, University of Kent at Canterbury
A pilot study investigating the use of a novel form of Experiential Intergroup Contact (EIC) is presented, mitigating some of the criticisms directed at Allport’s intergroup contact and indirect forms of contact (e.g. imagined intergroup contact). EIC integrates theories of intergroup contact, experiential avoidance reduction, therapeutic role-playing, and social identity and is put forward as a new form of in-direct intergroup contact that sits high on both dimensions of Jake Harwood’s contact space (involvement of the self in contact and the need for a richness of the self-outgroup experience).
In order to simulate an intergroup contact experience, this study investigates the use of a positive mental health message depicted in a script as neuro-diversity, and attempts to ascertain whether the level of script experiential involvement (watching a recorded video of the performed script or read script alone) differentially determines a reduction in outcome measures of mental health stigma.
Based on previous direct and in-direct intergroup contact literature, as well as Harwood’s prescriptive contact space, it is hypothesised a-priori that greater levels of experiential involvement with a positive depiction of mental health will be significantly more efficacious in
reducing stigmatising mental health attitudes, emotions and intended behaviour scores compared to controls.

Following the findings of this study, EIC will next be operationalised via live script rehearsals within an ESRC SEDTC +3 funded PhD programme of research in order to fully explore the experiential elements' efficacy, which theoretically underpins the method of EIC.

3442

**EMPIRICAL PAPER**

**The analysis of answers to “unanswerable” questions in young children: Focusing on “I know” responses**

*Tatsuaki Kondo, Kobe University*

**Background and Theme:** This study investigated (1) how young children produced “I know” response and “I don’t know” response to unanswerable question, (2) what the cognitive mechanism was behind each response.

**Method:** Participants were 4-year olds (n = 18), 5-year olds (n = 19) and 6-year olds (n = 19). The experimental task was to answer whether a dog figure hided in a red cup or blue cup. There were two type of questions. One was an answerable question, that was, experimenter showed that the dog hided in a glass of either and asked “Which cup is the dog hiding?”. Another was an unanswerable question, that was, experimenter blinded children where the dog hided in and asked same question.

**Findings:** To the answerable question, almost 100% of participants produced “I know” responses and answered correctly. To the unanswerable question, 50% of 4- and 5-year olds produced “I don’t know” responses, while 15% of 6-year olds produced “I don’t know” responses. In the other words, “I don’t know” responses to the unanswerable question decreased with age. When the experimenter asked “Why don’t you know?” to participants who responded “I don’t know”, verbal explanation about why they don’t know was increased with age. When the experimenter asked “Why do you know?” to participants who responded “I know”, the answers of 6-year olds indicated that they did not actually know it, but guessed.

**Discussion:** These results suggested that the meaning of “I know” response turned from “knowing” into “guessing” in preschoolers.

**KEYNOTE**

**Clash! How to Thrive in the Multicultural World**

*Professor Hazel Rose Markus, Stanford University*

As the world gets smaller, people with different cultural backgrounds are colliding more than ever before. Everyday tensions between men and women, whites and people of color, richer and poorer people, and people with Eastern and Western heritage undermine productivity and well-being in our workplace and communities. Although these are vastly different conflicts, many stem from the same root cause: the clash between people who construe themselves as relatively independent (individual, unique and in-control) and people who construe themselves as more interdependent (relational, conforming and adjusting). Miscommunication abounds and tensions flare when people using their independent self come into contact with people using their interdependent self. Drawing on of studies from across the social sciences, this approach explains not only how the independence-interdependence divide can ignite conflict and also how we can harness these culture clashes for good.
SOCIAL MID-CAREER AWARD
On understanding the value of procedural justice in social relationships: A motivational approach
David De Cremer, University of Cambridge
Justice plays an important role in people’s social lives and forms the cornerstone of societies, organizations and groups that collaborate to succeed. In this talk I focus on a specific type of justice referred to as procedural justice. Building on earlier work in legal settings, the concept of procedural justice has quickly grown into a research topic of special interest to social psychologists. I will discuss a programme of empirical work on why procedural justice is so important to people and their identity formation, how it shapes the effectiveness of leaders and under which conditions its use in groups and organizations is facilitated. This work demonstrates that justice and procedural justice in particular serves as an important coordination principle in social relations and as a guiding principle when it comes down to people’s self-regulation and social influence strategies.

3684
EMPIRICAL PAPER
Investigating the effect of romantic rejection in a speed-dating context on body esteem and saliva cortisol response
Shelly Kemp & Gillian Hill, University of Buckingham
Sociometer theory posits that one’s self-esteem is sensitive to feedback from the environment causing individuals to regulate behaviour to avoid social exclusion. Kavanagh, Robins & Ellis (2010) investigated the existence of a domain-specific mating sociometer. They experimentally manipulated rejection-acceptances in an interview context over an intercom and found significant effects on self-esteem and mating aspirations. They propose, therefore that the mating sociometer works by altering internal standards so that the individual becomes more or less choosy. Alternatively, romantic rejection could lead one to make significant changes to one’s appearance after induction of a stress response. However, appearance specific body esteem changes and stress responses have yet to be recorded in relation to rejection in a realistic dating scenario. This experiment is the first to measure body esteem and saliva cortisol levels (stress) in response to romantic rejection in an ecologically valid setting (speed-dating). The authors hypothesised that romantic rejection would have a negative impact on body esteem and would trigger cortisol increase. Measures were obtained from 50 participants (25 m, 25 f) and included baseline and post-rejection-acceptance saliva cortisol, ratings of attractiveness, Body Image States Scale, Brunel Mood States Scale and the Marlowe Crowne Social Desirability Scale. Results indicated changes in body esteem, self-perceptions of attractiveness and saliva cortisol in the direction predicted. Scores on social desirability were also positively related to saliva cortisol. The findings are discussed in relation to Sociometer Theory and Internal Ideal Standards Model and the potential impact rejection-acceptance may have on appearance checking behaviours.

3461
EMPIRICAL PAPER
How might culture shape our moral identity? Moral Identity: A Cross-Cultural Investigation in Britain and Saudi Arabia
Mona ALSheddi, PhD student. University of Surrey; Sophie Russell & Peter Hegarty, University of Surrey

Background: The question of whether morality is a human universal or is culturally specific has loomed large in recent social psychology. Two studies investigated moral identity in cultural contexts, developing prior research exploring moral identity with respect to culture. The first study investigated whether or not the same moral traits come into the minds of British and Saudi participants when they think of what constitutes a moral person. The second study examines how different sets of moral traits might differentially activate constructs of moral identity in both countries.

Methods: In Study 1, traits generated by 78 British students and 80 Saudi students were distilled using standard judgement rules. Study 2, 216 British and 216 Saudi adults were asked to imagine people with specific moral traits (Aquino and Reed's moral traits and traits derived from moral foundations theory).

Findings: Study (1) showed common and different moral traits across the British and Saudi samples. Study (2) demonstrated that the participant's moral identity was activated by different moral stimuli.

Discussions: It is hoped that these findings will help map how people culturally experience and shape their moral identity. Specifically, these results are essential for building a moral identity scale that can be used in multiple contexts and which will be developed in the next phase of this research.

3299

EMPIRICAL PAPER

“I was never good at maths”: Police officers’ self-disclosures in interviews with children reporting alleged sexual abuse

Carrie Childs & Dave Walsh, University of Derby

Background: This paper examines how police officers disclose personal information in interviews with children reporting alleged sexual abuse. Best practice guidelines recommend that officers personalise the interview to help make the interviewer more identifiable. However, what officers are told about how to do this tends to be generalised and vague. We explicate when, how and for what purposes officers reveal personal information.

Methods: This is a Conversation Analytic field study. The authors understand and adhere to the Society’s Code of Ethics and Conduct. 30 anonymised recordings of police-witness interviews were collected from one UK constabulary. Interviews were transcribed using the Jefferson transcription system and analysed using Conversation Analysis.

Findings: During the ‘rapport phase’ of the interview officers’ self-disclosures take the form of second stories (‘don't be nervous. If it makes you feel any better to start off with I do feel a bit nervous’). However in the ‘questioning phase’, which is designed to elicit accurate and complete information, second stories may disrupt interview progress. During the questioning phase officers’ disclosures take the form of self-deprecating accounts when initiating repair and asking children to clarify information (‘I'm a bit of a technophobe, what's Instagram?’). These accounts indicate that problems in hearing or understanding lie with the interviewer, not the child.

Discussion: Self-disclosures are not organised randomly. In the questioning phase they are designed to assign responsibility for interactional trouble to the interviewer. Conversation Analysis provides a way to generate new knowledge and understandings of the communicative practices of investigative interviews.
3476
SYMPOSIUM
The role of intergroup processes in how children perceive others
Jellie Sierksma, Radboud University
Background: Children grow up in increasingly diverse environments. Understanding how intergroup relations shape children’s cognition and behavior is crucial if we want to prevent group based biases early in life. Combining insights from developmental and social psychology, this symposium brings together the latest research on how group membership influences children’s perceptions of others.
Methods: The data presented involves children from the United States, Sweden, South Africa and the Netherlands. Explicit and implicit methods are used, covering the influence of intergroup relations on social perception across 3 to 13 years. Two themes are addressed in this symposium. The first two presentations concern the role of gender categories in children’s perception of others, whereas the last two presentations focus upon racial and ethnic group membership.
Findings: The first presentation suggests that gender-neutral pedagogy can sometimes influence children’s view of different genders. The second presentation shows that children evaluate transgender kids more negatively than targets who act stereotypically-consistent with their sex at birth. The third presentation shows that in-group bias and high-status favoritism can cancel each other out, but high-status favoritism can outweigh in-group bias when the status differences are large. The fourth presentation shows that children’s perception of emotions differs according to the target’s group membership.
Discussion: Taken together, this symposium takes an interdisciplinary approach, yielding new insights about the role of intergroup processes in children’s perception of others.

3477
PAPER 1
Early social environments and gender: Effects of gender pedagogy in preschools
Kristin Shutts, University of Wisconsin-Madison
Background: Previous research has clearly established that gender is a psychologically important category for children early in development. Yet, the reason for the category’s prominence in young children’s minds is less clear. The present research considered the role that preschool socialization experiences might play in guiding children’s consideration of gender information.
Methods: The participants in the present research were 3- to 6-year-old children (N = 80) from two kinds of preschool settings in Sweden. Some participants attended a preschool with several specific school policies and practices aimed at actively creating a gender-neutral environment, while other participants attended more typical Swedish preschools. Children in both schools completed measures designed to assess their gender-based social preferences, stereotypes, and automatic encoding.
Findings: Compared with children in typical preschools, a greater proportion of children in the gender-neutral school were interested in playing with unfamiliar other-gender children (X2(1) = 4.30, p = .038). Additionally, boys attending a gender-neutral preschool showed less gender stereotyping than boys in typical preschools (t(16) = 3.167, p = .006); this was not true for girls. Finally, children at the gender-neutral school were not less likely to automatically encode others’ gender.
Discussion: The findings suggest that gender-neutral pedagogy has moderate effects on how children think and feel about people of different genders, but may not affect children’s
tendency to spontaneously notice gender. Beyond contributing to theories of gender categorization, research focused on the factors supporting young children's social attitudes and stereotypes can contribute practical suggestions for how to reduce intergroup biases.

3478
PAPER 2
Children’s perceptions of transgender youth
Kristina Olson, Madeleine DeMeules & Georgia Judd, University of Washington

Background: Transgender children (children who identify as the gender “opposite” their sex) are an increasingly visible group of young people, yet we know very little about how they are perceived by others. While previous work suggests that gender nonconforming children (e.g., boys who like dolls) are evaluated negatively, transgender children, often behave in gender-stereotypic (just not sex-stereotypic) ways (e.g., those who identify as female often have “female” interests). Thus, if a dislike of gender nonconforming children stems from a mismatch between identity and behavior, this dislike may not apply to transgender children.

Method: Studies 1 and 2 each included 52 children aged 5-10 years old. Participants were told about targets who were labeled as a particular sex at birth by a doctor (Study 1) or by “other people” (Study 2) early in life. In both studies, some of the targets identified and acted in ways that were stereotypically-consistent with their sex at birth (cisgender targets) and others were stereotypically-inconsistent (transgender targets). Children evaluated each target on a 6-point scale.

Results: In both studies, we found that transgender children were disliked more than cisgender children, Study 1: t(51)=2.01, p=.045, Study 2: t(51)=2.77, p=.008. Age was not associated with prejudice in either sample (ps>.25).

Discussion: Transgender children were evaluated more negatively than their cisgender peers by cisgender perceivers. Thus it appears that negative evaluations are linked to a mismatch between sex-at-birth and behavior/identity (as is the case with transgender and gender nonconforming children) rather than a mismatch between behavior and identity.

3479
PAPER 3
Groups’ relative status shapes children’s implicit intergroup attitudes
Anna Newheiser, University at Albany, SUNY; Kristina Olson, University of Washington, Yarrow Dunham, Yale University

Background: Intergroup attitudes are influenced by groups’ status. For example, members of high-status, but often not low-status, groups express implicit (i.e., automatic or unconscious) ingroup-favoring biases. Such apparent favoritism toward high status suggests that when status disparities are very pronounced, members of low-status groups may show outgroup-favoring biases. We examined this possibility by measuring implicit race attitudes among 6-11-year-old children from the US and South Africa.

Methods: In Study 1 (N=103), White and Black American children completed an Implicit Association Test (IAT) that measured their implicit evaluations of Whites versus Blacks. In Studies 2 (N=78) and 3 (N=218), Black and Coloured (multiracial) South African children completed one of three evaluative race IATs, measuring their implicit evaluation of Whites, Blacks, or Coloureds. Data were analyzed with one-sample t-tests.

Findings: In Study 1, White children showed a robust pro-White implicit bias (M=0.45, greater than zero, p<.001), but African-American children showed a lack of bias (M=-0.01,
not different from zero, p=.889). In Studies 2-3, all children showed outgroup-favoring, pro-White implicit biases (Ms>0.23, ps<.018). Black children also showed a bias favoring the relatively higher-status Coloured group over their ingroup (M=0.12, p=.032).

**Discussion:** Our results suggest that ingroup bias and high-status favoritism can cancel each other out (Study 1). Moreover, when status disparities are extreme – as in South Africa – high-status favoritism can entirely outweigh ingroup bias (Studies 2-3). Examining intergroup cognition across cultures varying in the extremity of status disparities allows for a fuller understanding of how group-based biases develop and are perpetuated.

3480

**PAPER 4**

**Children’s perception of intergroup emotions: The role of similarity and social identity**

*Jellie Sierksma, Radboud University*

**Background:** Emotions are social. They communicate how we feel, expect other to react, or when we disagree with their response. However, research into children’s emotion understanding has ignored this social aspect, and little is known about how the perception of emotions depends on who is feeling this emotion. Developmental intergroup scholars have shown that children’s membership of various groups has a profound influence on how they reason and behave. Do intergroup relations also influence how children perceive emotions?

**Methods:** The present study examined how children (8-13 years, n = 401) perceive intergroup emotions. Children were presented with stories in which an ethnic in-group or out-group peer (between-subjects) experienced a negative or positive event (within-subjects). Subsequently they were asked to rate three emotions for each story.

**Findings:** Multivariate multilevel regression showed that when a positive event occurred, children expected in-group peers to feel better compared to out-group peers (b = .12, p < .05). This effect was mediated by children’s perception of similarity with regard to the protagonist, (z = 5.06, p < .001). When a negative event occurred, however, children expected the out-group peer to feel worse compared to the in-group peer, especially when in-group attachment was strong (b = -.24, p < .001).

3531

**EMPIRICAL PAPER**

**Polyamory is really simple, but it involves humans, so therefore it’s complicated’: What it means to be polyamorous**

*Cameron Glen & Chris Howard, University of Derby*

Polyamory has emerged as a challenge to monogamy as an ethical and responsible approach to romantic and sexual relationships with multiple partners. However, the concept of polyamory is largely contested within the literature, which has wider implications with regard sexuality, gender and identity politics. Research has tended to reproduce essentialist notions that polyamory is a sexual orientation, which reduces it to a state of being governed by biological, social and /or psychological factors. From a critical social psychology perspective this is largely problematic as sexual orientation research is embedded in a set of wider power relations, which regulate who can be polyamorous, what identities and relationship practices are appropriate or normal. Given this, the current study involved interviews with five people who identified as polyamorous and analysed these data using a Foucauldian inspired discourse analytical (FDA) framework to explore how polyamory was positioned and the subjectivities that were drawn upon. The analysis suggested that polyamory was construed as mononormative, where the values of monogamy rather than
being challenged were imposed on relationship practices and shaped experiences of polyamory. More specifically, successful polyamory relationships were constructed in relation to identities, sexualities, romance and intimacy that were consistent with normative monogamous practices. The implications in relation to polyamory and wider gender, identity and sexual politics and theory are discussed.

3600
EMPIRICAL PAPER
Dilemmas of citizenship rights and exclusion in immigrants’ discourse in Greece
Antonis Sapountzis, Democritus University of Thrace; Maria Xenitidou, Democritus University of Thrace
Background: Citizenship is according to researchers one of the most contested notions in the social sciences which includes different understandings that can be potentially contradictory (Bloemraad, Korteweg & Yurdakul, 2008). A prevalent research line within social psychology has attempted to explore the way civic or ethnic notions of national identity may be linked to the exclusion of immigrants from a national polity. More recently a discourse analytic approach to citizenship emphasized the way participants themselves may mobilize different and possibly contradictory notions of civic participation. Following this research tradition this paper tries to unravel the way in which immigrants who live in Greece construct their civic participation, in the context of an interview on migration and citizenship in contemporary Greece, where the economic crisis and the rise of the neo-nazi Golden dawn has put immigrants to a precarious position.
Method: Fifty participants were interviewed, both immigrants and dominant Greek people, using a semi-structured interview protocol. Data was analysed using discourse analytic techniques.
Findings: It was found that immigrant participants often trivialized or even ridiculed the citizenship criteria and citizenship testing imposed by the Greek state. At the same time though, when the interview touched upon the issue of undocumented migration they mobilized discourses of security and risk to argue that undocumented immigrants should be deported.
Discussion: These findings are discussed in relation to the different elements of citizenship participants seemed to draw upon.

3687
EMPIRICAL PAPER
Just following orders? The rhetorical invocation of ‘obedience’ in Stanley Milgram’s post-experiment interviews
Stephen Gibson, Grace Blenkinsopp, Libby Johnstone & Aimee Marshall, York St John University
Background: Recent research has begun to challenge the received idea that Milgram’s ‘obedience’ experiments are demonstrations of obedience as typically understood (i.e. as social influence elicited in response to a direct order). One key warrant for explaining the studies in terms of obedience has often been the post-experiment interviews conducted with participants, and the present study subjects these interviews to renewed empirical scrutiny with the aim of exploring how participants framed (or resisted) their behaviour in terms of obedience.
Methods: Data are drawn from archived audio recordings of post-experiment interviews from two of Milgram’s experimental conditions. The interviews were transcribed and
subjected to qualitative analysis informed by the principles of rhetorical and discursive psychology.

**Findings:** Analysis points to the extent to which participants resorted to a rhetorical strategy of 'just following orders' when pressed by the interviewer to account for their behaviour in administering electric shocks to the 'learner'. This highlights one place within the experiments where obedience did become a live issue, but in a rather different way than is usually assumed.

**Discussion:** It is suggested that analyses (including Milgram's own) that have relied on the post-experiment interviews as warrants for the claim that participants were indeed obeying orders in the Milgram experiments, have failed to engage with the extent to which the participants were engaged in the act of accounting for their behaviour. Rather than seeing these accounts as evidence of obedience, we can therefore re-specify them as samples of strategic social action.

---

**3707**

**EMPIRICAL PAPER**

*(In)authenticity Comes in Different Flavors: A Latent Class Analysis Approach*

*Letitia Slabu, Middlesex University; Alison Lenton & Constantine Sedikides, University of Southampton, Martin Bruder, University of Konstanz*

**Background:** Recent advances in social psychological research suggest that authenticity is a state (in addition to a trait) and, as such, is amenable to situational influences. Generally, this emerging literature considers state authenticity to be a unitary and unidimensional construct. However, not all instances of state (in)authenticity may feel the same, as triggering circumstances vary. The present research addresses this gap by investigating whether (in)authenticity is a multi-faceted experience. Using recent innovations in latent class analysis, we tested this conceptualization with a cross-cultural sample.

**Methods:** Participants from the US, China, India and Singapore described a time in which they felt authentic or inauthentic and responded to questions about this experience and their current feelings upon reflection.

**Findings:** The analysis identified six distinct classes of experiences: two authenticity classes ('everyday' and 'extraordinary'), three inauthenticity classes ('self-conscious,' 'deflated,' and 'extraordinary'), and a class representing convergence between authenticity and inauthenticity. The classes were phenomenologically distinct, especially with respect to negative affect, private and public self-consciousness, and self-esteem. Furthermore, relatively more interdependent cultures were less likely to report experiences of extraordinary (in)authenticity than relatively more independent cultures.

**Discussion:** Understanding the many facets of (in)authenticity may enable researchers to connect different empirical findings and explain why the attainment of authenticity can be difficult.

---

**3669**

**EMPIRICAL PAPER**

*The Impact of Problem-Based Learning in Conservation Education in Rural Zambia and the UK*

*Jackie Abell, Coventry University*

The study assessed a 5-week problem-based conservation education programme in a school in rural Zambia situated in a hotspot area of human-wildlife conflict, compared with a school in the UK. The research aimed to assess and compare attitudes to wildlife, the
environment and conservation prior to, and after, conservation education. The intervention was designed to address critical issues around conservation and human-wildlife conflict through identification with wildlife and incentives to conserve. A mixed method design was carried out with 69 children aged 12-15 years of age. All participants were given a shortened and adapted version of the EAI-S before and 7 weeks after the conservation education programme. A 2x2 mixed participants design for students in the Zambian and UK schools showed increased pro-conservation attitudes in both the Zambian and UK sample post-intervention. In particular children in both countries scored lower on items promoting the utilization of the environment for human purposes post-intervention F(1,68) = 11.613, p<0.001. Focus-group interviews were carried out with children from both countries in groups of 5-8. The data was analysed using thematic textual analysis. Emerging themes of: Inter-Relations and Control, Peer-Learning, Conservation and Economics are explored across the two countries. This study informs future work for developing and evaluating effective conservation education programmes that could be disseminated across Zambia and neighbouring sub-Saharan African countries. This study suggests PBL is effective in helping children consider the ecosystem, their place within it, local benefits of conservation, and the impact of localised changes on the ecosystem.

EMPIRICAL PAPER
Clients bringing professionals together: Affiliation and alignment in psychology involved healthcare MDT meetings
Cordet Smart, Nicole Parish, Lindsay Aikman, Nancy Froomberg & Tim Auburn, University of Plymouth

Background: Multi-disciplinary team (MDT) working is increasingly advocated in healthcare. Services with psychology input where decisions about professional interventions are unclear particularly rely on MDT meetings to develop appropriate care strategies requiring some form of collaborative outcome. Research on these MDTs has mostly been retrospective, with a paucity of naturalistic observation of meetings examining team agreement and limited application of psychological theories. Some studies have begun to identify laughter in such MDT meetings as relevant for collaboration. Other patterns of ‘agreement’ might also be interesting. This research draws on the Conversation Analysis concepts of alignment and affiliation to explore patterns of ‘agreement’ in team meetings.

Methods: 20 hours of psychology involved MDT meetings talk have so far been collected. Analysis using Discursive Psychology/Conversation Analysis is focusing on the production of agreements through alignment and affiliation, as most meetings require some form of solution or outcome at the end of the session.

Findings: Preliminary analysis suggests the sequence organisation of alignment and affiliation differs according to conversation topic; affecting orientations toward the (not present) client in addition to the task, team member identities and relationships. Talk focused on time spent with the client, in particular, provided opportunities for affiliation and collaborative completion.

Discussion: Earlier distinctions between task and person focused behaviour, and subject orientated talk and progressivity in decision making might be revised in the case of MDTs. Our results indicate that construction of client subjectivity is important for collaborative talk in MDTs. This might inform clinicians involved in these meetings.
THEORETICAL PAPER
It’s not about moral - it’s about freedom. Swedish youth on selling and buying sex
Johan Naslund, Linköping university - SE

We highlight four Swedish social psychology studies about buying and selling sex among young people. These non-normative sexual behaviours among 18-year-olds in Sweden show that although the group is not large (1.5-2% of the population) a significantly higher proportion was willing to sell sex, overall 20.0 %. Acceptance of others selling sexual services was significantly higher, 40.8 %. We think that a peer group and contextual perspective is better to differentiate between peoples sexual life than a moral perspective. We want to call the sexuality of young people with an extensive sexual life and high social problems as survival sex. These young people use their sexuality in order to get food - housing - heat - etc. An extensive sexuality among adolescents with small or no social problems, we name as sexually addicted. They not only feel / think about sex very often, but are having sex to a greater extent than other young people. Young people who have neither an extensively sexual life or social problems we name cultural-appropriate sexuality.
We argue that selling and buying sex among young Swedish people today is not so much about moral - although a very small part of them never do it - it's about freedom to do it if you want to do it. For example: If we take a look at the 2008 – study the question many adolescents seem to favour is: selling sex – why not? That is, they think more about positive consequences of selling sex.

3612
EMPIRICAL PAPER
Do public policies affect the acculturation process? An investigation of Polish, Asian and British perspectives in the United Kingdom
Claudia Roscini & Sofia Stathi, University of Greenwich

Multicultural societies such as the United Kingdom provide ample opportunities for everyday intergroup contact between majority and minority groups, which can form the base of the acculturation process. The two studies presented in this abstract aim to investigate if public policies that support or not multiculturalism and integration could affect majority and minority groups’ attitudes in the acculturation process.

Both studies were conducted in the UK and had a 2(condition: pro- vs. anti-integration) X 2 (group: majority vs. minority) design. Participants from both majority and minority groups were randomly assigned to read a summary of a public policy adopted in the UK that supported or not multiculturalism and integration. The content of the policy was retrieved from the Migrant Integration Policy Index (MIPEX). The sample of Study 1 consisted of White British and Polish people who lived in the UK; participants of Study 2 were White British and Asian/British Asian in the UK.

The variables measured were participants' attitudes towards cultural maintenance and contact/cultural adoption, five acculturation strategies, desire for intergroup contact both on a personal and group level and support of ethnic minority’s rights. Intergroup contact, experiences of discrimination and social identification were controlled for.

The results indicated more positive attitudes towards the acculturation process and a higher desire for intergroup contact by the member of the minority groups (Asians and Polish) compared to White British. The controversial findings about the role of public policies in support or not of multiculturalism are discussed in the context of the acculturation literature and are integrated in debates regarding multiculturalism in western societies.
EMPIRICAL PAPER
Managing talk on the sensitive topic of debt in an institutional setting
Nicole Andelic & Aidan Feeney, Queen's University Belfast; Clifford Stevenson, Anglia Ruskin University

Background: Debt is a widespread issue, associated with problems such as stigmatisation and psychological distress. This highlights the need for support from debt relief companies but also complicates advisors’ role in debt advice. It may limit the extent of information disclosed by the debtors and increase psychological distress, affecting the outcome of the advice. Our research explores how debt as a sensitive topic is managed in an institutional setting and the implications this has for the advice process.

Methods: In total, 12 telephone conversations between debt advisors and debtors at Grant Thornton UK IVA unit were analysed using Conversation Analysis and Discursive Psychology.

Findings: We found that both clients and advisors oriented to moral issues whereas only advisors oriented to institutional concerns. In managing problematic aspects of the conversation, both parties used identity management strategies, but advisors additionally made shifts to their epistemological position. These strategies were enacted using tools such as laughter and emotional displays.

Discussion: These findings improve the understanding of how a stigmatised identity is negotiated in an institutionalised context, and have implications for advisors within the financial sector. Identifying the functions of conversational practices in debt advice allows us to improve the appointments, with the aim of advisors being able to show care and attention towards the clients whilst allowing advice to remain objective and honest.

EMPIRICAL PAPER
Oculomotor function in children with and without Developmental Coordination Disorder
Emma Sumner & Elisabeth Hill, Goldsmiths, University of London

Background: Children with Developmental Coordination Disorder (DCD) present with significant motor difficulties, demonstrating problems with fine and gross motor planning and control. Surprisingly very little research has assessed oculomotor function in these children. The aim of this study was to compare basic oculomotor control in children with and without DCD.

Method: Twenty-two children, aged 7-10, that met the formal diagnosis for DCD were compared to 22 typically-developing children matched by age and gender. Eye movements were recorded using Eyelink 1000, as children completed four tasks: fixation, horizontal smooth pursuit, and pro- and anti-saccades. The distinction between the latter tasks is that children either followed the target with their eyes when it moved from the central point (pro-saccade), or they inhibited a reflexive saccade and looked in the opposite hemifield when the target moved (anti-saccade), as quickly as possible.

Findings: Analyses reveal that children with DCD demonstrated significant oculomotor deficits compared to their typically developing peers. They had poorer fixation stability and made more drifts away from the visual target. They also made a higher number of saccades during smooth pursuit. Children with DCD had similar pro- and anti-saccade latencies to their
peers, but they found the anti-saccade task very difficult, completing less than a quarter of the trials on average due to many anti-saccade errors. **Discussion:** The findings are the first demonstration of oculomotor differences in children with DCD. Further examination of oculomotor dysfunction in this population may help to identify neural mechanisms involved in this disorder.

**3658**
**EMPIRICAL PAPER**
Emotion perception in children with and without Autism Spectrum Disorder (ASD) to human and cartoon faces
Tibor Farkas, Emese Nagy & Susan Hackett, The University of Dundee
Core symptoms of ASD include deficits in socio-emotional functioning; however, findings on emotion recognition are still contradictory. In particular, whether the performance difference remains apparent when the samples are well matched; or is influenced by time pressure, the range of emotions involved and the use of non-facial stimuli. The aim of the study was to test emotion identification in children with and without ASD (N=18, 11-16yo) and adults without ASD (N=36), for developmental comparison. The recognition of the 6 basic emotions was examined on a set of human faces and for comparison, on a novel, validated set of cartoon characters in a forced-choice task, in three presentation length conditions (Indefinite, 200ms, 1200ms). Children with ASD had significantly lower accuracy in recognizing happiness, sadness, disgust, surprise, fear and even neutral faces when the task was timed compared to children without ASD (F = 1.99, p = .020, ηp² = .12), although their performances in the non-timed condition was comparable. Also, children recognized emotions (especially anger, disgust and sadness) with significantly higher accuracy from cartoon characters (F= 12.10, p < .001, ηp² = .45). Results support evidence that children with autism have a widespread difficulty recognizing correctly facial emotional expressions but only when the additional pressure of time limit is imposed on the task. Additionally, cartoon faces were found to be not only more engaging but also more efficient in eliciting correct responses from children, thereby being a possibly suitable research and developmental tool in the future.

**3693**
**EMPIRICAL PAPER**
Shedding light on the Stereotype Inoculation Model by Infusing Predictions from the Stereotype Content Model
Jaya Kumar Karunagharan & Chuma Owuamalam, The University of Nottingham Malaysia Campus
In two studies, we infused predictions from the Stereotype Content Model into those of the Stereotype Inoculation Model (SIM) to generate novel insights into conditions wherein students from stereotyped backgrounds would benefit from both ingroup and outgroup teachers. We predicted that only ingroup teachers conforming to stereotypic expectations of warmth would alleviate stereotype threat and improve performance amongst stereotyped students, whereas higher-status outgroup teachers conforming to expectations of competence would have the opposite effect. In Study 1 (N = 176), Malaysian students at a British University in Malaysia participated in separate science workshops with a 2 (Teacher status: high [British] vs. low [Malaysian]) x 2 (Status stereotypicality: competent vs. warm) x
2 (Meta-stereotype: control vs. negative) design. We measured students’ pre-workshop anxiety via the intensity of their recorded voices and the frequency of their classroom engagement. In Study 2 (N = 166), the paradigm of Study 1 was expanded by including an actual post-workshop performance test. Study 1 results showed increased anxiety when the outgroup or ingroup teacher conformed to their status-based stereotypes (ps < .05) but only when negative meta-stereotypes were salient. Crucially, students who activated negative meta-stereotypes participated more only when exposed to an ingroup teacher conforming to their ‘warm’ stereotype. Study 2 largely replicated the patterns in Study 1 and further showed students performing significantly better on a class test when the teacher was an ingroup member. These findings will have implications with regards to the segregated classrooms implied by SIM.

3587
EMPIRICAL PAPER
‘Walking Together’: Incorporating group identity in computer models of collective behaviour
Anne Templeton, Dr John Drury & Dr Andy Philippides, University of Sussex; Michael Seitz, University of Applied Sciences Munich

Computer models are being increasingly used to monitor and predict the spatial behaviour of crowds. Previous research has supported the suggestion of self-categorisation theory (SCT) that group identity is the mechanism underlying collective behaviour. We investigated the effects of one aspect of SCT, group identity, on crowd spatial behaviour in a field study and in a computer simulation. In the field study, 300 participants were filmed as they walked under a bridge in one of two conditions: 1) a crowd primed to share a group identity; 2) a naturally occurring crowd who were not manipulated (as a control). Using a 2x2 design, we compared the crowd primed with a group identity against the control crowd, and compared both crowd behaviours with two computer models: a standard model of pedestrian behaviour currently used for crowd events, and a second which in addition incorporated aspects of SCT to influence pedestrian behaviour. The walking speed and the space between the crowd members was quantified and compared between the two crowd conditions. It was found that the crowd members in the group identity condition regulated their speed to remain together and had less physical space between them than the members of the control crowd. Results are discussed in relation to differences in behaviour produced by the different computer models. We argue that for modellers to accurately simulate collective behaviour they should incorporate aspects of SCT.

SYMPOSIUM
Developmental invited symposium: Language development in socio-cognitive contexts
Professor Elena Lieven, School of Psychological Sciences, University of Manchester

Research on language development is frequently conducted in isolation from other areas of developmental and social psychology. But, in fact, and perhaps most especially in the early years, children’s language development cannot be separated off from their socio-cognitive development. Since this year’s conference is jointly organised by the Developmental and Social sections, this symposium seems particularly appropriate. Lieven will provide an initial theoretical framework and lead a closing discussion. The three empirical papers will highlight different aspects of the ways in which children’s language development both reflects, and is instrumental in, their socio-cognitive development.
Although many of children's language errors can be explained by the interaction between speech processing and the characteristics of the input, the research by Theakston et al., in Paper 1, suggests that errors can also arise from children's claims to agency. Brandt, in paper 2, addresses a long-standing issue: the relationship between theory of mind and children's understanding of complex sentences, showing that the correlation is not with complex sentences per se, but with the contexts of use of particular forms. In Paper 3, Köymen addresses children's ability to use common ground which is essential to interpret the utterances of others – sentences do not occur in isolation. This has previously been researched in caregiver-child interaction but the present study explores this as children move into the more complex world of peer-peer interaction.

PAPER 1
My do it! Explanations for children’s case marking errors in English.
Anna Theakston, Stacey McKnight & Elena Lieven, University of Manchester

Background: English-speaking children commonly produce case marking errors, but there is currently no satisfactory explanation for why children make certain errors such as the use of my (possessive) in subject position (e.g. "My make it"). We take a usage-based approach to language learning to investigate whether the distributional properties of the input, the child's prior language use, or their pragmatic goals can explain these errors.

Methods: Study 1: a corpus analysis on longitudinal data from fifteen, English-speaking, two-to-four-year-olds was conducted to determine whether distributional aspects of children's speech and their input can explain my-for-I errors. Study 2: for four children, the prior discourse context was analysed to determine whether my-for-I errors express high levels of agency and control.

Findings: Children's my-for-I-error rates did not correlate with the input frequency of: my; am-I+verb strings; or my+noun verb strings. However, children receiving less pronoun modelling and more proper-name input made significantly more my-for-I errors, the higher relative frequency of my compared to I in children's speech before the onset of errors correlated with children's my-for-I error rates, and errors were significantly more likely to represent the child's attempts to gain agency and control than other first person forms of reference.

Discussion: A complex of usage-based distributional factors; lack of pronoun modelling, low entrenchment of the correct I form, and the overextension of the possessive meaning of my, provide an explanation for children's my-for-I errors and enhance our understanding of the general learning mechanisms underlying children's language acquisition.

PAPER 2
Theory of Mind and Complex Sentences
Silke Brandt, Lancaster University

Background: De Villiers (2007) suggests that the recursive structure of complement clauses supports children's False-Belief understanding. In he thinks it's raining, the main clause (he thinks) expresses a perspective on the statement in the complement, and this differs from the speaker's perspective. In previous studies that found correlations between children's understanding of complement clauses and False-Belief, the main clauses contained a 3SG subject, as in the example above. However, children frequently hear and use 1SG complements, such as I think it's raining. We investigated how children's interpretation of 1SG- and 3SG-complements correlates with False-Belief understanding.
Method: We tested 64 English-speaking children aged 3;5 and 4;5. They saw two boxes. Two hand puppets indicated which box contained a sticker and how sure they were about this (e.g., *I/the cow know(s) it’s in the red box* vs. *I/the pig think(s) it’s in the blue box*). In the 3SG condition the experimenter spoke for the puppets. In a between-subjects design, each child received eight trials and took part in four standard False Belief tests.

Findings: The 3-year-olds performed at chance in both conditions and below chance in the False Belief tests. The 4-year-olds performed above chance in both conditions. However, only their performance in the 3SG condition correlated with their False Belief understanding.

Discussion: This suggests that 1SG-complements do not have the same meaning and/or structure as 3SG-complements. Only the latter support the ability to represent other minds. Details in the form and function of linguistic structures influence the way in which these are related to and support children’s socio-cognitive development.

PAPER 3
Preschoolers track their peers' knowledge states in their justificatory reasoning
Bahar Köymen, University of Manchester

Background: In making joint decisions, children have to make proposals (e.g., “Let’s put polar bears there”) and justify these with relevant facts (e.g., “There is ice”) based on common ground assumptions or warrants (e.g., polar bears need ice). The two studies investigate how children keep track of their common knowledge with their peers and give reasons for joint decisions.

Method: In Study 1, 24 pairs of 3- and 5-year-olds were asked to build a zoo with conventional (e.g., toy animals) and unconventional (e.g., a piano) items. In Study 2, 73 pairs of 3- and 5-year-olds were introduced to a novel animal with unique characteristics (e.g., eating rocks). In the common ground condition, the children learned about the animal together. In the one-expert condition, one learned about it, the other was naïve. In the two-experts condition, children learned about it separately. Later, the pairs decided together on three items that the novel animal needed.

Findings: Study 1: When placing conventional items, both age groups justified their proposals with implicit, unstated warrants. They stated, “There is ice”, assuming that their peer knows “polar bears need ice” ($z=-1.96, p<.05$). When placing unconventional items, they articulated the warrant.

Study 2: Both age groups referred to the unique characteristics of the animal in their justifications more in the two conditions without common ground than in the common ground condition ($z=3.36, p<0.001; z=4.57, p<0.001$).

Discussion: Thus, by age 3, children can keep track of their peers’ knowledge states and communicate with one another based on appropriate common ground assumptions.

3532
SYMPOSIUM
Risk and protective factors associated with digital technology use: novel directions for research
Lucy Betts, Nottingham Trent University

The unprecedented levels of connectivity and the increasing digitisation of society affords many benefits such as facilitating social networks and promoting wellbeing. However, despite these many benefits, for some technology use has been associated with negative outcomes. Going beyond existing studies and focussing on non-university samples, cross-cultural comparisons, and an integration of multiple data sources, this symposium will
explore: (1) how individuals perceive risk online, (2) the characteristics of an individual’s social network that promotes risk, (3) the protective factors that buffer individuals from risk, and (4) the ethical issues faced by researchers investigating this area. Gaining a greater insight into these issues is particularly pertinent as society moves to ‘digital by default’ to ensure users remain safe online whilst capitalising on the benefits.

First Lucy Betts will present a paper discussing young people’s perception of risk online and, drawing on the third person effect, will highlight how young people perceive themselves to be less at risk than others. Paper two by Sarah Buglass will report how vulnerability and risk is associated with objectively validated online network indices such that larger networks place individuals at great risk. Paper three by Moon Halder will provide a cross-cultural account of the protective role of trust and social identity as factors in social network use to ameliorate risk. Finally, Jens Binder will discuss the ethical challenges researchers face when undertaking research examining social networks and risk. Jens Binder will chair the symposium, each presentation will last 20 minutes with time for discussion.

3533
PAPER 1
Examining perceptions of risk online: The role of the third person effect, optimism, and knowledge
Lucy Betts & Sondos Metwally, Nottingham Trent University

Background: Despite the many benefits associated with digital technology use, using technology is not without risks. However, young people often down play these risks for themselves with evidence suggesting that they believe they are less likely to experience cyber bullying than others demonstrating a third person effect (TPE, Metwally & Betts, 2015). The present study extended this line of research by examining perceptions of risk online, optimism, and knowledge.

Methods: Two hundred and 99 (215 female, 70 male, 14 not reported) participants (mean age = 18.29, SD = 2.22) completed measures of optimism, knowledge of online risks, and knowledge of privacy. Participants were asked to report the extent to which they thought it was likely that their personal information would be stolen over the internet for themselves, their friends, younger students, other students their age, people older than them, and strangers to assess the TPE.

Findings: A significant main effect of risk occurred with the self regarded as being at significantly less at risk than the others, F(3.80, 1054.44) = 65.56, p

3534
PAPER 2
When ‘friends’ collide: The impact of social heterogeneity on online vulnerability
Sarah Buglass, Jens Binder, Lucy Betts & Jean Underwood, Nottingham Trent University

Background: The use of online social networks has become a ubiquitous method of managing one’s social connections. Concerns have been raised about the potential implications of embracing socially diverse online networks where friends, family, work colleagues and even casual acquaintances often collide. This paper builds on prior research into the potentially negative repercussions of managing increasingly diverse networks online.

Methods: A cross-sectional mixed methods study comparing the social networking behaviours and social network dynamics of UK based social networking users (13 - 77 years). A convenience sample (N=177) of Facebook users (63% female) completed an online survey and Facebook data extraction task, measuring network size, social network
diversity and exposure to online vulnerability. Network metrics were extracted through social network analysis. Associations between self-report measures and network metrics were explored using mediation analysis.

**Findings:** The findings indicated a mediating effect of both self-reported network diversity ($\beta = .078, p$)

3535

**PAPER 3**

An Intercultural evaluation of Culture, Trust and Identity on Facebook

Moon Halder, Jens Binder, James Stiller & Mick Gregson, Nottingham Trent University

**Background:** Previous evidence suggests that cultural orientation (individualist vs collectivist) affects users’ communication strategies on social network sites and the way they build online social networks. At the same time, increased opportunities for identity formation and impression management on social network sites have been widely discussed – but little is known about the relationship between culture and online identification. The aim of the current study was to evaluate the impact of cultural orientation on online Trust and Identity using a cross-cultural sample.

**Method:** University-based Facebook users from the UK (classed as individualist, n = 52) and Indonesia (classed as collectivist, n = 103) participated in a survey using validated measures of culture, trust and identity as well as intensity of Facebook use, user activities on Facebook and online network composition.

**Findings:** Country comparisons showed marked differences in online activities, network characteristics and trust all of which were in line with the concept of cultural orientation. Regression analyses further demonstrated that online identity and online cultural orientation played distinct roles in their association with trust and Facebook activities.

**Discussion:** Findings are interpreted in light of an increased globalization of internet services and social media. Understanding a growing non-Western user population becomes vital for both psychologists and web developers.

3536

**PAPER 4**

Toward the unknown region: Social media data as sociometric markers

Jens Binder, Sarah Buglass, Lucy Betts & Jean Underwood, Nottingham Trent University

**Background:** Ethical concerns have been raised over researchers’ use and generation of social media data in experimental and non-experimental settings. These concerns have focussed on the challenges in adhering to the basic principle of informed consent from participants. The present work argues that the complexities of social media data are little understood by behavioural scientists and imply ethical challenges of a novel type. In particular, online network data cannot be truly anonymised, which turns data of this kind into a powerful sociometric marker by which individual users can be identified.

**Method:** Using techniques from social network analysis and graph enumeration, different data structures are compared, all of them in seemingly anonymised format, to explore how unique each data structure would be to a social media user maintaining a particular online social network.

**Findings:** While anonymisation helps to hide an individual’s identity, social networks approaching average sizes will display properties that are highly unique and unlikely to be found with two or more social media users. Further, collecting very basic information on
network contacts and integrating this information in a data set, will turn these data into a highly unique sociometric signature of an individual even at smaller network sizes.

**Discussion:** Social media data are more sensitive than usually thought and require appropriate handling in order to comply with ethical protocols. In addition, users will not have an awareness over the richness of information they provide for research purposes, and this requires additional responsibility on the researcher’s side.

**EMPIRICAL PAPER**

**How do attributional patterns affect acceptance of discrimination? A comparison of attitudes to gender-, sexuality-, race- and religion-based discrimination**

*Clodhna O'Connor, Dept of Psychology, Maynooth University*

**Background:** Research shows that discrimination against marginalised groups is affected by attributions about the group’s origins (e.g., whether the group is biologically-determined or socially-constructed). This study explored the relationships between group-origin beliefs, attributions for discrimination, and acceptance of discrimination in the context of gender, sexuality, race and religion.

**Methods:** 452 participants (56% male, mean age 33.3) were recruited from MechanicalTurk to an online survey. Participants were randomly assigned to answer questions regarding either gender, sexual orientation, race or religion. Participants were first asked to rate the importance of seven causal factors (e.g. biological processes, social experience, individual choice) in the origins of gender, sexuality, race or religion. Participants were presented with five examples of discrimination against either women, gay people, African-Americans or Muslims. Participants rated the importance of the seven causal factors in determining these instances of discrimination, and evaluated the acceptability of this discrimination.

**Findings:** Separate multiple regressions were performed for each condition, assessing the impact of attributional patterns on acceptance of discrimination. Only one group-origin belief significantly predicted discrimination acceptance: those who viewed race as biological were less accepting of racial discrimination (p=.023). Attributions for discrimination were stronger predictors of discrimination attitudes. Biological attributions for discrimination predicted increased acceptance of racial (p=.001) and religious (p=.029) discrimination. In the sexuality condition, acceptance of discrimination was positively associated with attributing discrimination to individual choice (p=.031) and random chance (p<.001), and negatively associated with attributing discrimination to social experience (p=.024).

**Discussion:** The attributional patterns associated with attitudes to discrimination are group-specific, with attributions for discrimination typically outweighing group-origin beliefs.

**EMPIRICAL PAPER**

**Do individuals with autism know their own minds better?**

*Sarah White, University College London; Rui Sun, University of Cambridge*

It is well known that we have a tendency to think positively about ourselves and be overly optimistic when making predictions about our future actions. In fact, we are more accurate in our predictions of others’ than our own behaviour. Furthermore, we are less likely to help another person when in a group than when alone. Is this also the case for individuals with autism? 31 typically-developed (TD) adults were compared to 36 adults with autism spectrum disorder (ASD) of comparable age and IQ. They made predictions about themselves and other people in a wide range of situations, and later experienced some
similar situations in the lab, including an opportunity to help the experimenter, either in a
group setting or alone. ASD adults were just as likely
to help as TD participants; both
groups helped more often when alone than in a group. The groups differed in the accuracy
of their predictions however: TD adults thought they'd be more helpful than they really were,
whilst accurately predicting how helpful other people would be. ASD adults showed a more
complex pattern - they accurately predicted how helpful they would be when they were alone
but thought they'd be more helpful than they really were in a group situation, whilst they fairly
accurately predicted how helpful other people would be. In some situations, individuals with
autism seem to know their own minds better than typically-developed adults. This may be a
benefit of not continuously monitoring other people's thoughts and feelings.

3389
EMPIRICAL PAPER
Differences in neural processing of congruent and incongruent grasps by 9-month-
old infants
Aine Ni Choisdealbha & Vincent Reid, Lancaster University
Background: Learning to shape one’s hand appropriately is crucial to leaning how to use
tools. Part of this ability may be learned through observing others’ actions. We wished to find
if 9-month-olds' neural responses to adults grasping tools would indicate greater attention to
inappropriate than appropriate grasps in the form of a larger Nc component. This would
show that 9-month-olds distinguish between perceptually similar means of apprehending
tools based on the tools’ features.
Methods: Stimuli were three-image sequences depicting an actor reaching for and grasping
a cup with a power or precision grasp. The appropriateness of the grasp depended on the
presence of a handle. Following application of a 128-sensor EEG net, infants were
repeatedly shown these sequences. Fifteen infants (mean age 8m 29d, SD 11d) were
included in the final sample with an average of 12 trials per condition. ERPs were calculated
in response to the image depicting the grasp on the cup.
Findings: An Nc effect was evident over left fronto-central channels at the 300-600ms post-
stimulus time period, \(t(14) = 2.74, p < 0.025\). An unhypothesised P400 effect was seen over
posterior regions at the same time, \(t(14) = -2.62, p < 0.025\). In both cases the component
was larger for the inappropriate grasp.
Discussion: Nine-month-olds attended more strongly to inappropriate grasps and
processed them differently to appropriate grasps. This suggests that by 9 months infants are
encoding the appropriateness of the means of grasping an object on the basis of that
object’s structural features (e.g. handles).

3628
EMPIRICAL PAPER
Constructing and resisting benefit claimant identities in the televised discussions
about ‘Benefits Street’
Simon Goodman & Philippa Carr, Coventry University
Background: The United Kingdom has a long established system of financial support for
people out of work. As this is a tax funded system the financial cost of this is distributed
amongst the population which has led to debates about whether or not such a system is fair
and acceptable. The recent financial crisis and the following austerity cuts have increased
debates about public spending. More recently a television documentary series on Channel 4
called ‘Benefits Street’, which the station claims “reveals the reality of life on benefits” heightened the debate and led to some high profile televised debates.

**Method:** This research project focusses on the two feature length televised discussions, Channel 4’s ‘Benefits Britain: the Debate’ and Channel 5’s ‘The big benefit row: live’. A discursive psychological approach was used to address how benefits claimants were presented in the programmes.

**Findings:** The discourse analysis demonstrated that a number of negative characteristics are attributed to benefits claimants. These include being inactive (especially in comparison to people who work), watching television, drug use, uncouth behaviour and bad role models/parents. ‘Benefits claimant’ is a very negative category. People in this category are made accountable for their situation and are presented as morally inferior and a burden.

**Discussion:** While this negative identity is resisted, individual claimants are overwhelmingly presented as villains who are undeserving of support. These findings are discussed in terms of practical implications for benefits claimants themselves and for the wider political debate about social inequality and income redistribution.

---

**3308 EMPIRICAL PAPER**

**How easy is it to read the minds of people with autism?**

*Elizabeth Sheppard, Nottingham Trent University; Dhanya Pillai, University of Nottingham Malaysia; Peter Mitchell, University of Nottingham UK*

**Background:** People with autism spectrum disorder (ASD) have difficulty connecting socially partly because of poor ability in inferring others’ mental states. Another potential barrier to social life could be linked with people’s difficulty interpreting the mental states of those with ASD, something we investigated in the current research.

**Method:** Twenty ‘targets’ with ASD and 20 control targets were greeted by a researcher in one of four ways (scenarios) while their reaction was surreptitiously filmed. Either the researcher told a joke, kept the target waiting, related some challenges or paid a compliment. Videos of the targets’ reactions were shown to 30 participants without knowledge of target clinical status, who observed the target’s reactions (without sound) and then guessed what the researcher had said.

**Findings:** Participants were above chance in guessing all four scenarios for the two groups of targets independently. However, participants were much worse at inferring the scenario from targets with than without ASD, \( F(1,29) = 37.79, p < .0005, \eta^2 = .57; \) and this contrast was stronger for some scenarios than others, as indicated by a significant interaction effect, \( F(3,87) = 14.57, p < .0005, \eta^2 = .33. \)

**Discussion:** Participants were not able to guess what happened to targets with ASD as well those without ASD, suggesting that they had specific difficulty interpreting the mental states of people with ASD. If we cannot ‘interpret’ those with ASD effectively, this could lead to social misunderstandings such that difficulties in making social connections are magnified for people with ASD.

---

**3488 EMPIRICAL PAPER**

**Where is my hand? The developmental trajectory of visual-proprioceptive integration in children**

*Katie Greenfield, Roger Newport, Natasha Ratcliffe & Danielle Ropar, The University of Nottingham*
**Background:** Integration of proprioceptive and visual inputs underpins the subjective sense of self, which in turn underlies the development of self-awareness, imitation and empathising. This study investigated how the integration of these inputs develops with age and whether this relates to higher-order social processes.

**Method:** 75 children aged 4-11 years placed their hands into a MIRAGE mediated reality device, which presented live video images of their hand in the same plane as their actual hand. In baseline conditions children estimated the location of their right index finger with, and then without, vision of their hands. In the experimental condition children (unknowingly) moved their right hand further from the midline while they saw it move towards the midline, resulting in a discrepancy between seen and felt hand location. Vision of the hand was then occluded and children again estimated the position of their right index finger.

**Findings and discussion:** No relationship was found between estimates of finger location and social skills, as measured by a parental questionnaire (the Social Aptitudes Scale). However, there was a significant effect of age on estimates following the experimental condition only. A developmental trajectory showed that, when vision and proprioception were incongruent, children relied more on vision and less on proprioception as they developed. The development of visuo-proprioceptive integration in children, and its relation to body ownership and the subjective sense of self are discussed.

**3620**
**EMPIRICAL PAPER**
**Exploring Moral and Political Ideology in Group-Based Cognition**
*Brandon Stewart & David Morris, University of Birmingham*

**Background:** Few studies have examined the functioning of moral foundations theory on political attitudes at the intergroup level. The present talk will explore the role of moral foundations and political cognition as applied to intergroup thinking.

**Method:** The first study used a repeated measures design in which 142 participants completed both the ingroup and the outgroup versions of the moral foundations questionnaire (MFQ), and political orientation was measured. Ingroup and outgroup MFQ measures were counterbalanced.

**Results:** Linear regressions were conducted with political ideology as a continuous predictor and framed difference score as the outcome (e.g., Harm difference = ingroup harm–outgroup harm). A negative coefficient between political ideology and the difference score would indicate that conservatives showed more endorsement of the moral foundation when it was framed about the ingroup. Political ideology was significantly and negatively correlated with each moral difference score (Fairness β = -.36***, Authority β = -.35***, Loyalty β = -.34***, Purity β = -.29**), with the exception of Harm (β = -.16). For individual regressions, we observed that the ingroup Fairness slope was not significant, β = .11, but the outgroup Fairness slope was significant, β = .37***, indicating that Liberals supported fairness more when framed about an outgroup. In addition, the Authority slope became non-significant, β = -.16, when framed about an outgroup. A second study followed-up on these results.

**Discussion:** This evidence shows that the moral patterns associated with political ideologies change when thinking about intergroup contexts, and this may have important implications for intergroup relations.

**3734**
**EMPIRICAL PAPER**
Metacognitive monitoring and control processes in children with autism spectrum disorder (ASD)

Catherine Grainger & David Williams, University of Kent; Sophie Lind, City University, London

Metacognition refers to cognition about cognition, and encompasses meta-monitoring processes (the ability to represent one’s own mental states) and meta-control processes (the ability to control one’s cognitive processes). Monitoring and control processes play vital roles in self-regulated learning. For example, when revising for exams it is important to be able to accurately assess what information you know/don’t know, and implement appropriate revision strategies. Some theories suggest the ability to represent one’s own mental states relies on the same mechanism as the ability to represent others’ mental states (mindreading/theory-of-mind). Given diminished mindreading in autism spectrum disorder (ASD), there are reasons to predict concurrent impairments in metacognition. However, to date it is unclear whether metacognition is impaired in this disorder. Methods: In Study 1, 22 children with ASD and 21 age/IQ-matched comparison participants completed two classic tests of metamemory monitoring accuracy, as well as background measures of mindreading. In Study 2, a judgement-of-confidence task, which assessed both monitoring and control abilities was completed by 32 children with ASD and 30 age/IQ-matched comparison participants, alongside measures of mindreading. Results: In Study 1, children with ASD demonstrated typical monitoring accuracy on both tasks. However, in Study 2, children with ASD showed clear diminished accuracy in their confidence judgements, indicating meta-monitoring impairments. Children with ASD also used monitoring for the purpose of control significantly less than comparison participants, despite there being little evidence of impairments in overall levels of control. Conclusion: These results provide evidence of significant impairments in aspects of metacognition in ASD (particularly confidence accuracy), but suggest that metacognition is not universally impaired. Correlations between metacognitive task performance and mindreading measures will also be presented and the nature of the cognitive underpinnings of metacognition discussed.

3556

EMPIRICAL PAPER

The moral standing of animals: Towards a psychology of speciesism

Lucius Caviola, Jim Everett & Nadira Faber, University of Oxford; Adriano Mannino, University of Bern

Background: Are animals morally less valuable than humans? And are some animals morally less valuable than others? The term “speciesism” refers to the assignment of different moral worth based solely on species-membership rather than factors that might correlate with species-membership like intelligence or capacity to suffer. In this paper, we introduce and investigate speciesism as a psychological construct. We argue that speciesism is an accurately measurable, relatively stable attitude with high interpersonal differences, and that correlates with a cluster of other moral attitudes. Method: We conducted three online studies with a total of 2,000 participants. In study 1 we developed and empirically validated a theoretically driven speciesism scale. In study 2 we investigated test-retest reliability of the scale over a period of 4 weeks. In study 3 we explored individual differences in speciesism and correlations with other psychological constructs.
Findings: Study 1 presents the one-dimensional speciesism scale, which captures individual differences in speciesist attitudes. Study 2 reports the high test-retest reliability of the scale, suggesting that speciesism is a relatively stable attitude. Study 3 finds correlations between speciesism and racism, sexism, homophobia, and social dominance orientation. These results implied that similar mechanisms might underlie both speciesism and well-researched forms of prejudice. Further, Study 3 shows that speciesism positively correlates with political conservatism, system justification, right-wing authoritarianism, dogmatic thinking, and negatively correlates with flexible thinking and empathy.

Discussion: While moral philosophers have long argued that speciesism is key to understanding human-animal relations, the concept has been surprisingly neglected in psychology. As our studies demonstrate, however, speciesism is a measurable and stable psychological construct: Its further study has important implications for both the understanding of human-animal relations and for the ethical treatment of animals.

KEYNOTE
Affiliation, alignment, and belonging in infancy and early childhood
Professor Malinda Carpenter, School of Psychology and Neuroscience, University of St Andrews

Humans connect with others in special ways. Beginning in infancy, we get great pleasure out of sharing and aligning attention, emotions, attitudes, and behaviour with others, and at least by early childhood a sense of belonging to a larger ‘we’ – social groups – is also very important to us. I will present a broad overview of our recent research on the development of various types of affiliation and alignment with others, from work on joint attention and joint action in infancy to work on social-affiliative functions of imitation and groupmindedness (e.g., preferential treatment of in-group members, reactions to ostracism, feelings of loyalty to the group) in early childhood. These findings show the strength and breadth of our motivation to connect with others, both interpersonally and at the group level, early in development.
Posters- Thursday 10 September 2015

3002
POSTER
Religiosity, authoritarianism, social dominance and ambivalent sexism
Kallia Manoussaki, University of the West of Scotland
The study investigates a cluster of cognitive and personality constructs in relation to rape myth acceptance among a student population in the West of Scotland. Specifically it looks at the associations between strength of religious faith (the importance of religion in one’s life) and religious fundamentalism (certainty in one’s religion as the singular provider of truth), authoritarianism (conservative, inflexible outlook), social dominance (tendency to prefer hierarchical structures linked to discriminatory attitudes), ambivalent sexism (comprising of hostile and benevolent sexism) and rape myth. The findings indicate that gender roles and expectations, social conservatism and religious feeling are all positively related to the acceptance of rape mythology. It is hoped that a deeper understanding of rape mythology will eventually promote a more facilitative culture for rape victims, reflected by an increase in progressive and comprehensive policies, higher report and convictions rates and enhanced post incident care.

3661
POSTER
The effect of handshake duration on nonverbal behaviour
Tibor Farkas, Emese Nagy, Frances Saunders & Anna Symeonides, The University of Dundee
Shaking hands is a universal form of social greeting and was found to be influenced by empathy, compassion and perceived and actual personality traits. The effect of different handshakes on the partners’ actual behaviour, however, has not yet been investigated. The aim of the present study was to test the effect of temporal violation on handshakes by manipulating the length of the handshakes. 36 participants were randomly assigned to ‘normal’ (<3 seconds), ‘prolonged’ handshake (>3 seconds), and control, no-handshake conditions. A semi-structured interview was used to disguise the purpose and the nature of the handshakes.
Frame-by-frame analysis of the participants’ behaviours before and after the handshakes revealed behavioural freezing (decreased amount of smile p<.05), increased self-comforting (indicated by increased ‘hands on hands’ p<.05, and decreased ‘hands on body behaviours’ p<.05) in the prolonged handshake, in comparison to the control and normal handshake conditions.
In summary, participants in this study accurately perceived and sensitively reacted to the temporal manipulation of the handshake. The above temporal window of the normal versus prolonged handshakes overlap with the earlier reported universal temporal patterns of motor, perceptual and interpersonal behaviours (Poppel, 1978; Nagy, 2011). Results are considered in the context of medical, clinical and applied areas, as well as in relation to consciousness.

3605
POSTER
An investigation into the ways in which art is taught in an English Waldorf Steiner school

**Jenny Hallam & Susan Egan, University of Derby; Julie Kirkham, University of Chester**

There is a general consensus amongst academics and educators that art is an important subject which offers multiple benefits to children. Despite the value of art for children research indicates that within mainstream schooling there is a decline in children’s expressive drawing development during the primary school years and that many children give up on art at around the age of 11. Children who are educated using a Waldorf Steiner approach demonstrate consistently superior expressive drawing skills but little is known about how art is taught within this educational system. In order to address this issue four Waldorf Steiner primary school teachers participated in semi-structured interviews designed to explore the Waldorf Steiner educational philosophy, their training and the ways in which they approach art in the classroom. An inductive, social constructionist thematic analysis identified two main themes within the interviews—teacher’s experiences of art and the teacher and child’s approach to art. Within these themes the importance of adequate training which stresses the value of art and gives teachers opportunity to engage in art activities was emphasised. Such training was linked to an effective teaching approach which placed importance on teaching skills and encouraging children to develop their understanding of art through discussion. The teachers suggested that a focus on skill development and art appreciation enhanced children’s artistic ability by communicating a message that art was taken seriously within the Waldorf Steiner educational approach and it was a valued topic which offered rich opportunities for personal growth.

**3798 POSTER**

An evaluation of factors relating to students’ fear of crime

**Brittany Davenport & Dr David Holmes, Manchester Metropolitan University**

The research objective was to evaluate factors relating to students’ fear of crime (FoC). Students’ age, gender, home district, precautionary actions and gang perception were evaluated. A quantitative approach including FoC and precautionary actions questionnaires and gang perception vignettes was utilised. This design was employed as large samples and data were achievable, thus, relationships could be analysed and results could represent a wider population.

FoC can lead to various mental health-related difficulties. One in three students become victims of crime, however, student FoC remains under researched. Student’s FoC levels differ, with effects shown for gender and age. Opportunistic sampling recruited student participants (N=168). Pre-existing questionnaires were revised and gang perception vignettes were generated. Data analysis included correlations, regressions, t-tests and ANOVAs.

As predicted, females had higher FoC and took more precautionary actions than males. Results suggested that youth groups were more likely to be perceived as gangs when the youths were all male and when they were home-based (e.g. could be seen from home), as opposed to street-based.

This study concludes that male students may underestimate their risk of victimisation, their FoC levels are significantly lower than females and consequently, they take fewer precautionary actions. This emphasises the need for universities to provide male students with more information on victimisation, to increase their precautionary actions. Gang perception findings suggest that students may need support to feel safe in their home; this
may be of interest to local police who can target youth groups. Limitations include the restricted districts and gender sample. Future studies should qualitatively explore perceptions of risk and precautionary actions, to help understand the cognitive mechanisms behind differences across gender and location.

3495
POSTER
Measuring the human mirror neuron system with EEG – possible or impossible?
Hannah Hobson & Dorothy Bishop, Oxford University
The human mirror neuron system has been suggested to contribute to a number of social and communicative processes, including action understanding, language, theory of mind, empathy and even prejudice. However, inferring the use of the human mirror neuron system in processes is non-trivial. Here we describe recent attempts to use changes in EEG power bands (namely the “mu” power band) to infer mirror neuron involvement in certain tasks, and infer dysfunction in individuals with autism spectrum disorder. There are several potential confounds and methodological issues involved in these “mu suppression” set-ups. In order to transparently assess whether mu suppression is a good measure of the human mirror neuron system, we have pre-registered our study and will be presenting data from typical individuals.

3349
POSTER
The Impact of Globalisation on Organisational Communication: An Interpretative Phenomenological Analysis
Hannah Curtis & Moira Cachia, University of West London
Background: Many journal articles and books have been devoted to cross-cultural communication, highlighting aspects such as individualist verses collectivist cultures, and high- verses low-context cultures (Gudykunst & Kim, 2003; Hofstede, Hofstede, & Minkov, 2010). However, very few studies have been carried out on the implications of these aspects on global business. It is evident that people are relocating for various reasons such as work or studies (Office for National Statistics, 2014), taking their cultural communication styles with them (Hofstede et al, 2010). Culture varies across geographical regions (Agar, 1994), influencing the conveyed meaning being communicated. The aim of this small-scale study was to look at the effects of communication on global operations. Hence, the research question for this study was: What are the communication implications of a global workforce?
Method: A homogeneous sample of four participants at senior management level was interviewed using Semi-Structured Interviews (SSI). Eleven carefully selected questions were devised with the aim of reducing demand characteristics. Interpretative Phenomenological Analysis (Smith & Osborn, 2011) was applied to the data.
Findings: Explicit and implicit communication are key elements for successful global business, as well as a broad understanding of cultures. Consequently, participants reported that it is necessary to have knowledge of how other cultures function so integrity of business can be carried out.
Discussion: Findings suggest that implications are evident for the management of global organisations, who need to ensure there is a clear, constant and consistent level of communication amongst employees to maintain profitable business relationships.
Mothers’ and fathers’ participation in preschool children’s daily activities

Despina Papoudi, School of Education, Faculty of Early Childhood Education, National and Kapodistrian University of Athens; Despina Papoudi, School of Education, University of Birmingham & School of Education, Faculty of Early Childhood Education, National and Kapodistrian University of Athens; Lia Tsermidou, School of Education, Faculty of Early Childhood Education, National and Kapodistrian University of Athens

Background: The reported study examines mothers’ and fathers’ participation in their preschool children’s daily activities. In the framework of socio-cultural and contextual theories, family based daily activities constitute opportunities for children to participate in meaningful interaction with their parents and such joint participation lies at the heart of children’s learning and development. Recent research has highlighted the significance of father involvement for positive child outcomes and has also shown important differences between mother-child and father-child relations and interactions. However, fathers’ participation in the daily lives of their children has been under investigated.

Methods: Self-report data were collected by means of the CDA-PB scale (Petrogiannis, Papadopoulou & Papoudi, 2014) (a 5-point, Likert type scale), comprising 5 types of daily activities: “household and self-care activities”, “recurrent outings”, “pre-academic activities”, “play” and “home entertainment activities”. Participants were 198 parents (99 mother-father pairs) of children attending public nursery schools in Athens, Greece.

Findings: Preliminary descriptive analysis has shown that, overall, parents reported greater participation in “pre-academic activities” (M=3.49) and “recurrent outings” (M=3.49) while “play” received lower scores (M=2.96). Regarding differences between mothers and fathers, it was found that mothers reported higher frequency of participation in all categories of activities compared to fathers, with the exception of “home entertainment”. The greater differences were detected in the categories of “pre-academic” (mothers M=3.79; fathers M=3.14) and “household and self-care” activities (mothers M=3.59; fathers M=3.04).

Discussion: Results are discussed in relation to the literature on maternal and paternal involvement in children’s daily lives in the framework of socio-cultural and contextual theories.

Understanding stereotypes in intergroup contact in Central-Eastern Europe: the qualitative approach

Magda Petrjánošová & Barbara Lášticová, Slovak Academy of Sciences, Institute for Research in Social Communication

This paper is a daring attempt to generalize from more than 10 years of qualitative research (2003-2013) into intergroup contact between different national groups (mainly in Central-Eastern Europe) and to identify trends, formulate some common findings and offer methodological comments concerning understanding of prejudices and stereotypes. It draws on experience from four different research projects, various kinds of empirical material (semi-structured interviews, focus groups, drawings of the border region and answers to an open question in an online questionnaire) and concerns Slovak-Austrian, Slovak-Irish, Slovak-Czech, Czech-Polish, Czech-Austrian and Czech-German attitudes towards the other national group. The paper concentrates on 1) explicit/ implicit stereotypes; 2)
stereotypes acknowledged as shared by the ingroup, personal dis/agreement with them and the reasoning behind that; 3) different (discursive) ways to work with personal counter-stereotypical experience; 4) beliefs about stereotypes held by the outgroup about the ingroup; 5) declared change of stereotypical beliefs in time and reasons for that.

3559
Gender differences in the social motivation and friendship experiences of adolescents with and without autism
Felicity Sedgewick, Vivan Hill, Rhiannon Yates, Leanne Pickering & Elizabeth Pellicano, Centre for Research in Autism and Education (CRAE), Department of Psychology and Human Development, UCL Institute of Education, University College London, London, UK

Background: There has been much focus in autism research on the social experiences of boys, as they constitute the majority of diagnosed individuals. This study therefore examined gender differences in the social motivation and friendship experiences of adolescent boys and girls, both with and without autism, educated in specialist provision.

Methods: Forty-six adolescents (13 autistic girls, 13 non-autistic girls, 10 autistic boys, 10 non-autistic boys) aged 12-16 years, and of similar intellectual ability, took part. Participants completed the Social Responsiveness Scale (SRS), the Friendship Qualities Scale (FQS) and a semi-structured interview, which was subjected to thematic analysis.

Findings: Girls with and without autism had similar social motivation scores (autistic girls: M=11.0, non-autistic girls: M=9.23) and friendship quality, although autistic girls reported significantly less conflict in their best-friendships (autistic girls: M=2.42, non-autistic girls: M=3.35). Autistic boys were less socially motivated (autistic boys: M=16.70, non-autistic boys: M=6.40) and had qualitatively different friendships (less secure, helpful and close) to boys without autism. Interview data corroborated this pattern of findings, including themes on companionship, scripting and conflict, with one exception: girls with autism reported high levels of relational aggression within their friendships.

Discussion: Overall, girls with autism were more socially motivated and reported friendships that were more intimate than those of autistic boys, suggesting that autistic girls’ social experiences were more similar to those of non-autistic boys and girls than to autistic boys. Identifying and dealing with conflict may, however, be a specific area of difficulty for girls with autism.

3681
POSTER
Femininity and makeup: Social representation and social judgment in French population
Anna Loegel, Biology and Women’s Beauty Department, Chanel Research & Technology, Pantin, France. CeRSM, Team E2C (EA 2931), Université Paris Ouest Nanterre La DÂ©fense, France; Sandra Courrèges, Emmanuelle Mauger, Frédérique Morizot & Aurélie Porcheron, Biology and Women’s Beauty Department, Chanel Research & Technology, Pantin, France; Paul Fontayne, CeRSM, Team E2C (EA 2931), Université Paris Ouest Nanterre La DÂ©fense, France;

Background: Firstly, we investigated the social representation (Moscovici, 1961) of femininity and makeup in French population, and secondly, the impact of makeup on dimensions of social judgment (Fiske, Cuddy, Glick, & Xu, 2002).

Methods: 50 males and 52 females aged from 18 to 55 (Mage=36.04, SD=11.06) were asked to spontaneously associate words to “makeup” or “femininity” in accordance with the
analysis method of Vergès (1992) and the structural approach (Abric, 1994). After that, they were asked to rate facial photographs of women, wearing or not wearing makeup, on personal attributes related to warmth and competence dimensions (Fiske et al., 2002).

**Findings:** For males, makeup contributed to women charm and beauty. For females, makeup was associated to beauty but also to wellbeing and camouflage. The term femininity was mentioned peripherally for both sexes.

For males, femininity evoked the "natural" woman whereas, for females, femininity was more related to working on their appearance with makeup. In interviews conducted to complete these findings, femininity was closely associated to psychological traits: sensitivity for males and independence for females.

Regardless of participant sex, the more the women targets wore makeup, the more they had an effect on the warmth dimensions.

**Discussion:** The social judgment of faces with makeup was found to be consistent with the women's social representation of femininity. This social representation seems to have two aspects - physical and psychological -, and makeup can play a role on both aspects.

**3700**

**POSTER**

**Social Identity and Religious Commitment: Predicting Warmth for Religious Groups**

*Janet Pauketat & Diane Mackie, University of California Santa Barbara*

**Background:** Little is known empirically about warmth between religious groups. Investigating warmth in the religious context could inform intergroup relations improvement attempts however. Thus, we investigate different sources of warmth for two religious groups.

**Methods:** 173 self-identified Christians responded to a survey in which they provided their Christian identification, religious commitment, warmth for, similarity to, emotions for and emotions perceived from either Jewish (n = 87) or Muslim (n = 86) groups in a correlational design, analysed using hierarchical multiple regression.

**Findings:** Different factors predict warmth for Jewish and Muslim groups. Christian identification (β=-.49, p < .01), perceiving negative emotion from Jewish people (β=-.31, p < .05), religious commitment (β=.38, p < .05), and positive emotions (β=.58, p < .001) predict warmth for Jewish people, controlling for perceived similarity, and negative emotions (R2 = .44), F(7, 67) = 7.56, p<.001. Perceived similarity (β=.23, p < .05) and feeling positively towards Muslims (β=.28, p < .001) predict warmth for Muslims controlling for identification, religious commitment, and negative emotions (R2 = .38), F(7, 72) = 6.39, p<.001.

**Discussion:** Warmth for religious outgroups stems from different identity sources: social identity and religious commitment affect warmth for Jewish people while perceived similarity affects warmth towards Muslims. Positive emotions predict warmth most strongly for both groups however, suggesting the importance of positive emotions for inter-religious warmth. This study glimpses into the relationships between important social processes in the religious context that deserve further attention in order to begin understanding warmth and unity between religious groups.

**3722**

**POSTER**

**A qualitative study on the production of HIV/AIDS stigma in HIV/AIDS campaign materials in South Africa.**
Background: This paper reports a qualitative arm of a three part mixed methods doctoral study investigating the relationship between HIV/AIDS campaign materials and the production of HIV/AIDS stigma in South Africa. HIV/AIDS is a moral stigma but is also constructed as a problem of race, class and gender. Stereotyping is used to assign HIV stigma to members of particular groups producing HIV/AIDS as problem particular to the group. This is compounded by the degree to which stigma constructed around people living with HIV/AIDS (PLWHA) overlaps with stereotypes around already-marginalised groups. We explore how HIV/AIDS and PLWHA are constructed in HIV campaign materials.

Methods: Print, radio and video campaign materials that were used for national HIV campaigns were analysed using discourse analysis. The focus of the analysis was on how HIV, those living with HIV and those at risk of contracting HIV were constructed in these texts.

Findings: Constructions of HIV/AIDS and PLWHA were found to intersect stereotypes around race and gender. Discourses associated with stigma such as those of blame and moral judgement were identified in the materials and the contraction and prevention of HIV/AIDS was frequently framed in terms of individual responsibility, positioning those who do get HIV/AIDS as accountable and therefore ‘blameworthy’ via their failure to engage in protective behaviours.

Discussion: The materials analysed indicated that campaign messaging that does not directly target HIV stigma is nonetheless likely to affect it through their constructions HIV/AIDS and PLWHA.

3737

POSTER

The attitudes of Turkish and British adults towards violence against women.
Selin Hattat & Marina Rachitskiy, Regents University London

Background: According to patriarchal views in Islamic societies, the husband is considered to be the “wife's gateway to heaven and hell and the arbiter of her final destiny” (Gupta, 2005, p.102). Turkey is an Islamic patriarchal culture where violence against women may be viewed by many as normal behaviour. On the other hand, UK could be perceived as liberal culture, where violence against women is viewed by many as unacceptable. Research has shown that public awareness represents one of the essential elements in the long term prevention of men's violence against women. The aim of the study is to explore the impact that culture and awareness of violence against women campaigns has on attitudes regarding violence against women.

Methods: The study is a quantitative design that utilises a self-report questionnaire to explore exposure to violence against women campaigns and attitudes regarding violence against women (MacGowan’s Violence and Victims Scale). Opportunity sampling was used to recruit 100 participants from each cultural background (Turkey and UK).

Findings: Preliminary analysis indicated that Turkish participants had significantly more accepting attitudes regarding violence against women (M = 72.49, SD = 13.51), than British participants (M = 54.82, SD = 10.80; t(188.86) = -10.22, p < .001). Furthermore, awareness of campaigns had no significant effect on attitudes (Aware: M = 64.49, SD = 15.09; Not Aware: M = 59.42, SD = 14.48; t (198) = 1.77, p = .08).
**Discussion:** The findings from this study could be used to inform national policies regarding violence against women campaigns and their contribution to reducing violence against women across cultures.

**3494 POSTER**

**Unsupervised categorization with a child sample: category cohesion development**

*Darren Edwards, Swansea University*

Category learning is fundamental to all aspects of decision making, as one needs to acquire concepts about properties in the environment in order to make adequate decisions about these, i.e., there is little more basic and fundamental in processing information about the environment (e.g., Lakoff, 1987, p. 5, Laurence & Margolis, 1999). The vast majority of studies in categorization have explored category learning in adult populations. There are, however, a few exceptions, such as some studies which have explored category induction through linguistic labels (Sloutsky & Fisher, 2003); improvements in categorizing novel objects using shared category labels (Graham et al, 2010), and categorical face discrimination of children (Anzures et al., 2010), but these use category labels and/or supervised categorization as opposed to the measure of coherence of novel similarity structure (i.e., unsupervised categorization). Thus, no work to date has explored this later form of categorization with a child population, i.e., unsupervised categorization.

For this reason, the present study explored unsupervised categorization with a child population. The study used two levels of task difficulty with unsupervised categorization, and compared two different populations, children and adults. The findings revealed that adults performed better for the easy condition but there was no difference between these groups for the more difficult category task. The results are discussed in the context of unsupervised categorization development abilities in children.

**3438 POSTER**

**Team cohesiveness: A crucial factor in social loafing**

*Jolita Kasetaite, University of West London; Anke Görzig, University of West London and London School of Economics and Political Science*

**Background:** Numerous studies have shown that team productivity and motivation in corporations can be reduced due to the effects of social loafing. Previous research has identified team size (high) and team cohesiveness (low) as important contributors to social loafing. However, the influence of leadership style is relatively unexamined despite its influence on performance productivity and effectiveness. The purpose of the present study was to assess the relation of team cohesiveness, size and leadership style on social loafing.

**Method:** Ninety-one customer consultants working in fifteen teams of a well-established UK cosmetics’ retailer participated in the study. Social loafing, team cohesiveness and leadership style were assessed via established measurement scales. A multiple regression analysis with team cohesiveness, team size and leadership style predicting social loafing was performed.

**Findings:** The regression model as a whole was significant, explaining 10% of the variance in social loafing. Neither team size nor leadership style were significant predictors of social loafing (p’s > .05) However, team cohesiveness was found to be a significant and negative predictor of social loafing (β = -.33, p = .002), whilst controlling for team size and leadership style.
Discussion: The current study revealed that when controlling for leadership style, team cohesiveness predicted social loafing while team size did not, although both are established predictors in the literature. Leadership style also did not predict social loafing. The findings suggest that team cohesiveness might play a crucial role in the prevention of social loafing.

3421
POSTER
How do fathers and mothers understand their child's mind?
Haruo Kikuno, Shizuoka Sangyo University; Yuichiro Kikuno, Nagasaki University
Several studies suggest that it is difficult for adults to guess children's mind (Keating & Heltzman, 1994; Lewis, 1989). Based on these findings, we set the following questions. 1. Do mothers and fathers understand their child's mind easily? 2. How do they understand their child's mind? 3. Is father's guess processing from children's face information different from mother's guessing process? The purpose of present research was to examine how fathers and mothers understand their child's mind. In this experiment, fathers and mothers were asked to look at pictures of children's face and then to guess their child's mind. Their gaze was also recorded by eye-track equipment. Results indicated that mothers looked at left eye to guess child's mind more than fathers did. By contrast, fathers looked at both right eye and body to guess child's mind more than mothers did. These results propose that mother's understanding their child mind process is different from father's processing.

3481
POSTER
The relationship between understanding and producing facial expressions in 3–4-year-old children
Megumi Masuda, Kyoto University
This study examined the relationship between understanding and production of facial expressions in order to gain insight into 3–4-year-old children's ability to produce such expressions. The participants in the study were 37 young children who were asked to perform facial expression tasks that entailed choosing, labeling, and production. In the choosing task, the children were given an emotional label and asked to point to a picture of the facial expression matching the label. In the production task, all the children completed the requirements of two conditions designed to investigate how understanding of facial expressions influences the production of such expressions. In the first “label condition”, the children were given an emotional label and asked to produce the same kind of facial expression as the label. In the second “picture condition”, they were shown a picture of a facial expression and asked to imitate the facial expression. After they tried to imitate the picture, they were asked to name the emotion it expressed (labeling task). The results showed significant correlations between performance in the understanding tasks (i.e., choosing and labeling) and production task only in the label condition. This means that the more accurate knowledge about facial expressions the children had, the more accurately they could produce the facial expressions from the emotional labels they were given. This finding also suggests that 3–4-year-old children use their knowledge about facial expressions to produce them from emotional labels, but they do not use that knowledge when they are just imitating facial expressions. This is the first study that identifies the difference between two kinds of facial expressions production in connection with knowledge about facial expressions.
Novelty Rules! Children use their preference for novelty in word-object and action-object mappings

Erin Dysart-Stephenson, University of Hull

Background: Studies show that children select a novel referent upon hearing a novel word and seeing a novel action. Research indicates that, in word learning, they may be driven by a novelty bias; children choose a novel object upon hearing a novel word simply because that object is novel. Our study investigates this novelty bias further by investigating whether novelty also affects children’s selection of novel objects when a novel action is given.

Methods: This study used a between subjects design (IV = condition (word/action), DV = choice of (pre-exposed/completely novel)). 29, 3 and 4 year olds (M=3.5, SD=0.5) were recruited from schools/nurseries in North Yorkshire. In the pre-exposure phase children were shown 4 novel objects for 1 minute (x2). In the testing phase children were shown two pre-exposed and one ‘super novel’ object and were given either a novel name or asked to pass the object ‘we do this with’ (novel action). Results were analysed using a paired sample t-test.

Findings: The super novel object was selected 75 times in the word condition and 71 times in the action condition. Pre-exposed objects were chosen 45 and 41 times respectively. Our findings show that children are significantly more likely to choose a novel object on hearing a novel name, p<.001 and also seeing a novel action, p<.000.

Discussion: Children use novelty to map novel words to novel objects and novel actions to novel objects. This suggests a parallel between word learning and action learning.

Developmental, cognitive and social-cognitive factors as predictors of social approach behaviour in typically developing children.

Amanda Gillooly, Kevin Durkin & Sinead Rhodes, University of Strathclyde; Deborah Riby, Durham University

Background: Inappropriately heightened levels of social approach behaviour to unfamiliar people can leave children vulnerable, especially in terms of stranger danger. The current study explored developmental and individual differences in children’s social approach behaviour to unfamiliar people and investigated the possible contribution of individual features such as chronological age, as well as cognitive (inhibition) and social-cognitive (attributions) factors as predictors of social approach behaviour.

Method: 47 typically developing children (5-7 years old), their parent/guardian and their class teacher participated in this study. The children completed an adapted version of Adolph’s Approachability Task (Adolphs, Tranels, & Damasio, 1998) where they were asked to rate the approachability of an unfamiliar person across 20 images. Participants completed the Sun-Moon Stroop task (Archibald & Kerns, 1999) as a measurement of executive inhibition. Participants also completed multiple attribution scales which were developed by the researchers. Participants were asked to identify the cause of an event (causal attribution measure) and the outcome of an event (prediction measure) within each vignette and selected their response from the positive, negative and neutral accounts provided. Parent/guardians and class teachers completed the Strengths and Difficulties Questionnaire as a measure of the children’s behaviour.
Findings: A significant main effect of age on social approach behaviour ratings was obtained. Older children reported significantly higher levels of social approach behaviour than younger children.

Discussion: The present research findings have important implications as they have expanded our understanding on which factors influence a child’s willingness to approach an unfamiliar person.

3604 POSTER
The Role of Primary Appraisals in the Relationship between Peer Victimisation and Psychological wellbeing in Children and Adolescents: A Systematic Review
Nathalie Noret, York St John University/Strathclyde University; Simon Hunter & Susan Rasmussen, Strathclyde University

Background: The Transactional Model of Stress proposes that primary appraisals (an individual’s evaluation of a situation, for example the degree to which an experience is threatening) are an important component in understanding individuals’ reactions to stressful situations. The relationship between peer-victimisation and psychological wellbeing is now well established, however the mechanisms through which peer victimisation relates to wellbeing have received comparably little research attention. Therefore, the aim of this systematic review is to examine studies that have explored the relationship between peer victimisation, primary appraisal and psychological wellbeing in children and adolescents.

Methods: Literature databases were searched for studies exploring the relationship between peer victimisation, aspects of primary appraisal and psychological wellbeing in children and adolescents.

Findings: Twelve studies were included in the review and suggest that primary appraisal can play a role in understanding the relationship between peer victimisation and psychological wellbeing.

Discussion: The findings of this systematic review highlight the lack of research in this area. Findings of the review suggest the role of primary appraisals in children and adolescents’ reactions to peer victimisation.

3639 POSTER
Joint attention with a virtual character and recognition memory in children with and without autism spectrum disorders
Gillian Little, Steve Kelly & Lizann Bonnar, University of Strathclyde; Gnanathusharan Rajendran, Heriot Watt University

Background: Problems with joint attention are among the core features of ASD. Here, we investigated how children with and without ASD initiate and respond to joint attention with a computer character. The study aims to examine how the object under the focus of joint attention is being processed and compare recognition memory for the object between initiating and responding to joint attention conditions.

Methods: 30 participants with ASD (mean age = 10.6yrs, FSIQ = 86.1) and 30 typically developing matched controls (mean age = 10.2yrs, FSIQ =89.1) took part in two recognition memory tasks with a gaze contingent virtual character. In task 1, participants both followed and directed the character’s gaze to a series of referent images. In task 2, participants’ gaze towards the referent images was either followed or ignored by the character. Eye movements and recognition memory for the images were recorded.
Findings: Analysis of correctly identified target images (hits) suggests that ASD participants recognised significantly fewer targets than the TD group in both tasks (Task 1: p

3608
POSTER
Video coding of communicative behaviour as an assessment of early markers for autism spectrum disorder in high-risk infants
Sarah Smith, British Autism Study of Infant Siblings, Centre for Brain and Cognitive Development, Birkbeck College, University of London; Emily Jones, British Autism Study of Infant Siblings, Centre for Brain and Cognitive Development, Birkbeck College, University of London

Background: Video analysis of infants at risk of autism offers a picture of early traits. How might video be used to assess risk, and behaviour correlate with developmental assessment measures? We coded infant behaviour to define visible (and audible) traits.

Methods: A scheme was created to code gaze, affect and vocalisation using videos of at-risk infants (N=54). Thirty-four yielded data on gaze, 40 on affect, 41 on vocalisation. The infants’ mean age was 462 days; 22 were boys. Regression analysis explored the relationship between coded behaviours and scores on the Autism Observation Scale for Infants (AOSI), Vineland Adaptive Behaviour Scales and MacArthur-Bates Communicative Development Inventory (CDI).

Findings: Data for gaze to face, smiles and vocalisation were analysed. For AOSI scores, negative correlations were found with smiles (R²=.091, p<.05) and percentage of time spent babbling (R²=.077, p<.05). Negative correlations approached significance for number of vocalisations, time on words, time on jargon and percentage of speech acts as jargon. Vineland sociability scores correlated with percentages of speech acts as words (R²=.078, p<.05) and as jargon (R²=.096, p<.05). Intriguingly, for CDI the number of understood words correlated negatively with percentage of time spent gazing to face (R²=.108, p<.05). All p values are 1-tailed. Reliability was good (κ>.8).

Discussion: The failure of gaze to generally reach significance suggests it is not as powerful a predictor as sometimes believed. The relationship between smiles, speech acts and AOSI scores supports the scheme’s validity and suggests that limited sociability, and delayed vocalisation, are potential early ASD markers. Prospective video coding is a viable approach to ASD research; initiated and reactive behaviours could be investigated and vocalisation explored.

3645
POSTER
Against reductionism in developmental modelling: Further evidence from profiles of reasoning about object fall
Christine Howe, Cambridge

Reductionist models in Developmental Psychology are challenged by qualitative differences between the criteria that children use to differentiate natural from anomalous events and the criteria they use to reason about these events. Such differences have been reported in a previous study relating to fall from moving carriers, where 6- to 10-year-olds generally differentiated natural forward parabola from non-natural alternatives, and when they erred it was usually towards accepting vertical fall. Yet when reasoning, the same children often favoured backward trajectories, with the frequency of such trajectories increasing with age
from 19% of responses at 6 years to 57% at 10 years. Because the cementing of backward trajectories during middle childhood is not widely recognized, the present paper provides additional data of relevance. Over 100 students from Years 6, 8, 10 and 12 of East Anglian schools (and aged between 10 and 17 years) plotted the trajectories objects would follow when falling from stationary (4 problems) and moving (4 problems) carriers. The frequency of backward trajectories from moving carriers was 56% of responses in Year 6, 56% in Year 8, 35% in Year 10 and 29% in Year 12. The students in Years 10 and 12 had covered the topic in physics classes, and this together with the response profiles in Years 6 and 8, which despite different materials exactly replicate the previous study, suggest a strong socio-cultural element in the conceptual basis of reasoning. Further aspects of the data contribute to developmental modelling by indicating how this element is superimposed upon the criteria used in differentiation, which are detectable in infancy and may, in part, be innate.

3607
POSTER
Cultural differences in the use of trait words in Japanese and American mothers’ talk to infants
Yuki Shimizu, Saitama University; Sawa Senzaki, University of Wisconsin, Green Bay
Previous studies have demonstrated that Western people tend to emphasize personal aspects, such as traits, as the cause of social behaviors while East Asians tend to emphasize situational aspects (Nisbett, Peng, Choi, & Norenzayan, 2001). Are these differences observed in mothers’ descriptions about others? In the current study, Japanese and American mothers (N=89) who had infants aged 6–18 months were compared in terms of use of their talk about social interactions. Mothers were asked to talk to infants while they watched a video of social interactions by three puppets. The results showed that American mothers labeled the agents who acted prosocially or antisocially with trait labels (e.g., “That was a mean piggy!” “He is a nice bear”) more frequently (American 70.1% vs. Japanese 45.5%), while Japanese mothers tried to represent the internal states of another character (e.g., The elephant looks so happy) (American 34.4% vs. Japanese 67.7%). The results indicated that cultural differences in the use of trait words were observed in the child-directed speech of mothers. Infants are exposed to the culturally influenced discourses about social interactions from the first year of life. The greater emphasis on trait labels in American mothers’ descriptions about others may influence on the later development of children’s social attribution.

3654
POSTER
The Effect of Perinatal Depression on Newborns’ Behavioural Responses During the Still-Face Paradigm
Emily Moore & Emese Nagy, University of Dundee
Studies in child development have suggested that maternal postnatal depression adversely influences later childhood development. However, there is a lack of research into the effects of maternal perinatal depression on newborns. The aim of the study was to examine the effects of maternal perinatal depression on newborn behavioural responses during the still face paradigm.
Video footage of 36 neonates’ behaviour (18 male, 18 female, 36-40 GA, 3-72 hours old) was analysed frame-by-frame during the 3 phases of the still face procedure (Baseline, Still Face, Reengagement), and correlated with the mothers’ depressive symptoms at birth.
Results found that newborns of mothers with fewer depressive symptoms responded differently, and increased distress after the still face phase (Baseline Mean = .33, SE = .17, Reengagement Mean = 1.45, SE = .31, p < .01), but not the infants of highly depressed mothers. Additionally, newborn males of mothers with more depressive symptoms averted their gaze significantly more than females (Males Mean = 12.49, SE = 1.64, Females Mean = 17.72, SE = 1.72, p = .033).

These results suggest that newborns are not only sensitive to communication disturbances as modelled by the still face situation but also, their responses may be affected by maternal depression much earlier than previously thought. The results also indicated sex-related differences in their behavioural responses; males were found more vulnerable to communication disturbance than females.

3462 POSTER
The integration of emotion perception from bodily expressions and affective sounds in infants and adults
Peiwen Yeh, Elena Geangu & Vincent Reid, Psychology Department, Lancaster University
Previous studies on emotion perception have demonstrated that increased sensitivity occurs during multimodal information processing when compared with unisensory information. Although body expressions have also been shown to be an effective emotion conveying mechanism (de Gelder, 2006), little literature has investigated the emotion perception from body expressions combined with affective information delivered via the voice, particularly at the developmental level. Therefore, we used event-related potentials (ERPs) to measure the responses to the presentation of angry body with angry (congruent) or fearful (incongruent) sounds, and angry sounds-only in adults and 6.5-month-old infants. Adults' data (N=18) revealed that the N1, an negative ERP component for sensory processing, was significantly reduced in latency and amplitude for emotionally congruent and incongruent pairs compared to a sound-only condition. This result suggests that emotion interaction may occur at an early processing stage. Differentiation between congruent and incongruent pairs was also found at 200 ms (P2) after the onset of sound. With the same paradigm, the preliminary infant data (currently N=12) indicates differences in ERP components between audio-only and audiovisual conditions at 300-ms. In addition, a large negative component (Nc) related to attention mechanisms in infants, was elicited for the congruency effect at 350-380 ms. Altogether, the current findings imply that the perception for the conjunction for emotional bodily expressions and sounds has already developed 6.5-months of age.

3613 POSTER
Expressive Drawing Ability and the Self in Children With ASD and FXS
Carrie Ballantyne, University of the West of Scotland
Self-drawings may be seen as advanced forms of the mirror test of self-recognition and have been used to investigate aspects of cognitive development. Studies looking at drawings by children with autism (ASD) have suggested that there is delay in their drawings of human figures. Fragile X syndrome (FXS) individuals display a wide range of social difficulties similar to ASD, however drawings of self-concept and emotional depiction have not been investigated between these groups. Method: FXS group (n = 12), AFXS group (n=10), high functioning ASD group (HFA; n =15), low functioning ASD group (LFA; n = 15) and 40 typically developing children (TD) took part in the study. Children were asked to draw
a picture of a house and their own homes and a picture of a person and themselves. To assess their emotional expression; children were asked to draw a happy and sad picture. Pictures were scored on quality and quantity of expression. Results: Both ASD groups produced clearer differences between their own houses and house in general, however produced little contrast between drawings of themselves and others, whereas, the FXS groups produced an opposite pattern of results. In drawing emotion expression, the ASD groups performed in a similar manner to the TD group, but produced fewer social scenes. The FXS and AFXS groups' performance was significantly higher when drawing happy scenes compared to sad scenes. Discussion: This study provides insight into children with ASD and FXS representational development. The contrast of inter and intra group comparisons highlights the strengths and weaknesses in these groups’ drawing abilities. These findings add to previous literature and show the complexity of representational drawings across different developmental disability groups.

2898
POSTER
The Chinese Postpartum Custom of ‘Zuo Yue’ In Hong Kong: Considering the Representation of Postnatal Depressive Mood and Non-Verbal Aspects of Mother-Infant Interaction during Picture-Book Reading
Vanessa Yee Ting Ng & Nadja Reissland, Durham University

Background: Postnatal-depression affects approximately 20% Chinese mothers living in Hong Kong. Given the cultural background with Western and traditional Chinese beliefs merging it is essential to examine the influence of traditional and modern postnatal practices on postnatal-depression. In Chinese tradition for one month after childbirth, a woman is cared for while she follows a set of practices known as zuo yue to support her transition into motherhood. The present study examined the impact zuo yue on depressive mood and maternal-infant touch behaviours in a Hong Kong Chinese sample.

Methods: Forty-six mothers and their infants (23 boys, 23 girls, mean age= 15 months, range 6 - 26 months), were videotaped while reading a picture-book. Their touch behaviour was coded. The Edinburgh Postnatal Depression Scale, Postnatal Bonding Questionnaire and semi-structured interviews measured postnatal depressive mood, the quality of the mother-infant relationship and the experience of zuo yue. Interviews were analysed using Framework Analysis.

Findings: Positive touch behaviours were significantly more frequent in infants of mothers who had not practiced, compared with infants of mothers who practiced zuo yue. We argue that examining touch behaviours indicates that zuo yue might hinder the positive engagement of mother and child because the women practicing zuo yue might have less opportunity to interact with their child. Furthermore maternal evaluations of their relationship with the carer influenced postnatal mood.

Discussion: This study highlights the importance of understanding the cultural context of mother-infant interactions and the importance of receiving appropriate social support postpartum to ensure well-being of both mother and child.

3582
POSTER
Moral judgments by children with autism spectrum disorders in early adolescence
Hidetsugu Komeda, Hidekazu Osanai, Kaichi Yanaoka, Kyoto University, Masuo Koyasu & Takashi Kusumi, Kyoto University
**Background:** It is often difficult for children with Autism Spectrum Disorders (ASD) to realize other people’s nasty trick (Frith, 2003). The difficulty may be due to that of using hidden information, such as characteristics or intentions. The aim of the study is to examine what information children with ASD use when they judge other children’s behaviour as right or wrong.

**Methods:** Twenty-one children with ASD and sixteen age- (M = 12.6) and IQ- (M = 99.2) matched control children participated in the experiment. Participants read 24 stories. Each story has 3 sentences (first sentences: characteristics, second sentences: intentions, and third sentences: outcomes). After reading each story, participants judged story protagonists as right or wrong. Sentence reading times are analyzed after Zwaan and Radvansky (1998).

**Findings:** Participants X outcomes X characteristics interaction on reading times was significant (F (1, 35) = 4.7, p < .05, ηp² = .12). In the children with ASD, reading times of good outcomes with good protagonists were longer than those of bad outcomes with good protagonists. Participants X outcomes X characteristics X intention interaction on the right or wrong judgment was significant (F (1, 35) = 4.6, p < .05, Prep = .93, ηp² = .12). In the good outcomes, children with ASD judged as right more often than control children did.

**Discussion:** Children with ASD judged protagonists as right or wrong based on the consistencies between characteristics and outcomes. Additionally, they judged protagonists as right when outcomes were good, regardless of protagonists’ characteristics and intentions.

---

**3626 POSTER**

**Infants do not show a goal-directed understanding of another agent’s actions with hidden objects**

*Richard O'Connor & James Russell, University of Cambridge*

The “Woodward paradigm” suggests infants can understand another agent’s actions as directed towards a specific goal-object. It is unknown whether infants show a similar understanding when the goal-object becomes hidden.

Fifty-two infants across three age groups (6-m-o, 9-m-o and 12-m-o) watched four videos of a hand repeatedly poking one of two visible toys. Biro and Leslie (2007) found infants interpret this action as goal-directed. The toys then swapped places, and all infants saw two different test videos. In both videos two separate screens rose from the stage to occlude each toy, and the hand poked either the previously poked toy or the other toy (new goal). Looking-time towards the two test videos was measured. There was no effect of the new goal on looking-times—infants did not look longer at this outcome—F(1,49)=.14, p=.71, nor was there any interaction between this effect and age-group, F(2,49)=.47, p=.63.

A follow-up study of 47 infants using real-life performances of the actions matched these results: main-effect of new goal F(1,44)=.08, p=.78, interaction with age-group F(2,44)=.53, p=.59.

These results are surprising given infants of these ages interpret the same action as goal-directed when performed with visible objects, and from at least 9 months infants can remember the location and identities of two hidden objects (Kaldy and Leslie, 2003). We suggest infants have a difficulty with interpreting the hidden outcome of the action (the contact between the hand and toy) as the goal of the action, and so fail to detect the change of goal.
Effects of Shared Electronic Books Reading Between Mother and Infant on Joint Attention.

Ayumi Sato, Kyoto University; Tomomi Sato, Aichi Shukutoku University; Yumiko Ishikawa, Utsunomiya University; Yu Saito, Seitoku University; Etsuo Horikawa, Saga University

Background: Shared book reading is an exceptional opportunity for the occurrence of joint attention (Karrass, VanDeventer, & Braungard-Rieker, 2003). Some extant studies indicate that joint attention episodes occur more often during shared book reading than in other contexts (Sato & Uchiyama, 2012; Sugai, Akita, Yokoyama, & Nozawa, 2010; Yont, Snow, & Vernon-Feagans, 2003). However, it is not clear that electronic books (e-books) bring about same effects. Therefore, we compared mother-infant interactions (especially joint attention episodes) in a printed book, e-book with narration, and e-book without narration playing contexts.

Methods: Thirteen-month-olds and their mothers visited a laboratory at our university. Ten pairs played in above three situations (each for 3 minutes), and their behaviors were videotaped and coded later according to the system developed by Martins (2003) and Osorio, Martins, Meins, Martins, Soares (2011).

Findings: As the results of ANOVA, the frequency of responsive joint attention which included referencing other’s face and frequency of mother’s looking into child face were less in the e-book with narration than the printed book situation. A significant positive correlation was found between the frequencies of responsive joint attention and mother’s looking into child’s face. There was no significant correlation between the frequencies of responsive joint attention and child’s looking into mother’s face.

Discussion: These results suggest that narration sound function attached to e-books reduces joint attention with child’s alternating gaze between mother and a book. The reduction might be brought through mother’s looking into child face decreasing during using e-book with narration sounds.

The Adult Offspring Acceptance Rejection Questionnaire (AOARQ): A valid and reliable tool for assessing adult offspring’s perceptions of their current acceptance of their parents

Julian Lloyd, University of Chester

For over forty years, the Parental Acceptance Rejection Questionnaire (PARQ; Rohner, 2005) has been used to assess either the concurrent perceptions of child and adolescent offspring, or the retrospective perceptions of adult offspring of parental acceptance and rejection. The parent-adult offspring relationship provides different contexts for the study of acceptance and rejection compared to relationships between parents and child and adolescent offspring. During the transition from adolescent to adult offspring, the parent assumes less responsibility for the care of the offspring, and over time, in some cases at least, the offspring assumes increasingly greater responsibility for the care of the parents. Nevertheless, compared to earlier parent-offspring relationships, much less is known about interpersonal acceptance and rejection in the context of parent-adult offspring relationships (Rohner, 2004). Furthermore, to our knowledge, the PARQ has never been adapted to assess offspring perceptions of their own acceptance or rejection of parents. This poster reports preliminary findings from a study of the validity and reliability of a new measure.
derived from the PARQ, the Adult Offspring Acceptance Rejection Questionnaire (AOARQ), which was administered to a sample of UK adults who were mainly university students and graduates. The results showed that the AOARQ is a valid and reliable tool for assessing adult offspring’s perceptions of their current acceptance of parents (mothers and fathers). The implications of the AOARQ for studies of the intergenerational transmission of interpersonal acceptance and rejection will be considered.

3591
POSTER
Which components would be needed to develop successful self-regulation in early childhood?
Kumiko Namba, Masatoshi Kawai, Megumi Sasaki, Michiko Ishikawa & Naoko Obanawa, Mukogawa Women’s University; Kota Tamai, Hokkai school of commerce; Noriko Yamakawa, Shigeki Tanaka Yamamoto, Mie-chuo Medical Centre
Background: To reveal the components needed to develop successful self-regulation in 30 and 42 months of age.
Method: As a part of the JCS, 141 children (70 boys and 71 girls) were presented with self-regulation tasks at 30 and 42 months of age. Their mothers were asked to check KIDS (Kinder Infant Development Scale in Japanese ie. nine domains (Physical motor-skills; Manipulation; Receptive language; Expressive language; Concept; Social relationship with adults; Social relationship with children; Discipline; Feeding)) at 18, 30 and 42 months of age. Logistic regression analysis was used to calculate odds ratios and 95% confidence intervals. Variables in the models were the nine domain scores of KIDS. We conducted all analyses using PASW Statistics - Version 18.
Findings: Successes of the self-regulation tasks were not influenced by KIDS scores checked at the moment. However, boys' successes of the self-regulation tasks in the next year were influenced significantly by Social relationship with adults (30 months OR=21.33, 42 months OR=1.40), and girls' were influenced by Manipulation (30 months OR=1.71, 42 months OR=1.44). We also found when the model for boys was applied to girls, the resulting percentages were approximately 35% lower at the 30 months of age, and 30% lower at the 42 months of the age. The same percentages were applied to the converse.
Discussion: Self-regulation in early childhood was developed differently depending on sex. Then, some predictors were found and were prepared before successful self-regulation had started.

3598
POSTER
A longitudinal study of effects of planning and executive functions on young children's strategies in changing scripts
Kaichi Yanaoka, Kyoto University
Background: Children are able to develop generalized scripts that represent knowledge about experiences of their day-to-day lives (Hudson & Shapiro, 1991). It remains to be elucidated how young children enact scripts in the different situations (Shapiro & Hudson, 2004). The aim of the study is to examine the effects of planning and executive functions on young children's strategies in changing scripts.
Methods: Young children (N=77) performed a script task (doll task) and three executive function tasks (DCCS, red/blue task and nine box task), a planning task, and a receptive vocabulary task. In the doll task, young children faced a situation where some elements of
the script are not enough. They needed to enact a script by compensating insufficient items for the other script items (combination strategy) or by changing to the other script in advance (change strategy). Young children did this task twice: June 2014 and January 2015.

**Findings:** The change of the strategies between two times was significant ($\chi^2 = 20.33$, $p = .001$) and the change the strategies from combination group to change group is more significant than other changes. We conducted a multinomial logistic regression analysis and planning had an influence on performance of the change the strategies from combination group to change group ($\chi^2 (2) = 14.90$, $p < .01$).

**Discussion:** Our study revealed young children change the way of change scripts in different situation from daily lives proactively. In addition, planning enabled them to switch to the appropriate script depending on the situation in advance.

---

3637

**POSTER**

**Goal-directedness of infant eye-movements in a gaze-contingent paradigm**

*Richard O'Connor & James Russell, University of Cambridge; Sam Wass, MRC Cognition and Brain Sciences Unit*

Gaze-contingent eye-tracking has been used to investigate infant action control. What is unknown is whether infant eye-movements are guided by representations of outcomes that are flexibly updated to reflect changes in value. The latter is a criterion for goal-directed action (Dickinson, 1985).

Twenty-five one-year-old infants learnt that looking towards one target caused one cartoon character to appear, whereas looking towards another target caused a different character to appear. Following this, to increase its motivational value, one character responded contingently to the infants' gaze. Looking-preference for the original two targets was then measured. If the value of the responsive character was increased, then infants should look more towards the target that they had learnt caused this character to appear. Four different sets of targets and characters were used with this procedure, with stimulus-sets varying in likely familiarity to the infants.

GLMM showed an age x stimulus-set interaction effect upon looking-preference, $F(3, 79)=4.26$, $p=.008$. In one stimulus-set there was a correlation between age and looking-preference, $r(23)=-.529$, $p=.009$. Younger infants (Mean=17 months) preferred to look towards the target that caused the appearance of the responsive character, $t(11)=3.24$, $p=.008$. Older infants (Mean=23 months) showed the opposite preference, $t(10)=3.06$, $p=.012$. No age effects or preferences were found in the other stimulus-sets.

We suggest older infants became bored with the responsive character (contrary to our expectation), whereas younger infants enjoyed the gaze-contingent responding. This affected their subsequent responses to the targets. The effect was likely specific to one stimulus-set because this particular set used more familiar characters, so better supported learning associations between targets and characters. This study suggests, with certain stimuli, infants can produce goal-directed responses in gaze-contingent paradigms.

---

3543

**POSTER**

**Japanese preschoolers’ understanding of false belief: from ordinary character to extraordinary character**

*Fumikazu Furumi, Kobe University, Masuo Koyasu, Kyoto University*
Seventy Japanese children (3-6 years) performed a modified smarties task. First, an experimenter asked a child the name of his/her best friend in the rapport session. Second, the experimenter showed a crayon box and a brown paper bag. Then the experimenter asked, “There are some crayons and marbles. Which do you think crayons are in?” Most children could answer correctly. After this question, the experimenter showed the contents of both the crayon box and the brown paper bag. Crayons were in the brown paper bag and marbles were in the crayon box. Then the experimenter asked, “Which does your friend (one of the target characters) choose if he is asked which are the crayons in?” The other target characters were God, Robot, 2-year-old child, Teacher, and Mr. Smart. The experimenter asked about the child’s friend first and then asked about the other characters in the above order. As a result, for the younger age group (48-58 months), significantly more children chose the brown paper bag (the crayons were truly in) for all targets (p < .05). For the middle age group (60-69 months), significantly more children chose the crayon box for their friend and significantly more children answered chose the paper bag for Robot and Mr. Smart. They answered randomly about other characters. For older age (70-82 months), significantly more children chose the crayon box for their friend and significantly more children chose the brown paper bag for Mr. Smart. They answered randomly about the other characters. These results suggest that children can understand the different minds between characters and their understanding of the extraordinary character is changing through their preschool life.

3500
POSTER
Does viewing an object elicit internal motor programs for children with Developmental Coordination Disorder?
Emma Sumner & Elisabeth Hill, Goldsmiths, University of London

Background: Affordance theory posits that objects are perceived not only in terms of their size and shape, but also in relation to the possibilities for action. This study investigated whether children with and without Developmental Coordination Disorder (DCD) activate internal representations related to the execution of power or precision grips when viewing compatible objects.

Method: Twenty-five children with DCD, aged 7-10 years, were compared to 25 typically developing age-matched children. In one hand children held a cylinder device that they pressed using a power grip, and in the other hand was a small button mimicking a precision grip. Children viewed objects on a laptop and were told to respond quickly to a colour overlay over the object; using the two devices, pressing one if orange and the other if purple. Half of the trials were object grip/colour compatible, and half incompatible. Colour allocation was counterbalanced and children swapped the devices to the other hand halfway through to control for hand preference.

Findings: Children with DCD demonstrated a high error rate and slower reaction times than the control group. A compatibility effect was evident for both groups when viewing objects that afford a power grip, meaning they responded faster when these objects matched their assigned grip/colour. However, a compatibility effect was only evident for the control group on the precision grip objects. A significant negative correlation was found between manual dexterity performance and precision compatible reaction times.

Discussion: Findings imply that a motor plan is generated after object presentation, although only in part for children with DCD. These findings contribute to our understanding of the underlying processes of DCD.
Presentations – Friday 11 September 2015

3344
SYMPOSIUM
Working Collaboratively to Explore Women’s Experiences of Breast and Gynaecological Cancer
Fiona Holland, University of Derby
This symposium draws together a number of qualitatively focused studies from a group of researchers who are, or have previously been, based at the University of Derby, UK. The studies included here have developed through our shared interest in a number of areas. We are primarily critical social and health psychologists and all have an interest in how women’s cancer experiences are played out through language. Our epistemological stances vary and we explore language use in a number of different ways. We discuss how expanding our explorations of our data have advanced our understandings of health and social issues. Our first paper (Phillips, Archer & Montague) outlines an approach to analysing focus group data using an IPA informed methodology. Although there is little readily available exploring this combination of data generation and analysis we present an outline of how we approached our particular dataset. We move from this methodological focus to consider three aspects of our collaborative empirical work. Our second paper (Montague, Holland & Linscott) focuses on an analysis of data collected from UK newspaper articles and takes a Membership Categorization Analysis (MCA) approach (Sacks, 1992). We analyse constructions of women in relation to breast cancer and mastectomy in the popular news media. The data consists of 70 articles published in the UK regional and national press during UK Breast Cancer Awareness month (October 2013) selected from an initial international corpus of over 1100 articles. Our final two papers take a phenomenological approach (as utilised in Interpretative Phenomenological Analysis: Smith, 1996). In Holland, Archer & Montague, we analyse interview data generated through semi-structured interviews with six women under the age of 50, who had decided not to reconstruct their breasts post-mastectomy and had maintained their decisions over time. In Archer, Phillips, Montague, Bali and Sowter we analyse data generated as part of a much larger mixed-methods project. The data explored here was generated through five focus groups held with women who had taken part in a yoga intervention after undergoing treatment for gynaecological cancer.
To draw our symposium to a close we reflect on the opportunities and challenges that working collaboratively has foregrounded for us, particularly when working at a distance from one another. We outline the complexities of working with different types and formats of data, while highlighting the satisfaction that drawing together a range of information can produce. We also draw together our different approaches to language use, seen across the body of data to which we have access, exploring its implications for advancing our understanding of how individuals cope with and negotiate their day-to-day experience of what can often be long-lasting traumatic health events. Our work, then, is translational: we take information gained during our qualitative endeavours to inform the development of policy and practice.

3345
PAPER 1
Worlds within worlds: Untangling group and individual sense making
Elly Phillips & Jane Montague, University of Derby; Stephanie Archer, Imperial College, London
There is a sustained interest in applying Interpretative Phenomenological Analysis (IPA) to focus group data, and an increasing attention to developing procedures for doing so. These procedures should take advantage of the unique features of focus groups, while remaining true to the individual, phenomenological perspective of IPA. We developed an approach based on our research on a yoga intervention for women with gynaecological cancer. This approach aims to make use of the group data to draw out ‘layers’ of participants’ lived experiences moving from the individual at the centre of the ‘onion’ to their interactions with the wider world at the outside. We identified five such layers in this data, and discuss how these were identified, what they mean and how the resultant perspective can inform an analysis. We aim to provide tools that can assist other researchers in analyzing focus group data to enrich our understanding of participants’ experiential world. The applications of the analysis to this data set will also be discussed, as well as the difficulties and limitations.

3346

PAPER 2

“‘Ding Dong’ said my plastic surgeon when he saw his handiwork”: A membership categorization analysis of breast cancer articles in the UK news media
Jane Montague, Fiona Holland & Meghan Linscott, University of Derby
Despite the extant medical literature suggesting that reconstruction is the best strategy following surgery for breast cancer, the number of women seeking immediate or delayed reconstruction, though rising, remains relatively small. In this presentation we outline a method through which membership categorisation analysis can be applied to media articles, particularly focusing on the categorisation of women who have been diagnosed with breast cancer. Membership categorisation focuses on the ways in which people are positioned within their social world, both by themselves and by others. A search of the UK popular press (both tabloid and broadsheet) throughout Breast Cancer Awareness Month (October, 2013) was conducted using ProQuest. The articles selected for analysis demonstrated that reconstruction, rather than mastectomy, was the primary focus of the majority, thus reflecting the focus of the academic literature. Within the media context women’s cancer identities were largely constructed with positivity: they took on an active role in ‘battling’ their disease and avoided the label of ‘survivor’.

3347

PAPER 3

“I’m me with a bit missing”: Identity and body image in younger women opting not to reconstruct after mastectomy
Fiona Holland & Jane Montague, University of Derby; Stephanie Archer, Imperial College, London
Breast cancer is the most common cancer in women. Mastectomy is often indicated and breast reconstruction is considered as part of the treatment regimen. The majority of women worldwide choose not to reconstruct their breast(s) after mastectomy, although reconstruction rates are increasing, particularly in younger women. The medical and psychological literature tends to focus on the body image/esteem of women who have opted for breast reconstruction and the cosmetic outcomes they perceive. Few studies have explored experiences of younger women who do not elect to reconstruct. Although reconstruction is often positioned as being optimal for recovery, more recent evidence suggests that women adapt to their bodies over time regardless of whether they choose to reconstruct or not. This decision clearly has implications for women in terms of their identity,
body image and for their close personal relationships. The current research explores the experiences of six women who had been diagnosed and treated for breast cancer in their 30s or 40s and decided not to have reconstruction after mastectomy and who had maintained this decision over time. Each of them was interviewed using a semi-structured format. The resulting data were transcribed verbatim and analysed using interpretative phenomenological analysis. A number of themes were identified; the focus in this presentation is on the women's relationship with their bodies, particularly their breasts, as they reflect back on this before, during and after their mastectomy.

3348
PAPER 4

“I’m 100% for it! I’m a convert!”: Women’s experiences of a yoga program after surgery for gynaecological cancer; an interpretative phenomenological analysis
Stephanie Archer, Imperial College London; Elly Phillips, University of Derby, Jane Montague & Heidi Sowter, University of Derby; Anish Bali, Royal Derby Hospital

Patients undergoing treatment for gynaecological cancer experience a reduced quality of life both during and following treatment. Complementary therapies, such as yoga, are becoming increasingly popular within the cancer community and a number of studies have reported improvements in quality of life for those participating in short yoga interventions. The aim of the study discussed here was to explore patients’ experiences of taking part in a yoga intervention while under-going treatment for gynaecological cancer. Sixteen women (age range 31—79 years; mean age 60) participated in five focus groups based on a semi-structured question schedule. The resulting discussions were audio-recorded, transcribed verbatim and analysed using interpretative phenomenological analysis (IPA). Three themes emerged from the data: applying breathing techniques, engaging in the physicality of yoga and finding a community. The first theme was particularly important to the patients as they noted the breadth and applicability of the techniques in their day-to-day lives. The latter two themes reflect physical and social perspectives, which are established topics in the cancer and yoga literature and are contextualised here within the women’s experiences of cancer treatment. This research gives a previously unseen view of patients’ experiences of participating in a yoga intervention, and helps explain and contextualise some of the benefits found in quantitative studies.

3646
SMPOSUIM

Prosocial and antisocial intergroup behaviour in childhood and adolescence: A social developmental approach
Nicola Abbott, Canterbury Christ Church University

This symposium presents four 15-minute papers that each take a social developmental approach to explore prosocial and antisocial intergroup behaviour in childhood and adolescence. Firstly, this collection of papers will present two studies that examine the participant’s own outgroup helping (Study 1) and inclusion orientation (Study 2). The final two papers will focus on the participant’s evaluations of other’s, namely bystander’s, inclusion/helping and exclusion/not helping behaviour. Finally, Professor Adam Rutland will close with a 20-minute discussion focusing on the parallels across papers and the implications for future research, policy and practice.
Overall, the key aim of this symposium is to present an integrated social and developmental approach to this area of research. Furthermore, the symposium aims to highlight the importance of looking at both the perceptions of participant’s own and other’s (e.g. bystanders) prosocial and antisocial behaviour, which has important implications for future school-based interventions. All four papers emphasise the importance of group membership for understanding prosocial and antisocial intergroup behaviour in childhood and adolescence; however, each paper makes a unique contribution by highlighting a number of important moderators and mediators, including: intergroup competition, social perspective taking and empathy (Study 1); general understanding of intergroup dynamics and evaluations of normative and deviant targets (Study 2); group-specific norms (Study 3); group membership triads (Study 4).

The rationale for this symposium is to further facilitate collaborative and innovative research taking a social developmental approach to this area of research, which is an important area for this year’s combined Developmental and Social Section.

3647

PAPER 1

Children’s prosocial behavioural intentions towards outgroup members
Julie Van de Vyver, Dominic Abrams & Lindsey Cameron, University of Kent; Joseph Pelletier, California Baptist University,
When will children decide to help outgroup peers? This research examines how intergroup competition, social perspective taking (SPT) and empathy influence children’s prosocial intentions toward outgroup members. This talk will present findings of two social developmental studies. Study 1 employs a 2 (Target: individual vs. outgroup member) within participants x 2 (Context: competition vs. no competition) x 3 (Age group: 5 vs. 7 vs. 9 years) x 2 (Sequence of target: individual target first vs. intergroup target first) between participants design to test whether a needy person’s outgroup membership per se is sufficient to reduce children’s prosociality, and whether the presence of intergroup competition accentuates this effect. Results of Study 1 show that outgroup membership was sufficient to reduce prosociality, and that this effect was accentuated by competition. Study 2 employs a quasi-experimental design to test the predictive effects of gender, age, empathy, SPT, and competitive motivation on outgroup prosociality. Outgroup prosociality was measured first in a competitive context and then in a non-competitive context. Results of Study 2 show that, in the competition context, empathy (positively) and competitive motivation (negatively) predicted prosociality. In a subsequent non-competitive context, there were age differences in the impact of SPT and competitive motivation. As age increased, relationships strengthened between SPT and prosociality (positively) and between competitiveness and prosociality (negatively). Among older children, there was a carry-over effect whereby feelings of intergroup competitiveness aroused by the intergroup competitive context suppressed outgroup prosociality in the following non-competitive context. Applied and theoretical implications will be discussed.

3648

PAPER 2

Adolescents’ understanding of intergroup processes as a moderating role of their behavioural inclusion orientation towards deviant peers
Kiran Purewal, Dominic Abrams & Rachel Calogero, University of Kent
How does children’s understanding of group processes relate to their decisions of inclusion and exclusion of normative and deviant peers? Previous research on adolescents’ subjective group dynamics has focused on their perceptions of whether target members’ fit to their groups and evaluations of those members. This research connects adolescents’ evaluations and perceptions of inclusion to their behavioural inclusion intentions. The research also tests the moderating function of adolescents’ general understanding of intergroup dynamics (GUID) on the relationship between perceptions, evaluations and inclusion of group members. 132 (66 male), 12-13-year-old students were recruited from one school in the South East of England, to participate in a 2 (group: ingroup vs outgroup) between-participants x 2 (target: normative vs deviant) mixed design. Three measures relating to participants’ judgments of targets were employed; evaluations of target, perceived fit to the group, and participants’ orientation to include or exclude target in a variety of activities.

Participants’ GUID was also measured. Mediation analyses show that adolescents’ behavioural inclusion orientation can be explained by their evaluations of normative and deviant targets which in turn is influenced by both their group membership and perceptions of fit. Moderation analysis reveals that adolescents with a better understanding of intergroup dynamics more closely relate their perceptions of fit to the group with their judgments of and behavioural inclusion orientation toward different group members. Theoretical and practical implications are discussed.

3649

PAPER 3

Is it OK not to help a bullied peer? Children and adolescent evaluations of “deviant” bystanders in an intergroup context

Sally Palmer, Goldsmiths University; Aline Hitti; Tulane University; Melanie Killen, Maryland University; Dominic Abrams, University of Kent

Numerous studies have highlighted the important role bystanders take during incidents of bullying at school. The current study builds on interpersonal examinations of helpful bystander responses during childhood by taking an intergroup perspective. The present research investigates the effect of group membership (ethnicity or school group) and group-level norms on participants’ evaluations of bystanders who either help a bullied peer or do not.

Participants (N=233) aged 9-11 and 12-14 (55% male) read about an incident of intergroup verbal aggression where a member of the ingroup targeted a member of the outgroup. Group-specific norms were manipulated so that participants read that the ingroup helped others with their problems and the outgroup would not get involved with other peoples’ problems, or vice versa. Participants evaluated an ingroup and outgroup bystander who transgressed their group’s norm (the “deviant” bystander). In line with social-developmental theory findings suggest that deviant ingroup members are evaluated more negatively than outgroup members. Participants also evaluated deviant bystanders more negatively when the helping norm was transgressed. In addition, group-based repercussions (i.e., social exclusion of the deviant bystander) were considered relatively more acceptable when an ingroup bystander transgressed the group’s norm compared to an outgroup bystander. These findings provide further support for examining the effect of intergroup factors on children’s helpful bystander behaviours. Theoretical and practical implications of findings will be discussed.

3650
PAPER 4
Applying Subjective Group Dynamics to bystander behaviour: The role of group memberships and group norms
Nicola Abbott, Canterbury Christ Church University; Sally Palmer, Goldsmiths University; Julie Van Dyver, University of Kent

This study examines the effectiveness of Subjective Group Dynamics (SGD) for predicting evaluations of helpful bystander behaviours, in an inter-ethnic name-calling context. Adolescent’s (N= 482) evaluations of deviant and normative bystanders were measured (within participants) in a 2 (bully group membership: British/Eastern European) x 2 (victim group membership: British/Eastern European) x 2 (bystander group membership: British /Eastern European) x2 (group norm: to help/not to get involved) mixed design. In line with Subjective Group Dynamics, findings suggest that both group memberships (membership triads: bully, victim and bystander) and group norms interact to predict evaluations of deviant and normative bystanders. This intergroup approach examines how adolescents' evaluate bystanders who help peers from ingroups and outgroups, which is crucial for understanding the complex nature of group-based bullying and helping in schools. Theoretical implications for Developmental Subjective Group Dynamics (DSGD) and practical implications for future anti-bullying programmes in schools are discussed.

3660
EMPirical PAPER
Children’s attributions of social emotions in response to others’ actions: Evidence for extended identity
Robin Banerjee, Janay Cornelius, Charlotte Granger & Elizabeth Johnson, University of Sussex; Mark Bennett, University of Dundee

Background: We commonly experience social emotions such as embarrassment following actions committed by others with whom we are associated. Previous research has demonstrated that children come to appreciate this kind of ‘extended identity’, but little is known about whether this varies according to the emotion involved and the closeness of the social relationship. In addition, the role played by individual differences in empathy is unclear.

Method: Children aged 6-10 years (N=105) responded to nine vignettes involving a child character who is with another character when the latter commits an action that would likely elicit embarrassment, pride, or guilt. The character who committed the action was either a peer or an adult, and the level of familiarity between the two characters was depicted as ‘close’, ‘same social group’, or ‘unfamiliar’. Children rated the emotional response of both characters. The oldest children also completed a self-report measure of empathy.

Findings: Children attributed social emotions not only to the character who committed the action but also to the accompanying character. This evidence of children’s reasoning about ‘extended identity’ was strongest when the relationship between the characters was close, and weakest when the characters were not familiar to each other, with the ‘same social group’ condition in between. Individual differences in empathy positively predicted extended identity responses only for the vignettes involving embarrassment and pride.

Discussion: Young children understand that our emotional experiences reflect the nature and strength of our social relationships. Implications for developmental models of self, emotion, and social cognition are discussed.
Attentional control and developing cognition
Gaia Scerif, University of Oxford

Background: Attentional control plays a crucial role in biasing incoming information in favour of what is relevant to further processing. This cascade entails functional consequences of differences in attentional control on developing cognition, as suggested by the finding that failures of attentional control over developmental time have cascading effects ranging, from poorer behavioural outcomes to poorer acquisition of domain-specific skills. Here I aim to review two distinct but complementary lines of work over typical development.

Method: In a first set of experiments, we assessed the impact of distinct aspects of attentional control on concurrent and longitudinal abilities related to basic literacy and numeracy in preschoolers and the early primary school years. In a second line of work, we explored whether attentional constraints on learning could be mediated by interactions with memory by studying attentional control effects on encoding and maintenance in visual short-term, working and long-term memory.

Results: We found that executive, selective and sustained attention predicted both concurrent and longitudinal outcomes in domain-specific ways in preschoolers. Complementary experiments indicates that school children and adults differ in the extent to which they deploy visuo-spatial attentional control to optimize encoding and maintenance in visual short-term memory. Furthermore, previously learnt information and resistance to distraction during learning guide later attentional deployment, both in adults and in children.

Conclusions: As a whole our findings suggest that attentional constraints influence unfolding cognitive development for typically developing children, and are in turn influenced by what developing systems have learnt.

Enhanced Social Identity as a Stereotype Threat Intervention?
Charlotte Pennington, Edge Hill University

Background: Previous research has demonstrated that being a minority group representative can deplete females’ mathematical performance in relation to males. Furthermore, providing access to in-group role models has garnered significant support as a stereotype threat intervention. However, research is yet to investigate whether testing females in same-gender groups can eliminate stereotype threat. Bridging this gap, the current study examined the hypothesis that heightened social identity may act as a protective factor to bolster females’ mathematical performance from the deleterious effects of stereotype threat.

Method: One hundred and forty-four females were assigned to a self-as-target or group-as-target stereotype threat condition and a non-threat control condition. In-group representation was manipulated by testing females’ ability to perform modular arithmetic when they were tested alone, or in a same-gender group.

Findings: Analysis took the form of a 3 (condition) x 2 (group composition; solo, group) x 3 (problem demand; high, intermediate, low) x 2 (problem presentation; horizontal, vertical) Analysis of Covariance, with females pre-reported maths ability and domain identification entered as covariates. Results revealed that when tested alone, females’ ability to solve horizontally orientated maths problems was hampered by both self-as-target and group-as-
target stereotype threat. However, there were no performance decrements as a function of experimental condition when females were tested in groups.

**Discussion:** These results suggest that simply manipulating the group composition of females may be an effective stereotype threat intervention. These results are discussed in relation to the controversies of same-sex schooling.

### 3307

**EMPIRICAL PAPER**

**Being Sherlock Holmes: Can we sense empathy from a Brief Sample of Behaviour?**

*Peter Mitchell, University of Nottingham UK; Wenjie Wu, University of Nottingham Malaysia; Elizabeth Sheppard, Nottingham Trent University*

**Background:** ‘Mindreading’ involves predicting and explaining behaviour based on inferences about other people’s (targets’) beliefs and character. The current research investigated how well participants made inferences about empathy, with the expectation that they would perform especially well in identifying targets with high and low empathic status because this would be adaptive in predicting behaviour.

**Method:** Across three experiments, participants (N=210) made inferences of targets’ (N=47) self-rated empathy after watching or listening to them telling a scripted joke (or answering questions about him/herself or reading aloud a paragraph of promotional material).

**Findings:** A majority of targets were ‘average’ in self rated empathy and perhaps not surprisingly participants judged that targets were average in most cases. However, such judgments were frequently incorrect and when false alarms were taken into account (using mean d-prime) it emerged that participants were only good at identifying targets with low and high self-rated empathy. Mean d-prime values (chance performance = 0) for low, low-medium, high medium and high self-rated empathy were, respectively, .27, -.07, -.05, .69, F(3, 252) = 51.62, p< .001, Cohen’s f = 1.31.

**Discussion:** It seems people are especially adapted for detecting high and low self-rated empathy but not so effective in guessing who is average. The behaviour of average people can probably be predicted from situational norms while the behaviour of people who are not average probably cannot. In the latter case, accurate prediction of behaviour will depend on being able to estimate the target’s relevant trait.

### 2900

**EMPIRICAL PAPER**

**Younger children’s humour styles and psychosocial adjustment**

*Lucy James & Claire Fox, Keele University*

**Background:** Research with adults and older children has identified links between different styles of humour and psychosocial adjustment. Whilst adaptive humour styles have been found to be positively related to psychosocial adjustment, maladaptive humour styles have been found to be negatively related. Using a new measure of humour styles for younger children, this research aimed to establish whether the same associations between humour and psychosocial adjustment would be found with primary-aged children.

**Methods:** Over two sessions, three weeks apart, 225 children aged 8-11 completed two questionnaires. Firstly, participants completed the humour styles questionnaire for younger children (HSQ-Y) alongside measures of psychosocial adjustment. During the second session they completed peer reports of humour styles, peer acceptance and friendship. The HSQ-Y was administered again to allow for test re-test reliability to be assessed. Pearson's
correlations were used to investigate relationships between variables, whilst factor analysis was used to test the structure of the HSQ-Y.

**Findings:** A four factor structure of the HSQ-Y was found with acceptable test re-test correlations. Significant positive correlations were found between self and peer reports of humour styles and also between the adaptive humour styles and psychosocial adjustment. For example, a significant positive correlation was found between affiliative humour and self-worth, $r(200) = .21, p<.01$.

**Discussion:** A reliable and valid measure of humour styles in younger children has now been created. In addition, a need to raise awareness of different forms of humour in children as young as eight has been highlighted. Results from a longitudinal study will also be presented.

---

**3431**

**EMPIRICAL PAPER**

*Perspective-taking discourses can facilitate theory-of-mind in Japanese children: At what age should children receive theory-of-mind training?*

*Hiromi Tsuji, Osaka Shoin Women’s University*

**Background:** Linguistic experiences such as perspective-taking discourses have been used effectively to improve Indo-European children’s mentalising skills during early to middle childhood. The present two studies investigated if similar benefits can be found for Japanese children. It has been reported that Japanese children develop false-belief understanding at a later age than Indo-European language-speaking children. As Japanese conversational discourses include invisible agency constructions, Japanese children have limited experience of explicit perspective-taking discourses. One of the issues to be addressed is at what age would training using perspective taking discourses be effective for Japanese children.

**Method:** In Study 1, two groups of 4.5 year-old children (48-60 months, N=32) were matched for language measures and false-belief understanding and were given perspective-taking discourse training. The study used a switching replications quasi-experimental design to establish the internal validity of the training. In Study 2, two groups of 4.0-year-old children (43-55 months, N=36) were matched for language measures and false-belief understanding. One group of children (N=18) received the same training as in Study 1 and the other group served as a control.

**Results:** For Study 1, a mixed design ANOVA for post-training false-belief measures indicated a significant interaction: $F(1, 30) = 10.09, p = .003, \eta_p^2 = .25$, suggesting that the training was effective for 4.5 year-old Japanese children. However for Study 2, the 4 year-olds were not found to benefit significantly from the training when they were assessed for false-belief measures.

**Discussion:** These results suggest that the effectiveness of perspective-taking discourse training is sensitive to the child’s age. Further implications for facilitating children’s mentalising skills in social settings are discussed.

---

**3483**

**EMPIRICAL PAPER**

*The Effects of Stereotype Threat on Gaming Performance in Female Online Gamers: Can Social Identity be a Protective Factor?*

*Linda Kaye & Charlotte Pennington, Edge Hill University*
Background: Females are typically negatively stereotyped in the domain of online gaming. However, it is unknown whether females internalise these negative stereotypes and furthermore, whether they have an effect on actual gaming performance. In the first of its kind, the current study aimed to assess the effect that stereotype threat exerts on female gamers’ gameplay performance. It also examined whether manipulating the availability of different social identities is an effective intervention to bolster gameplay performance.

Method: Eighty participants (60 female) were randomly assigned to one of four experimental conditions in a 2 (stereotype threat vs. multiple social identities) x 2 (non-threat control; female and male) design. Following implementation of the respective “threat” information, participants completed a number of measures, and played a custom-made game for a period of five minutes. Accumulative points from this task was taken as a measure of gameplay performance.

Findings: Results indicated that gameplay performance was lowest in the stereotype threat condition, particularly relative to the control condition. Additionally, female participants in the multiple identities condition out-played their female counterparts in the stereotype threat and control conditions.

Discussion: This line of research thus demonstrates the deleterious effects that stereotype threat can exert on female online gamers, and the potential benefits of endorsing multiple social identities to protect against these effects.

Is the ability to recognise vocally expressed emotions universal? A study on native English children’s ability to recognise vocal emotions from four foreign languages

Georgia Chronaki, University of Manchester

Background: Humans have an innate and core set of emotions which are recognised universally. However, how emotions are perceived is also dependent on socio-cultural and display rules. In adult studies, although vocal emotions can be universally recognised from any language, there is an ‘in group advantage’ for identifying emotions more accurately in one’s own language than a foreign language. No studies have been conducted in children.

Methods: Twenty-five native English speaking children aged between 11 and 13 years and 20 adults completed a vocal emotion recognition task with pseudo-sentences spoken in four foreign languages (English, Spanish, Chinese, Arabic) and expressing five emotions (Anger, Happiness, Sadness, Fear and Neutrality). Measures of verbal ability, behaviour problems (inattention, hyperactivity, emotional problems) and emotion regulation were also taken.

Findings: Children recognised vocal emotions from the four languages at above chance levels. Adults were more accurate than children at recognising vocal emotions. Verbal ability and behavioural characteristics were not associated with emotion recognition. Although emotion recognition was above chance for all languages, native English speaking children were more accurate to recognise vocal emotions from English than other languages (p<.001).

Discussion: This is the first study to provide evidence for the universality of emotion recognition in children whilst supporting previous literature in adults showing an ‘in group advantage’ for identifying vocal emotions. The study has important practical implications for modern multicultural societies and child development whilst addressing fundamental theoretical questions about the nature of emotions (biologically versus socially determined).
EMPIRICAL PAPER

Audience familiarity and children’s understanding of disclaimers
Dawn Watling, Dorte Sorensen, Rachel Nesbit, Lilian Lok & Natascha Ahmed, Royal Holloway, University of London

Background: 11-year-olds understand that disclaimers may be offered prior to anticipated poor performance to get the unknown audience to think that the protagonist normally would perform better. However, often our social interactions are with individuals who we know. This is the first work to explore how children make different judgements depending on their familiarity with the audience.

Methods: 172 8- and 11-year-olds heard 8 hypothetical stories. Each story involved a protagonist who does not think they will do well on some task that day, an audience (familiar friend or unfamiliar peer) who asks them how well they think they will do that day, the protagonist responding that they do not think they will do well today with either no reason (no disclaimer) or a reason for possibly poor performance expectations (disclaimer), and the outcome (positive or negative). After each story children were asked to judge the protagonist’s typical performance, character, appropriateness of the response, and why the protagonist would say what he or she did.

Findings: 11-year-olds typical performance judgements were higher when a disclaimer was offered, and chose more disclaimer justifications for the negative outcome stories. Importantly, children judged that the familiar audience are more positive about the protagonists’ future performance and character. Further, disclaimer use was important in appropriateness judgements only in familiar peer contexts; higher appropriateness judgements when no disclaimer was offered than when a disclaimer was offered.

Discussion: Findings are discussed with reference to social interactions with peers and children’s developing understanding of self-presentation.

EMPIRICAL PAPER

False belief understanding and other cognitive abilities in typically developing and autistic children
Ann Dowker, Department of Experimental Psychology, Oxford University; Lucy Elliott, St Hilda’s College, Oxford

Background: Much research suggests that autistic children are delayed in false belief understanding compared to typically developing children. There are debates as to whether this involves a specific false belief deficit in autism, or whether false belief is secondary to other cognitive abilities such as language and executive function. Emotional understanding is also delayed in autistic children, but even less is known about the specificity of this deficit.

Method: Participants were 23 diagnosed autistic 7-to-19-year-olds and 31 typically developing 4-to-6-year-old primary school children. All were given Jarrold's (2000) False Belief tasks; Rieffe et al's (2000) test of Emotional Understanding; Diamond et al's (2002) Day/Night test of Executive Function (inhibition); and the British Picture Vocabulary Test. Analyses of variance were used to compare the groups, and correlations of scores were carried out within the groups.

Findings: The typically developing group obtained significantly higher scores than the autistic group on False Belief, Emotional Understanding and Executive Function, After controlling for Age and Vocabulary raw score, only the difference in False Belief remained significant. Within the autistic group, False Belief correlated significantly with Emotional...
Understanding, Executive Function and Vocabulary. Emotional Understanding correlated with Vocabulary but not with any other scores. Within the typically developing group, there were no significant correlations between the cognitive tasks.

**Conclusions:** False Belief seemed to be closely related to other cognitive abilities in the autistic but not the typically developing group. These findings were not explainable by ceiling or floor effects. This indicates that, contrary to some theories, False Belief may in fact be a more independent function in typically developing than autistic children; though it is possible that different results would be obtained in a younger group of typically developing children.

3285

**EMPIRICAL PAPER**

“Knowing Me, Knowing You” Social Identity and Self Definition in Music Fans  
Daniel Bowers, Rachel Taylor & Peter Mayer, University of South Wales

**Background:** Previous research has shown that people hold very different stereotypes for the fans of different kinds of music (Rentfrow, McDonald and Oldmeadow, 2009) and that people tend to attribute more positive qualities to people who share their musical taste (Lonsdale & North, 2009). However, previous research has so far been lacking in that it either fails to take into account respondents’ own musical taste or it restricts responses to purely positive or negative dimensions.

**Method:** Participants in the current study were asked to describe the fans of their favourite kind of music by selecting at least ten adjectives from a randomised list.

**Findings:** Results showed that the self definitions for the fans of each of the four music styles chosen had distinct profiles and that music fans chose more words with positive connotations than negative.

**Discussion:** The fact that there are clear and different in-group stereotypes for different music fan groups is both important and psychologically consequential for music fans. In order for fans to use their music group membership as a way of defining their identity, it is vital that the group has a shared understanding of what that group represents and also that the group perceives itself as being positive and not negative. The current study both supports and extends previous research in the area (e.g. Lonsdale & North, 2009; Rentfrow, McDonald and Oldmeadow, 2009) by showing that music fans have clear self definitions, that these self definitions are distinctive for different musical styles and that fans describe their in-group more positively than negatively.

3491

**EMPIRICAL PAPER**

Can people read other’s minds based on clues in their faces?  
Peter Mitchell, University of Nottingham

**Background:** Past studies have shown that people’s behaviour, particularly their facial expressions, offers telltale clues about their mental state and the event that caused it. However, it is not known if people engage in a matching strategy or a mindreading strategy when performing these tasks and the aim of this study was to clarify matters.

**Method:** Thirty ‘target’ participants were asked to choose an emoticon which best represents the facial expression that was being displayed. At the same time, the target was covertly filmed by the laptop’s webcam. Fifty-one participants (“perceivers”) viewed target’s reactions and in one group, they were instructed to match the emoticon to the target’s facial expressions (‘matching’ task). The other group was instructed to guess which emotion the targets chose (‘mindreading’ task).
**Findings:** The results revealed that perceivers responded differently in the two groups. There was a significant main effect of group on response time, \( F(1,49) = 9.71, p = 0.003 \) \((p<0.05)\), supplemented by a significant interaction of group and expression viewed on the unbiased hit rates, \( F(5,245) = 2.96, p = 0.023 \) \((p<0.05)\). Those in the matching group were faster to respond in some cases.

**Discussion:** The 'mindreading' group were slower to respond, suggesting that they engaged in a level of processing that is more elaborated than would be needed for matching the expression of the target with a particular emotion. In this case, mindreading enabled the perceiver to infer an antecedent state (which expression appeared in front of the target) through the lens of the target's mind.

### 3602
**EMPIRICAL PAPER**

#sleepyteens - Is social media use related to sleep quality, self-esteem, anxiety and depression in adolescence?

*Heather Cleland Woods & Holly Scott, University of Glasgow*

**Background:** As of March 2015, Facebook has 1415 million users, Twitter 288 million and approximately 90% of adolescents are on social media (SM). Evidence is increasingly supporting a link between SM use and wellbeing, particularly during adolescence. Adolescence is a period of increased vulnerability for the onset of depression and anxiety with poor sleep quality, prevalent in adolescence, suggested as a possible contributor. Since adolescence is a vulnerable period for development of long-term issues, it is essential that we understand how adolescents’ SM use relates to these factors. The current study aims to investigate how adolescents’ SM use relates to sleep quality, self-esteem, anxiety and depression. Furthermore, this study is the first to examine how emotional investment in SM relates to these aspects of wellbeing.

**Methods:** In this cross-sectional correlation study, 467 adolescents completed subjective measures of overall and night-time SM use, as well as measures of sleep quality, self-esteem, anxiety, depression and emotional investment in SM.

**Findings:** Overall SM use, night-time specific SM use and emotional investment in SM were each significantly related to poorer sleep quality, lower self-esteem as well as higher anxiety and depression levels. Together, SM measures explained 13.5% of the variance in sleep quality and night-time specific SM use remained a significant predictor of poor sleep quality after controlling for anxiety, depression and self-esteem.

**Discussion:** The current results highlight not only timing of SM use as impacting on sleep quality but, importantly, emotional investment in SM as contributory factors that merit further investigation with relation to adolescent sleep quality, wellbeing and development.

### 3656
**EMPIRICAL PAPER**

Socio-economic deprivation at age 3 affects language and Theory of Mind development

*Conny Gollek & Lynne G Duncan, University of Dundee, Martin J Doherty, University of East Anglia*

Children from disadvantaged socio-economic backgrounds have lower average vocabulary and problem solving abilities at age 3. This study investigates whether children from disadvantaged socio-economic backgrounds also show lower metacognitive and
metalinguistic skills. Language and Theory of Mind are strongly related and family background has been shown to contribute to False Belief understanding. Participants were 77 children (mean age 43 months) from quintile 1-4 of the SIMD (Scottish Index of Multiple Deprivation). Children were tested on general language abilities, problem solving, executive functioning, Theory of Mind, and metalinguistic tasks assessing word learning and flexibility in using familiar words. Ranking on the SIMD correlated to general language abilities and Theory of Mind, even when controlling for age. Children from the most deprived background had significantly lower expressive vocabulary and problem solving scores than in the least deprived group of this sample. The ability to use familiar words interchangeably (dog – animal) was also significantly lower. No differences were found for executive functioning or word learning tasks. A subsample matched on verbal ability and chronological age (n = 20) differed significantly only on ability to predict False Belief, but not on any other cognitive or linguistic task. We suggest a specific delay in Theory of Mind development in children from deprived areas, which cannot be explained by maturity or verbal IQ. Ongoing effects of these delays on word learning are currently being investigated longitudinally.

3513
EMPIRICAL PAPER
“Everyone here wants everyone else to get better”: The role of social identity in eating disorder recovery
Niamh McNamara, Nottingham Trent University

Background: The ‘Social Cure’ paradigm proposes that social identities act as a basis for mutual social influence and positive support experiences. Previous research has demonstrated these effects among groups of health service users, but has rarely paid attention to the ways in which the meaning of group memberships shapes the content and the consequences of the help being shared. This study explores how social identity enhances well-being and promotes recovery in members of an online eating disorder support group.

Method: Transcripts from 18 online support sessions involving 75 participants were thematically analysed. Online group members were predominantly female (95%) and the most commonly identified eating disorder types were Binge Eating Disorder (32%), Bulimia (28%), and Anorexia (20%).

Findings: Our findings suggest that the online group provides members with what they perceive to be ‘appropriate’ support. A sense of shared identity underlies this support which takes the form of: (1) the provision of emotional and informational support that alleviates distress and guides treatment decisions, (2) the normalisation of recovery experiences and the creation of a recovery identity, and (3) encouragement to engage with health professionals.

Discussion: Previously an eating disorder identity has been seen as problematic and interventions are targeted at challenging the individual’s self-concept (as well as any groups they might belong to). We suggest such interventions could instead harness identity resources to assist group members to collectively construct a recovery identity.

3305
EMPIRICAL PAPER
The Development of Children's Voice Recognition
Lesley Calderwood, University of the West of Scotland

It has been well documented in the eyewitness literature that children are as accurate as adults at identifying a 'suspect' from a target-present lineup from the age of 6 years. However, when the lineup does not contain the 'suspect', children find it very difficult to reject the lineup and instead pick an innocent member. This high rate of false identifications persists into adolescence and is believed to be driven mainly by social factors and a desire to please the experimenter (e.g. Pozzulo, Dempsey, Bruer & Shehan, 2011). In the present study, I examine whether children still have a tendency to pick someone from a target-absent lineup using voices instead of faces. 6, 8, 10, 12 and 14-year-old children completed two sequential voice lineups which could either be target-present or target-absent. They listened to a clip of a ‘target’ voice speaking for 30 seconds and immediately following this they were presented with a sequential six-person lineup. In the lineup, each speaker was heard for 8 seconds and participants had to decide whether the speaker was or was not the person they had heard previously. For both lineups, participants were told that the ‘target’ may or may not be in the lineup. The results show steady age related improvements on the target-present lineups but false identification rates on the target-absent line-ups remain high at around 70% across the child groups. These results suggest that the tendency for children to pick someone from a target-absent lineup is not unique to faces and suggest that this is due to a processing bias rather than developmental differences in face processing.

EMPIRICAL PAPER
3542
Cultural factors underlying the use of Online Social Networks among Saudi Arabian and UK users
Heyla Selim, Vivian Vignoles & Karen Long, University of sussex

Background: Psychological research into cultural differences in the use of Online Social Networks (OSNs) is a growing field. Our aim in this study was to investigate whether cultural differences in values, self-construals and relational mobility account for cultural differences in online motivations and behaviour.

Methods: An online survey and was completed by 695 participants during Spring 2014. The sample included students and non-students, male and female, from Saudi Arabia and the United Kingdom, aged 18-55 years old. Both English and Arabic versions of the survey were created and published online. Structural Equation Models tested the hypothesized effects of culture on online motivations and behaviour.

Findings: The pattern of mean differences in cultural orientation found across the UK and Saudi Arabian samples was largely consistent with the pattern of differences between Western and Middle Eastern observed in existing cultural studies. Saudi participants showed more self-focused motivation for using OSNs ($\beta$=.36, $p<.001$), targeted their communications more at individuals with whom they had weak offline ties ($\beta$=.26, $p<.001$), and emphasised self-promotion ($\beta$=.15, $p<.001$), acceptance seeking ($\beta$=.17, $p<.001$), and life-streaming ($\beta$=.25, $p<.001$) in their self-presentations. British participants were motivated more by relationship maintenance ($\beta$=.28, $p<.001$), targeted their communications at those with whom they had strong ties ($\beta$=.12, $p<.001$), and emphasised making a positive impression ($\beta$=.15, $p<.01$). Mediation analyses showed that sample differences in online motivations and behaviour were partially explained via self-construals, values and relational mobility.

Discussion: We conclude that constructs from cross-cultural psychology can be applied to understand cultural differences in OSNs usage.
EMPIRICAL PAPER
Multimodal sustained attention in primary school children
Hannah Broadbent, Hayley White, Helen Bentley, Natasha Kirkham & Denis Mareschal,
Centre for Brain and Cognitive Development, Birkbeck College, London

Background: The protracted development of sustained attention across childhood may serve as a cognitive constraint for the role of multimodal information. In two experiments, we examined how multisensory information facilitates attentional vigilance, and explored the impact of unimodal and multimodal noise on sustained attention in primary school children.

Methods: In experiment 1, 72 children aged 5-, 7- and 9-years participated in a continuous performance task with unimodal and multimodal stimuli. Multimodal trials consisted of presentations of either synchronous audiovisual (AV), or asynchronous (A-V separated by 500ms) information. Using the same visual stimuli with different participants, trials in experiment 2 contained varying levels of task-relevant unimodal or multimodal peripheral distractor stimuli.

Results: Experiment 1: Synchronous presentation of visual information significantly increased reaction times (RTs) to auditory targets across groups, but auditory information did not aid visual stimuli detection. In all groups, asynchronous audiovisual trials resulted in faster RTs than for synchronous and unimodal trials. Experiment 2: Different effects of unimodal and multimodal noise on focused attention across groups are demonstrated.

Discussion: Children aged 5-9 years are able to integrate bimodal information to increase attention and target discrimination, compared to unimodal auditory presentations. Enhanced performance on asynchronous trials suggests that children across these age groups can integrate bimodal information, and use congruent cues from a different modality, to support target detection. Findings from experiment 2 are discussed relative to the role of peripheral multimodal distraction on performance in childhood. These studies highlight differential effects of multisensory information on attentional vigilance across development.

EMPIRICAL PAPER
Beyond ‘contagion’: A social identity account of ‘passive’ influence
John Drury & Lily Verlander, University of Sussex; Steve Reicher, St Andrews University; Clifford Stott, Leeds University

Background: This paper critiques the notion of ‘contagion’ in order to develop an alternative discourse and theory for understanding ‘passive’ influence, particularly aggressive and violent behaviour in crowds. The background to this is that ‘contagion’, the notion that psychological states are transmitted automatically between people like a disease, pervades both popular and scientific accounts of how ideas, emotions and actions spread through society. It is used to explain both simple influence (e.g., yawning) and complex phenomena (market ‘panics’, waves of riots). Yet the concept of ‘contagion’ cannot explain social group boundaries to ‘passive’ influence. The paper presents evidence for an alternative account, based on the social identity approach.

Methods: The main empirical study is an experiment (n = 75) in which we presented participants with an aggressive stimulus (a noise) in a ‘sound perception’ study and manipulated their level of self-categorization to make the aggression source relevant (or irrelevant) to their identity. Dependent measures of aggression were both explicit (vignette and questionnaire) and implicit (IAT).
Findings: As predicted, on both implicit and explicit measures, where the aggressive noise was framed as ‘outgroup’, participants displayed significantly less aggression than when it was framed as ‘ingroup’. What is more, moderation analysis showed that these effects were strengthened by participants’ identification with the social categories used in the manipulation. Finally, and as hypothesized, mediation analysis showed that these effects operated through participants’ perception that the aggression source was identity-relevant.

Discussion: Our analysis contributes to a new understanding of ‘passive’ influence in which what matters is not ‘mere exposure’ but the match between the identities of source and target.

KEYNOTE
A sociocultural psychology of the life-course
Professor Tania Zittoun, University of Neuchâtel, Switzerland
Social and developmental psychology have made various attempts to reconcile over the last 50 years, over issues such as learning, or work; a key question for the articulation of the two perspectives is to understand how the person develops, as unique, in a complex world of social constraints and guidance. Sociocultural psychology is currently developing such an approach. Drawing on this tradition, I will sketch a sociocultural approach of the life-course. I will argue that, in order to understand human specificities, we need not only to understand the many social spaces and places through which people move and act as they live, but also, the places of memory, dreams and imagination through which they wander. Drawing on case studies, I will thus show life-courses in the making, and the social and developmental dynamics they demand. I will finally highlight the implication of such propositions for theory, research and practice.

NEIL O’CONNOR AWARD
Educational and cognitive outcomes following preterm birth
Dr Victoria Simms, Ulster University
It has been well established that prematurely born children have an increased likelihood of cognitive and educational difficulties throughout childhood. Specifically, children born prematurely have substantially lower mathematical achievement than their term-born peers. Until now our understanding of the nature of these difficulties has been limited as studies have tended to focus on outcomes rather than exploring cognitive precursors and components of mathematical skills. In this talk Dr Simms will present the findings of a recent study, Premature Infants’ Skills in Mathematics (PRISM), which aimed to identify the underlying causes of mathematical difficulties in very preterm children. In addition, general cognitive and behavioural outcomes will be highlighted. Dr Simms will discuss the implications of these findings for educational interventions to support preterm children in school.

EMPIRICAL PAPER
Children and parents’ acculturation discrepancies: implications for well-being of immigrant and non-immigrant children
Cecilia Cordeu & Rupert Brown, University of Sussex
The relationship between acculturation preferences and well-being is a long studied issue. It has often been found that an “integration” orientation relates positively to well-being (Berry 1997). In contrast, discrepancies between children’s acculturation preferences and their
perception of their parents’ preferences is generally linked to negative well-being for children (Tezler, 2010). This literature has mainly used cross sectional designs with immigrant children. In this paper we report the 1st wave of a longitudinal study that has both immigrant and non-immigrant children.

Chilean sample, 206 immigrant, 127 Chilean and 76 mixed origin children, aged 8 to 15 years. Dependent variables: self-esteem and life satisfaction. Independent variables: children’s own acculturation preferences and their perception of their parent’s attitudes (Desire for Culture Maintenance, Culture Adoption and Contact), and perception of discrimination.

The main findings: (1) age negatively associated with well-being; (2) Chilean children’s discrepancy with their parents on Desire for Contact correlates positively with their life satisfaction (p=.016); (3) children of mixed origin’s discrepancy with parents in Culture Adoption correlates negatively with life satisfaction (p=.029); (4) immigrant children’s discrepancy with their parents in Culture Maintenance correlates negatively with their life satisfaction (p=.011); (5) this group’s perceived discrimination has a negative relation with self-esteem but it is buffered by high Culture Maintenance (p=0.40); (6) in all three groups an “integration” orientation relates to positive well-being.

The relation of discrepancies to well-being varies by group which is important to take into account when programming intervention on improving children’s well-being in a multicultural context.

3317
SYMPOSIUM
Children’s and Adolescents’ Core Trust Beliefs in Others and Psychosocial Functioning
Ken Rotenberg, Keele University

Research has shown that persons’ generalized trust beliefs in others (i.e., Social Capital) are associated with their psychosocial functioning (e.g., Vieno et al., 2010). Nevertheless, the concept of generalized trust beliefs lacks clarity both theoretically and empirically. The current symposium redresses that problem by examining children’s/adolescents’ core trust beliefs in others (CTBO) which comprise their positive conjoint trust beliefs in significant others (e.g., mother, father, teacher, and peers). CTBO refers to the extent to which individuals simultaneously hold high trust beliefs in significant others in their social network.

Four studies examined the role of CTBO in the psychosocial functioning of typical and atypical children and adolescents. The first paper shows that UK children’s CTBO, comprising the combination of trust beliefs in mother, father and peers (or the three trust belief bases) was associated with helping others. The second paper shows that adolescents in a US psychiatric inpatient unit with the CTBO (a combination of high trust beliefs in mother, peers, and teacher) were the least at risk for internalized maladjustment. The third paper shows that anorexic symptoms are negatively associated with UK adolescents’ CTBO (a combination of high emotional trust beliefs in mother and father). The fourth paper shows that Italian children’s CTBO, comprising the combination of high emotional trust beliefs in mother and father, is associated with Advanced Theory of Mind ability. The findings support the conclusion that the core trust beliefs in others by typical and atypical children/adolescents from varied cultures (Italy, UK and USA) are linked to their psychosocial functioning.
3318
PAPER 1
The Relation Between Children's Core Trust Beliefs in Others and Prosocial Behaviour
Ken Rotenberg, Keele University; Gustavo Carlo, University of Missouri Columbia
Purpose: Research has extensively examined children’s trust (e.g., Rotenberg, 2010) and their prosocial behavior (e.g., Carlo, 2006). There is a dearth of research, however, that has examined the relation between the two topics. The current study redressed that oversight by examining the hypothesis that children core trust beliefs in others (CTBO) would increase their proclivity to help others. The children demonstrate CTBO by holding high trust beliefs in each significant other (mother, father, teacher, and peers) or high trust beliefs on each the three different bases of trust.
Method: Eighty-six children (42 females, mean age = 10 years – one month) from 6th year in UK schools completed the Children’s Generalized Trust Beliefs Scale (CGTBS; Rotenberg et al., 2005). The CGTBS assessed three bases of trust (reliability, emotional, and honesty) in four targets (mother, father, teacher, and peers). Children’s helping was assessed by sociometric ratings (peer reports).
Results: Hierarchical regression analyses yielded interactions between the targets of trust beliefs and between the bases of trust beliefs on helping. The slopes of the relations are shown in Figures 1, 2, 3 and 4. As expected, it was found that helping was highest when: (1) children held the combination of high trust beliefs in mother, teacher, and peers and (2) children held the combination of high reliability, emotional, and honesty trust beliefs.
Conclusion: The findings supported the hypotheses that children showing core trust beliefs in others, either regarding targets or bases, increases the likelihood of children helping others.

3319
PAPER 2
The Relation Between Core Trust Beliefs in Others and Internalized Maladjustment in Adolescents from an Inpatient Psychiatric Unit
Ken Rotenberg, Keele University; Carla Sharp & Amanda Venta, University of Huston
Purpose: Stress (Raffaelli et al., 2012) and internalized maladjustment (Hankin and Abramson, 2001) are heightened during adolescence. The research was guided by the hypotheses that adolescent psychiatric inpatients’ trust beliefs in significant others would buffer and mediate the relation between interpersonal stress and internalized maladjustment. It was expected that the adolescents with core trust beliefs in others (CTBO) -- those having high trust beliefs in the combination of significant others -- would be the least at risk for internalizing maladjustment.
Method: 234 adolescents from an inpatient treatment centre (154 female, Mean age = 14 years – 8 months) completed standardized internalized maladjustment scales and the Children’s Generalized Trust Belief Scale (CGTBS; Rotenberg et al., 2005). The CGTBS assesses trust beliefs in four significant others (mothers, fathers, teachers, and peers) for three bases (reliability, emotional and honesty). Interpersonal stress was assessed by the UCLA Life Stress Interview (Hammen, 2004).
Results: It was found that internalized maladjustment was associated with high interpersonal stress when the adolescents had low rather than high trust beliefs (buffering). The SEM analyses (Figure 2) confirmed that trust beliefs (negatively) mediated the relation between interpersonal stress and internalized maladjustment. Adolescents with high trust
beliefs in each significant other (mother, father, teacher, and peers) — showing CTBO — had the lowest level of internalizing maladjustment (see Table 1).

**Conclusions:** Trust beliefs in significant others served to buffer, and mediate, the effects of interpersonal stress on internalized maladjustment for adolescent psychiatric patients. Those with core trust beliefs in others were the least at risk for internalized maladjustment.

**PAPER 3**

**Adolescents’ Core Trust Beliefs in Others and Their Anorexic Symptoms**  
*Rajvir Sangha & Ken Rotenberg, Keele University*

**Purpose:** Eating disorders such as anorexia nervosa emerge during adolescence (Stice, Marti, & Rohde, 2013). Researchers have found that holding high emotional trust beliefs in significant others are negatively associated with bulimic eating disorder symptoms (Rotenberg et al., 2013). According to Rotenberg et al. (2013) emotional trust undermines eating disorders (e.g., anorexia nervosa) because it promotes the individual’s disclosure of its symptoms to others thus permitting the identification and treatment of the disorder.

**Hypothesis:** A short-term longitudinal study was carried out to test the hypothesis that adolescents who have core trust beliefs in others (CTBO) are less at risk for the anorexic eating disorder that are others.

**Method:** 101 adolescents (47 males, mean age = 13 years – 10 months) were tested twice across a 5 month span. They completed: (1) the Sterling Eating Disorder Scale (Williams et al., 1994) that assesses Anorexic symptoms and (2) the Emotional Trust beliefs in Significant Others scale (Rotenberg et al., 2013).

**Results:** As expected, adolescents who held the combination of high trust beliefs in father, mother, and peers — showing CTBO — demonstrated lower anorexic symptoms than did others. Across time, females who held high trust beliefs in both peers and teachers as some evidence for CTBO showed less increases in anorexic symptoms than did females who held other levels of trust beliefs.

**Conclusions:** The finding supported the conclusion that adolescents who held core trust beliefs in others decreases the risk of developing the anorexic eating disorder, notably females.

**PAPER 4**

**Italian Children’s Core Trust Beliefs in Others and their Advanced Theory of Mind Ability**  
*Pamela Qualter, University of Central Lancaster; Serena Petrocchi, Università del Salento; Flavia Lecciso, Università del Salento; Antonella Marchetti, Catholic University of the Sacred Heart*

**Purpose:** Children’s Theory of Mind (ToM) abilities entail comprehending the cognitive and emotional states of others (Apperly, 2012). This study examined the relation between children’s emotional trust beliefs in parents and Theory of Mind (ToM) abilities. It was hypothesized that children with high emotional trust beliefs in both mothers and fathers — those with core trust beliefs in others (CTBO) — would display the greater advanced ToM ability than would other children. Emotional trust beliefs are the expectations that another person(s) will refrain from emotional harm by being receptive to disclosure and maintaining confidentiality of that disclosure. It was anticipated that those beliefs promote the exchange
of disclosures regarding cognitive and mental states among family members and thus promote advanced ToM ability.

**Method:** 168 Italian children (M = 9 years-6 months, SD = 7 months) were administered: (1) the Italian Children's Generalized Trust Beliefs Scale (Rotenberg et al., in press) which assessed emotional trust beliefs in mother and in father; and (2) The Strange Stories (White, Hill, Happè, & Frith, 2009) which has served as a measure of Advanced ToM ability.

**Results:** The Hierarchical regression analyses showed, as expected, that children who held high emotional trust beliefs both in mother and in father (thus CTBO) showed greater Advanced ToM than did children with other levels of emotional trust beliefs.

**Conclusions:** The findings yielded support for the hypothesis that children with core trust beliefs in others are disposed to attain Advanced ToM ability.

---

**3333**

**EMPIRICAL PAPER**

**Using Dynamic Assessment to Explore Early Risk Markers for Communication Difficulties**

*Helen Cain, City University London*

**Background:** Recent work has established that dynamic assessment (DA) is a useful tool for language research and therapy. This methodology has been cited as particularly useful for client groups who are harder to assess using standardised procedures, such as bilingual children or those with Autism Spectrum Disorders. It may also provide a useful means of assessing infant communication development, as adults typically scaffold their interactions with infants and encourage learning by providing activities within the Zone of Proximal Development. However, the role of DA in investigating infant communication remains to be established through research.

**Methodology:** The present study is using a prospective longitudinal design to explore early communication development in infant siblings of children with Autism Spectrum Disorder and/or language impairment (n=20), as compared to control children (n=40). DA of imitation, receptive language, turn taking and joint attention is being conducted at 9-15 months of age, and the ability of this procedure to predict language and social communication outcomes at age 2 is being investigated.

**Results:** Results will be presented based on analysis of the Time One assessment data. Preliminary results indicate that using DA adds to the ability of standardised measures to predict concurrent receptive language development. Motor imitation ability in infancy appears to have a particularly strong relationship to language skills.

**Conclusions:** Dynamic assessment appears to be a useful emerging tool for investigating infant communication development. Replication in further studies will be needed in the future.

---

**3753**

**SYMPOSIUM**

**How do I look? Consumer culture, well-being, and extrinsic motivations**

*Mark Wright, University of Brighton*

Three papers report on consumer culture values related to materialism and appearance ideals, and how they are associated with well-being in both adults and children. The first paper demonstrates how lower well-being is reciprocally associated over time with a stronger consumer culture value orientation, in a large sample of over 1000 primary and secondary school children tracked over three school years. Based on the work with the
same sample, the second paper shows that materialistic and appearance-related aspects of peer reputation are related to children’s perceptions of popularity, and that peer rejection correspondingly predicts an increase over time in social motivations for endorsing consumer culture values. The third paper takes these concepts into pertinent domains of adult life, showing that young women’s extrinsic/social motivation to look good is associated with lower well-being, both for a student sample and for those working as fashion models. This symposium provides a valuable opportunity for exploring the complex interface between motivation, social relationships, well-being, values, and development, in the context of contemporary consumer culture. Each paper will have a 20 minute slot, including time for brief questions/clarifications. The three speakers will then lead a structured, interactive discussion session focused on: a) key theoretical questions regarding this work (particularly regarding possible combinations of social psychological and developmental theories); b) the most fruitful directions for further research; and c) implications for applied work with young people in schools and in the media domain itself.

3754
PAPER 1
Longitudinal links between children’s consumer culture orientations and well-being
Matthew Easterbrook, University of Sussex

Background: Evidence suggests that materialistic and appearance concerns are related aspects of an overarching consumer culture orientation, which is negatively associated with adult and child well-being. Longitudinal evidence with children has so far only investigated links between materialism and well-being, and suggests that low well-being predicts greater materialism, rather than the reverse. We sought to investigate the longitudinal associations between children’s consumer culture orientations and their well-being.

Methods: A three-wave longitudinal survey of over 1000 children initially aged 8-12 was conducted over three school years. New, age-appropriate measures were used to assess children’s consumer culture orientation and a broad range of well-being measures.

Findings: Cross-lagged panel models investigating prospective predictors of change in children’s consumer culture orientation and well-being suggest a bi-directional link between the two constructs. However, results show that by far the strongest directional pathway begins with lower well-being predicting increases in consumer culture orientation 9 months later, which in turn predicted decreases in well-being a further 9 months later.

Discussion: Results suggest that children who have low levels of well-being are particularly likely to become orientated towards consumer culture, and thus enter into a negative downwards spiral. Consumer culture may be perceived as a coping mechanism by vulnerable children, but one that is woefully detrimental to their well-being. Potential psychological mediators will be discussed, such as self-discrepancies, perceptions of control, and feelings of insecurity.

3755
PAPER 2
Peer relations and consumer culture in children and adolescents: A case of counterproductive social motivations!
Robin Banerjee, University of Sussex

Background: Existing literature suggests links between peer relations and materialism in childhood, but longitudinal analysis of these connections is needed. In line with self-determination theory, we predicted that the pursuit of consumer culture values (‘looking
good’ and ‘having the right stuff’) in order to achieve gains in social status would lead to poorer rather than better social outcomes.

**Methods:** A longitudinal survey of over 1000 children initially aged 8 to 12 over three school years was conducted, including measures of peer relations, behavioural reputation within the peer group, and social motivations for endorsing consumer culture values. The first part of our analyses focused on longitudinal changes in peer acceptance and perceived popularity as a function of earlier behavioural reputation. The second part focused on longitudinal pathways between peer rejection and social motivations for endorsing consumer culture values.

**Findings:** Longitudinal modelling of the data revealed that whereas cooperative behaviour was a positive longitudinal predictor of children’s actual liking by peers, a reputation for disruptive behaviour, having ‘cool’ stuff, and looking good was found to predict gains in being perceived to be popular. In line with this, early peer rejection predicted an increase over time in social motivations for endorsing consumer culture values. This in turn predicted worsening, rather than improving, peer relations.

**Discussion:** Results show how consumer culture values are tied up with images of social success in childhood. Implications for our understanding of consumer culture values as a maladaptive coping response will be discussed, alongside considerations of intervention strategies.

**3756**

**PAPER 3**

**Appearance motives, well-being, and belonging in fashion models and students: How does it feel to have the ‘ideal’ appearance?**

*Mark Wright, University of Sussex*

**Background:** Young women increasingly feel pressure to be thin and are bombarded by media messages that to ‘look good’ is to ‘feel good’ however self-determination theory suggests that extrinsic, social motivation to look good will be associated with lower well-being. Also, despite fashion models having the ‘ideal’ appearance, there is evidence they actually report lower well-being than non-models, partly due to greater external pressures to be thin, and because they are often valued for superficial reasons. Firstly, we predicted that extrinsic appearance motivation would be associated with lower well-being in models and non-models, and that this would be mediated by a sense of belonging. Secondly, we predicted that fashion models would have lower well-being, would feel greater pressure to look good, and would have greater internalisation of appearance ideals than non-models.

**Methods:** A sample of 50 female fashion models and 150 female students completed measures of well-being, extrinsic appearance motivation, appearance ideals, and belonging.

**Findings:** Regression analyses revealed that extrinsic appearance motivation was associated with significantly lower well-being in both models and non-models, and that this relationship was mediated by a sense of belonging. T-tests revealed there were no significant differences between models and non-models in appearance ideals, extrinsic appearance motives, or well-being.

**Discussion:** Extrinsic social motivation to look good is associated with lower well-being in both models and non-models and the extent to which one feels a sense of belonging may play an important role in this relationship. Results will be discussed with regard to self-determination theory.
WORKSHOP
Intergroup contact among children and young people: Current issues and future directions
Dominic Abrams & Lindsey Cameron, University of Kent; Sofia Stathi, University of Greenwich; Keon West, Goldsmiths; Shashika Vethanayagam, London Metropolitan University, Patrick Leman, Royal Holloway
Activities: Presentations by guest speakers, round table discussions and Q & A with speakers, knowledge exchange and networking opportunities.
Theme: This workshop will explore current issues and future directions of intergroup contact research with children and young people. We will 1) highlight recent exciting findings, innovative methods and research foci 2) challenge traditional approaches to intergroup contact research 3) explore future research directions that are essential for the advancement of intergroup contact theory and research and 4) have an opportunity to learn about the vital challenges facing young people in diverse communities today, from the perspective of practitioners working in the field.
Attendees: This workshop will be appealing to social and developmental psychologists and we anticipate a very high level of interest.

EMPIRICAL PAPER
When Difference is Denied: Young People's Negotiation of Perceived Discrimination
Orla Muldoon, Limerick
Background: Though there is increasing acceptance that children are aware when they are targets of discrimination, the impact of discrimination as a consequence of socio-economic disadvantage remains under studied. Here we consider whether, the increasing invisibility of class means that children have fewer resources to use to negotiate the ‘injuries of class’.
Methods: Using standardised scales we measured the impact of perceived discrimination on well-being, perceptions of safety and school integration amongst children (Mean age 10.2 years; N=199) growing up within socioeconomically disadvantaged communities in Limerick, Ireland. Parental support and community identity were also measured as potential mediators of these relationships in a cross-sectional design.
Results: Perceived discrimination contributed to negative outcomes in terms of school integration, perceptions of safety and levels of well-being. All negative outcomes were mitigated where there was high levels of parental support. High levels of community identity also protected young people in terms of feelings of school integration and risk but not in terms of psychological well-being.
Discussion: Findings are discussed in terms of the different role of family and community supports for children. The particular challenges for young people affected by individualised negative social representations associated with poverty and disadvantage are also discussed.

EMPIRICAL PAPER
Investigating the link between shyness and early word learning
Matt Hilton, Katherine E. Twomey & Gert Westermann, Lancaster University
Background: Shy children show smaller productive but not receptive vocabularies than age-matched peers (Smith Watts et al., 2014). One possible explanation for this discrepancy is
that shy children can acquire language but have difficulty expressing it. The current studies examined this hypothesis in word learning tasks with shy and less shy children.

**Method:** 64 20- to 26-month-old children saw one novel object alongside two familiar objects during a training phase. The novel object was requested using a novel pseudo-word (e.g. “where’s the sprock?”). Children’s responses were recorded either behaviourally (touching the object) or with an eye-tracker. Five minutes later, retention of word-object mappings was tested. A standardized parent-report measure of shyness was taken for each child, and children were classified as shy or less-shy according to a median split on this score.

**Findings:** During training, only less-shy children successfully selected the novel object: when asked for a novel pseudo-word, shy children did not select the novel object above chance levels \[t(13) = 1.23, p = .24\]. Similarly, only the less-shy group retained the novel word-object mappings that they had made \[t(14) = 2.61, p = .02\]. While this could be explained as shy children’s reticence to respond in word-learning tasks, the eye-tracking data showed that shy children attend less to the novel object as it is being labelled than the less-shy group.

**Discussion:** These findings show that shyness affects children’s performance on lab-based measures of word learning, and suggest that this may not be due to reluctance to respond.

3595

**EMPIRICAL PAPER**

**Why Are People Threatened By Black and Dark-Skinned (BDMs) Men?**

*Maa Misha'ari Weerabangsa & Chuma Kevin Owuamulam, University of Nottingham, Malaysia Campus*

**Background:** Black and Dark-skinned men (BDM) generally elicit threat reactions among non-BDMs. In two studies, we tested the assumption that such threat perceptions arise from the hunchback stereotype (HBs) – the tendency to associate members of low-status groups with anger and aggression, compared to their higher-status counterparts. Because right-wing authoritarians (RWA) are generally mindful of social hierarchy, we explored the role of RWA in the proposed process.

**Methods:** Study 1 (N=78) examined the relationships between anger attributions and threat perceptions of dark- (low-status) and light-skinned (high-status) Indians. Study 2 (N=114) extended this paradigm to the context of Black vs. Whites, examining the effect of RWA on anger attributions and subsequent threat perception. Both studies used repeated-measures designs, where participants rated neutral-expression male faces on perceived anger, aggression, and threat; Study 2 included an additional measure of perceived status. Anticipated aggression was a mediator in both studies, with perceived status included as an additional mediator in Study 2.

**Findings:** Consistent with HBs, Study 1 showed that perceived anger predicted greater threat perceptions of dark-skinned (low-status) Indians; this relationship was mediated by anticipated aggression (CI95% = 0.107, 0.481). Study 2 replicated this pattern, also showing the trend to be more apparent for individuals high in RWA. However, when perceived status was included in the model, this significantly lowered anger attributions, and consequently, anticipated aggression and threat perceptions (CI95% = 0.031, 0.002).

**Discussion:** The real-world implications of these findings will be discussed in the context of recent police shootings involving BDMs in the USA.

3217

**EMPIRICAL PAPER**
Power and Personality in Linguistic Style Accommodation
Kate Muir & Adam Joinson, University of the West of England; Rachel Cotterill & Nigel Dewdney, University of Sheffield

Background: People often mimic each other’s communication behaviours, and this is associated with positive social outcomes. This extends to linguistic style accommodation, which refers to synchronisation in an individual’s use of function words. Across two studies, we investigate the importance of social power and personality in predicting the likelihood of linguistic style accommodation occurring, and the social and personal outcomes of such accommodation.

Methods: We manipulated social power to elicit a series of dyadic interactions, face-to-face (study 1) and via computer mediated communication (study 2) between individuals of high power (study 1 N = 12, study 2 N = 13) versus low power (study 1 N = 12, study 2 N = 13), and a control group of neutral power (study 1 N = 16, study 2 N = 26). Participants completed personality questionnaires, and additional measures related to interaction quality and impression formation after each interaction.

Findings: The greatest extent of linguistic style accommodation occurred when individuals with personality traits associated with sociality, need for social approval and duplicity were placed in a position of lower power than their interlocutor. Linguistic style accommodation by low power individuals positively influenced perceptions of subjective rapport and social attractiveness. These results applied across face-to-face and computer-mediated-communication interactions.

Discussion: Personality traits predispose individuals to alter their communication behaviours in response to affiliation motivations triggered by the social context. Further, linguistic style accommodation could be a powerful and unconscious cue into impression formation, equally or more influential than outwardly detectable aspects of behaviour.

JSDP AWARD INVITED LECTURE
How do preschoolers answer yes-no questions?
Dr. Mako Okanda, OTEMON Gakuin University

We have investigated preschoolers’ response tendencies to yes-no questions in different countries (i.e. Vietnam, Japan, and Hungary). We found that young preschoolers, particularly 2- and/or 3-year-olds, exhibit a yes-bias to various types of questions regardless of interviewer status (stranger vs. mother and human vs. robot) and situations (face to face vs. video interviews), whereas older preschoolers exhibit both yes and no-saying biases depending on these conditions (e.g., Okanda & Itakura, 2010, Okanda, Kanda, Ishiguro, & Itakura, 2013, Okanda, Somogyi, & Itakura, 2012). We suggest that young preschoolers exhibit a yes bias automatically because their cognitive abilities (i.e. inhibitory control and/or verbal abilities) are underdeveloped and they cannot inhibit a dominant "yes" response or they cannot comprehend questions appropriately (e.g., Moriguchi, Okanda, & Itakura, 2008). On contrary, older preschoolers can choose "yes" or "no" depending on the conditions and these decisions may be made by social or cultural reasons (Okanda & Itakura, 2010, 2011, 2012). For example, Japanese older preschoolers tend to say "yes" to strange adult interviewers because of modesty (e.g., Okanda et al., 2012). Moreover, unlike Canadian children (Fritzley & Lee, 2003), Japanese and Hungarian old preschoolers are likely to say "I don’t know" to incomprehensible yes-no questions (e.g., Okanda & Somogyi, 2013). We found that adults’ preference on "I don’t know" response was consistent with that of the children in the same country. We assume that children around age of five may start to learn
what culturally ideal responses are from their adults. In the talk, I will discuss how general and cultural factors affect preschoolers’ response tendencies to yes-no questions.

2989

EMPIRICAL PAPER

Understanding of ‘Enemy’ in Turkish Cypriot Children

Biran Mertan & Shenel Husnu, Eastern Mediterranean University

Background: The aim of the study was to explore children’s understanding and conceptualization of enemy in contexts defined by conflict and war in addition to providing evidence of age- and gender-related differences.

Method: One hundred fifty-two Turkish Cypriot children aged 7-(n = 39, mean age = 7.2, SD = .76; 21 girls and 18 boys); 9- (n = 54, mean age = 9.23, SD = .71; 27 girls and 27 boys); 11-(n = 32, mean age = 11.23, SD = .63; 12 girls and 20 boys) and 13-years (n = 27, mean age = 12.72, SD = .57; 15 girls and 12 boys) were included. Their “enemy” conceptualization and “enemy” images were assessed using a free association task, a drawing task, and a questionnaire. Each task offers a unique look into the child’s enemy conception. Free association task measures emotional and conceptual reactions, drawings offer a visual ‘non-verbal’ image of the ‘enemy’ concept and the interview provides a measure of their level of understanding.

Findings: Turkish Cypriot children have well-defined, concrete representations of the enemy, which change with age. Increases in age were related to more positive conceptualizations of the enemy, indicating more abstract thinking skills with maturity. Girls showed evidence of advanced emotional expressiveness in enemy conceptualization, making more reference to the character of an enemy compared with boys.

Discussion: The likely influence of being raised in contexts of war and conflict such as Cyprus are discussed.

3487

EMPIRICAL PAPER

A unified approach to prejudice: The role of threatened identity principles in Islamophobia

Samuel Fairlamb & Marco Cinnirella, Royal Holloway, University of London

Background: Anti-Islamic sentiment is a continuing concern for intergroup relations in the UK. The perceived cultural clash of Islam/British ideologies and the more contemporary terrorism threat have been argued to make Islamophobia sufficiently unique as to require a theoretically diverse approach to understanding its antecedents. Our research establishes a unified approach to understanding the antecedents of Islamophobia in the UK, deploying elements from Social Identity, Intergroup Threat and Identity Process Theory, to construct a unified theoretical lens that considers the role of threatened identity principles in prejudice.

Methods: 197 British non-Muslim participants took part in an online survey measuring: British identity; prejudice towards Muslims; realistic and symbolic threats; and threatened identity principles (derived from Identity Process Theory). Data were analysed using mediation analyses

Findings: As predicted, symbolic and realistic threat mediated the relationship between national identification and threatened identity principles, and these different types of threat threatened different identity principles, with the amount of variance explained typically > 60%.
**Discussion:** These findings contribute to the understanding of how different theoretical perspectives on intergroup relations can be reformulated within an integrated framework, and thus speak to wider issues than just Islamophobia. This study also joins the effort of other researchers to operationalise ideas from Identity Process Theory and consider this theory’s contribution to understanding the social-psychological antecedents of contemporary prejudices.