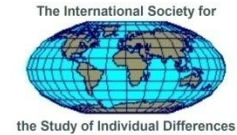


Papers ISSID 2011



Paper Session on Working Memory: Mon 25th, 14:00-14:50

Chair: Roberto Colom: CLARKE HALL

1. **Executive Control, Primary Memory Capacity, and Relational Integration: Which Accounts for g ?**

Edward Necka, Adam Chuderski, Maciej Taradaj, Tomasz Smolen (edward.necka@uj.edu.pl) from Jagiellonian University, Krakow, Poland

The g factor is still enigmatic concerning its neural and cognitive basis. It has been shown that g is closely related to working memory capacity (WMC), measured with complex span tasks. However, working memory is a very complex structure itself, so explaining g with WMC seems like an attempt to replace one mysterious construct by another one. In our research, we tested three aspects of working memory that proved their relevance to g in previous studies: control of attention, capacity of the so-called primary memory (also known as focus of attention), and relational integration, defined as an ability to form temporary bindings among elements kept in WM. We investigated two samples (N=178 and N=160) with a battery of 11 elementary cognitive tasks and two tests of general intelligence. Adopting the SEM approach, we found that it is solely relational integration ability that accounts for individual differences in g . Forming *ad hoc* mental structures that can be flexibly constructed and deconstructed in WM, as well as combined into relational structures meaningful for the task at hand, seems to be the crucial cognitive mechanism underlying human general intelligence.

2. **The Role of Working Memory Capacity, Intelligence, and Motivation in the Prediction of School Success: ACross-Cultural Comparison**

Heike S. Weber¹, Liping Lu², Jiannong Shi², Frank M. Spinath¹ (h.weber@mx.uni-saarland.de) from ¹Department of Psychology, Saarland University, Saarbruecken, Germany, and ²Institute of Psychology, Chinese Academy of Sciences, Beijing, China

The importance of general intelligence in predicting school success is well documented. Less is known, however, about the role of working memory capacity or about the importance of non-cognitive factors like motivation. Assessing intelligence, working memory capacity and non-cognitive variables in the same empirical study, we aimed at investigating the relative contribution of cognitive (intelligence, working memory) and non-cognitive variables (motivation) to the prediction of school success. Some studies have already confirmed that motivation can contribute over and above cognitive factors to individual differences in school success (e.g., Chamorro-Premuzic et al., 2010; Spinath et al., 2006). So far, all empirical studies in this area are limited to Caucasian samples, giving rise to questions about the generalizability of the findings across different cultural settings. This question will be addressed in the present study through the use of multiple group analyses based on data from 290 German and 150 Chinese primary school children between 9 and 10 years of age.

3. **White matter integrity correlates with individual differences in working memory capacity and executive function CANCELLED! (this slot will be taken by R Sutton, who will present Michael Wu's S18.1 paper instead)**

Miguel Burgaleta¹, Francisco J. Román¹, Jesús Privado², Sergio Escorial², Jason Stein³, Kenia

Martínez¹, Juan Álvarez-Linera⁴, Paul M Thompson³ and Roberto Colom¹ (miguel.burgaleta@uam.es) from ¹Universidad Autónoma de Madrid, Spain, ²Universidad Complutense de Madrid, Spain, ³Fundación CIEN-Hospital RuberInternacional, Madrid, Spain, ⁴Laboratory of Neuro Imaging, LONI, UCLA, Los Angeles, USA

Research aimed at relating working memory capacity (WMC) with white matter integrity is arguable for several reasons: 1) reduced number of tasks; 2) lack of consensus regarding the appropriate tasks, and 3) many studies comprise small samples of non-healthy subjects. Here we analyze a sample of 102 young adults (58 women, mean age = 19.83, SD = 1.64) who underwent MRI acquisition and extensive cognitive assessment. Six well-known tasks were used for comprehensively measuring working memory and executive functioning: reading span, computation span, dot-matrix, 2-back, letter-memory, and keep track. White matter integrity indices were estimated from diffusion tensor MRI, applying state-of-the-art algorithms for image post-processing. Resulting p-maps (3D images of p values across the brain) were corrected for multiple comparisons ($P < .05$). Only computation span and keep track were significant: computation span scores were positively related to WM integrity in bilateral association tracts, whereas keep track correlated with anterior and posterior regions of the corpus callosum. Therefore, white matter integrity is relevant for working memory capacity and executive function, but they appear to be supported by different functional networks.

Paper Session on The Self and Self-efficacy: Mon 25th, 14:00-14:50

Chair: Frank Spinath: DRAMA STUDIO

4. **Social sensitivity moderates dysfunctional effects of histrionic self-presentation**
Karl-Heinz Renner (karl-heinz.renner@fernuni-hagen.de) from Fern University of Hagen

The histrionic self-presentation style is characterized by explicit "As-If-behaviours" in everyday interactions, e.g. parodying of others, jokes, performing "dramatic scenes". Histrionic self-presentation may lead to dysfunctional effects because it remains open as to whether interaction partners will appreciate or reject ambiguous actions like transforming daily situations into dramatic scenes. To avoid dysfunctional effects histrionic self-presenters should be sensitive to nonverbal cues of their audience that indicate appreciation or rejection. Thus, we hypothesized that social sensitivity moderates possible dysfunctional effects of histrionic self-presentation. This hypothesis was tested in a study with 100 participants. The histrionic self-presentation style was assessed by a questionnaire, in an interview and in several role plays (e.g. being participant in a talk-show). The functionality and dysfunctionality of the self-presentational behaviours in the interview and the role plays were rated by two observers. Social sensitivity was assessed by the subscale "Sensitivity to Expressive Behaviours of Others" of the Revised Self-Monitoring Scale. The presentations of subjects who scored high on both histrionic self-presentation and social sensitivity were rated as less dysfunctional compared with participants high on histrionic self-presentation but low on social sensitivity. This result argues for the joint consideration of self-presentation and social intelligence.

5. **Advances in self-estimates of intelligence research**
Josephine Storek (josephine_storek@hotmail.com) from University College London

This talk summarises a recent thesis on the determinants of gender differences in self-assessed abilities. In particular, it concerns the determinants of hubris-humility effect, i.e. male overestimation and female underestimation of abilities on the domain-masculine intelligence type. Several studies, including surveys, online experiments, and interventions, assess the relative importance of gender, IQ, and personality variables as determinants of over- and under-estimations of cognitive ability by women and males. The results are discussed in the context of social psychological and individual difference theories of self-estimates ability. Applied and theoretical implications are discussed.

6. **Using KAPA model for assessing self-efficacy in social situations**
Domenico Calarco and Lisa Di Blas (diblali@units.it) from Department of Psychology, University of Trieste, Italy

The *Knowledge and Appraisal Personality Architecture* (KAPA) model (Cervone, 2004) combines idiographic and nomothetic assessment strategies for identifying intra-individual, cross-situational coherent patterns in self-efficacy appraisals. Our study followed the KAPA assessment procedure and examined how self-efficacy levels in 16 social situations vary as a function of (a) subjective relevance levels of the social situations to schematic, but not to aschematic personality strengths and weaknesses; (b) subjective importance and pleasantness levels of the same 16 social situations; and (c) possible interactions between situational relevance of schematic characteristics and importance and pleasantness. Participants were 130 students who completed both open-ended and self-rating personality assessment instruments. Results showed that self-efficacy mean levels (a) significantly varied depending on subjective situational relevance for schematic personal qualities only, with self-efficacy levels gradually increasing as a function of increasing situational relevance to schematic attributes that were helpful for the situations; (b) they also increased as a function of increasing subjective importance and pleasantness levels of the social situations; and (c) they were higher when schematic helpful strengths vs. hindering weaknesses were subjectively relevant in unpleasant situations. Our findings support the validity of the KAPA model for personality assessment.

Paper Session on Empathy, Aggression, and Anti-social Behaviour: Mon 25th, 14:00-14:50
Chair: Vincent Egan; JEFFREY HALL

7. **The Empathy-Alexithymia Model of Anti-Social Behaviour**
Eamonn Ferguson (eamonn.ferguson@nottingham.ac.uk) and Mary McMurran from University of Nottingham

The balance between empathic traits (perspective taking and empathic concern) has been related both to pro-social and anti-social behaviour. Recently, Ferguson (in press) suggested that alexithymia should moderate the effect of empathy on pro- and anti-social behaviour. That is, empathy offers the capacity to exploit or help, which function is adopted, it is argued, depends on the development of social norms. As alexithymia is linked to a reduced ability to learn from losses and social sanctions, high alexithymia should be associated with 'exploitative' empathy and low alexithymia with 'altruistic' empathy. One prediction from this model is that as the tendency towards anti-social behaviour increases, the association between empathic traits and alexithymia should cross-over from negative to positive. This hypothesis is tested using a sample of 318 undergraduates and 92 prisoners. These were

graded for anti-social behavioural tendency in terms of a diagnosis of definitive anti-social personality disorder (ASPD), potential ASPD and no ASPD. Results supported the prediction. The associations between empathic traits (Davis' IRI) and alexithymia (TAS-20) were negative for the non-ASPD group, orthogonal for the potential ASPD and positive for the definitive ASPD group. Implications for why traits are correlated and the development of anti-social behaviour are discussed.

8. **Empathy-driven transmission of cortisol stress response**

Robert Miller (miller@biopsych.tu-dresden.de) from Chair of Biopsychology, Dresden University of Technology, Germany

Various physiological parameters have been shown to covary in social cognition. As this covariation has often been assumed to be due to empathy-related processes (e.g. Levenson&Ruef, 1992; Lundqvist, 1995; Singer et al., 2004), the purpose of the presented study was to extend previous findings to cortisol stress responses (CSR). Therefore CSR were induced via the Trier social stress test (TSST; Kirschbaum, Pirke&Hellhammer, 1993) in a sample of 40 couples: While one partner was exposed to the TSST, the other partner observed the situation from an adjacent room. Salivary cortisol was measured in both partners before and after the TSST. Furthermore trait empathy was assessed via self-report scales. Results indicated two major findings: (1) Approximately 50% of all observers exhibited CSR which correlated significantly with the CSR of their partners and (2) trait empathy explained a significant amount of CSR variance within this subsample. Thus first evidence for empathy-linked hypothalamic-pituitary-adrenal axis functioning is provided and discussed in terms of its contribution to our understanding of emotional contagion and empathy.

9. **On 'turning the other cheek': Initial opponent restraint reduces the relationship between individual differences in sensitivity to provocation and provocation induced aggressive behavior**

Claire Lawrence (claire.lawrence@nottingham.ac.uk) from University of Nottingham

Individuals who are sensitive to provocation, as measured using the Situational Triggers of Aggressive Response (STAR) scale (Lawrence, 2006) typically interpret others' behavior to be more provoking and aggressive (Lawrence & Hodgkins, 2009). However, to-date, no work has examined whether this sensitivity also increases actual aggressive behavior in response to provocation. This paper presents the findings of standard (N = 68) and adapted (N = 80) forms of the Taylor competitive reaction-time task (TCRT), where the level of white noise administered by participants to a fictitious opponent in a competitive task is the indicator of aggressive behavior. Across both forms of TCRT, sensitivity to provocation predicted the level of noise administered after, but not prior, to opponent provocation. In the standard TCRT, higher sensitivity to provocation (but not frustration) resulted in increased aggression as provocation increased. In the adapted TCRT, in the initial trials the opponent refrains from delivering a noise blast despite having the opportunity to do so, but subsequently increases noise levels over the course of the task as in the standard TCRT. This initial 'restraint' results in those sensitive to provocation acting aggressively only under high opponent provocation. These effects remain after controlling for participants' trait aggression.

10. **What a Difference a Rater Makes: Rater-Method Variance and Conscientiousness-Work Performance Correlations**

Arthur Poropat (arthur.poropat@griffith.edu.au) from Griffith University, Australia

Conscientiousness has been demonstrated to reliably predict workplace performance, but previous research has relied almost exclusively on self-other correlational designs, which may inadvertently reduce observed correlations. However, these have been preferred because the main alternative, obtaining ratings of multiple measures from the same source, raises concerns about common-method variance and associated bias. To address these problems, a structural equation modeling analysis of meta-analytic, multitrait-multirater data was conducted to estimate construct-level correlations of conscientiousness with performance. Construct-level correlations were substantially greater than scale-corrected self-other correlations of conscientiousness with overall performance and citizenship performance. Despite substantial method variance, self-self correlations provided the most accurate estimates of construct-level correlations. Implications for understanding the relationship between conscientiousness and performance, especially citizenship performance, are discussed. Reviewers should reconsider what rating methods are appropriate for specific questions, and researchers should use a broader range of sources when estimating construct-level relationships.

11. **Do women want anything different in their careers to men? A psychometric analysis based on Schein's career anchors**

Nigel Guenole^{1,2}, Chris Parry², Tomas Chamorro-Premuzic¹, Gorkan Ahmetoglu¹ and Rachel Lewis³ from ¹Goldsmiths, ²Kenexa and ³Kingston University

Schein's career anchors is one of the more widely used instruments for assessing the career interests of men and women in industry. It is surprising then to see so little empirical evidence on the factor structure of the Career Anchors model. To address this research gap, we applied the new exploratory structural equation modeling technique using Mplus to a data set of over 6,000 responses to Schein's career anchors, and found that aspects of the purported factor structure is not empirically supported. This has important implications for feedback, as any feedback given could relate to constructs and dimensions that are either poorly measured, or worse, do not exist. We present a new structure for Schein's career anchors that is empirically supported, and describe measure equivalence analyses we conducted prior to looking at latent mean differences by gender. Implications of observed differences for phenomena such as the glass ceiling and the lack of women in leadership roles in business are offered.

12. **Why do we trust a leader? Personality perception, projection, and contrast effects**

Reinout E. de Vries (re.de.vries@psy.vu.nl) from VU University Amsterdam

Trust in one's leader has been associated with a number of positive organizational and employee outcomes, but there have been surprisingly few studies looking into personality predictors of trust in a leader. The few studies that have looked, more generally, into the relation between personality and interpersonal trust have found a positive relation between Big Five Agreeableness and interpersonal trust, but there are no studies that have investigated the relation between leader personality and trust in one's leader. In this study, the relation between employee personality, leader personality (as perceived by an

employee) and trust in one's leader is investigated using the HEXACO model. Based on a sample of 120 employees from different organizations, perceptions of a leader's Honesty-Humility and Extraversion were found to be the most important predictors of trust. There was, neither in self- nor in other-ratings, any evidence of a relation between Agreeableness and trust. Surprisingly, Honesty-Humility was negatively related to trust in one's leader in self-ratings, suggesting a contrast instead of a projection effect. Findings are discussed in the light of recent findings on the assumed similarity in self- and other ratings of Honesty-Humility.

Paper Session on Individual Differences in Clinical and Health Contexts, Tues 26th, 16:05-18:00

Chair: Alan Pickering: ELVIN HALL

13. Individual Differences and Obesity: A Cognitive Epidemiology Study

Gregory S. Ryan, Alexander Beaujean, Christine A. Limbers, Rodney Bowden (Alex_Beaujean@Baylor.edu) from Baylor University

Using data from two waves of the National Longitudinal Study of Adolescent Health ($n = 14,322$) (Udry&Bearman, 1998), we examined the relationship between personality (neuroticism, extraversion, & conscientiousness) and cognitive ability with obesity incidence. Personality, cognitive ability, and related variables (i.e., SES, sex, parental education) were measured when the respondents were adolescents, while obesity and other related covariates (i.e., weekly exercise, fast food consumption, hours viewing television) were measured approximately 15 years later when the respondents were young adults. Preliminary results indicate that cognitive ability has a direct negative relationship with obesity incidence, while extraversion, sex and weekly fast food consumption all had negative indirect relationships. Specifically, low extraversion (i.e., introversion) and fast food consumption, and being female all predicted more solitary types of exercise (e.g., walking, running, aerobics), which was related to a lower probability of obesity.

14. The Interplay between Personality, Childhood Emotional Maltreatment, and Romantic Relationships in Young Adulthood

Dana Lassri (danalassri@gmail.com) from Department of Psychology, Ben-Gurion University of the Negev, Israel

Trait self-criticism, characterized by elevated self-standards and self-punitive stance, has recently been exemplified as a mediator in the relationship between childhood emotional maltreatment (CEM; abuse, neglect) and adulthood psychopathology. However, research to date has not examined this mediation in the context of romantic relationship quality.

Thus, in the current investigation, we examined the hypothesized mediating role of self-criticism in the vicious link between CEM and impairments in young adults' romantic relationships. In two studies, undergraduates ($Ns = 91, 99$, respectively) reported CEM, self-concept and personality (self-criticism, dependency, self-efficacy, dissociation and transliminality), romantic relationship quality (satisfaction, intimacy, commitment, and perceived-efficacy), and psychological distress (general BSI psychopathology and PTSD severity). Structural Equation Modeling analyses were performed. Consistent with hypotheses, self-criticism was demonstrated to serve as a formidable mediator, even in the presence of a host of personality and psychopathology variables. CEM was strongly and consistently, associated with elevated self-criticism, which, in turn, was associated to broad based impairment in romantic relationships.

Self-criticism, a key self-definition vulnerability factor, might be viewed as a form of internalized, self-maltreatment, consolidated during childhood and adolescence, and

derailing romantic relationships in young adulthood. Implications for counseling with undergraduates, presenting difficulties in romantic relationships, are discussed.

15. **Effects of Reinforcement Sensitivity Theory Traits on Response to Cognitive Behavioural Therapy for Social Anxiety Disorder**

Corina Ly and Rapson Gomez (ccly@utas.edu.au) from University of Tasmania, Australia

This study investigated whether the traits proposed by Reinforcement Sensitivity Theory (RST) moderate the effects of cognitive behaviour therapy (CBT) in a sample of 16 participants (M=41.82 years, SD=8.50) with clinical or sub-clinical levels of social anxiety. All participants completed a structured CBT program and outcome measures including measures of social interaction anxiety (IA) and observation anxiety (OA). RST traits were measured using the BIS/BAS Scale (Carver & White, 1994) and the Sensitivity to Punishment and Sensitivity to Reward Questionnaire (Torrubia et al., 2001). Regression analyses revealed that both BIS anxiety and BIS total scores moderated CBT effects for IA scores. Individuals with lower BIS scores responded better to treatment. Also, BAS Reward-Responsiveness and BAS Drive moderated CBT effects for OA scores, with lower scores relating to better treatment outcome. Sensitivity to Reward (SR) was also found to moderate CBT outcomes for both OA and IA. In both outcomes, individuals with lower SR scores responded better to treatment. This study is the first to provide evidence that BIS and BAS traits can inform predictions of CBT treatment outcome for social anxiety.

16. **Psychiatric Literacy and the Personality Disorders**

Adrian Furnham from University College London

Past literature suggest mental health literacy among the general public is lamentably poor. This paper reports on four studies which all aimed to examine the effect of demographics, knowledge of psychology and psychiatry, and experience of mental illness as predictors for understanding and recognizing personality disorders from vignettes descriptions. A first, opportunistic sample of 187 participants with a mean age of 28 completed an on-line questionnaire evaluating vignettes of 10 personality disorders. The results revealed major differences between the personality disorders in terms of both recognition and identification and perceived adjustment. The results showed that those who were female, older and had experienced a mental health problem were more accurate and mental health literate. A similar study on a different sample confirmed most of the above results. Two other studies looked at lay knowledge of very specific illnesses: Psychopathy and Borderline Personality Disorders. People seem surprisingly ignorant about the aetiology, behavioural manifestations and cure of the various personality disorders.

17. **Personality and Polysubstance Use**

Gordon Barnes, Mikael Jansson and Tim Stockwell (gbarnes@uvic.ca) from Centre for Addiction Research of B.C.

Personality characteristics play an important role in predicting substance use patterns and particularly substance abuse. The Addiction Prone Personality (APP) test can discriminate drug addicts from non-addicts, predict increases in alcohol abuse over time, and the likelihood of remission during recovery. The current investigation reports on data from a longitudinal study called the Healthy Youth Survey that has been ongoing since 2003. Youth in this general population sample have been interviewed every two years. The initial sample of 766 participants were aged 12-18 at first interview. The third wave of this data collected in 2007 included the Addiction Prone Personality test and the cross-sectional analysis

showed that the APP predicted both directly and indirectly the occurrence of concurrent and simultaneous substance use patterns in youth. The current investigation reports longitudinal findings and is based on the 461 participants who responded in the fourth wave conducted in 2010 when youth were aged 19-25. The strength and significance of the longitudinal relationships between the APP, other demographic and social risk and protective factors and concurrent and simultaneous substance use patterns are reported.

18. **Drinking expectancies and perceived impaired control mediate the influence of reward drive and rash impulsiveness on alcohol use**

Rachel Y Kabbani and Nicolas Kambouropoulos (ryk@deakin.edu.au) from School of Psychology, Deakin University, Australia

Research has consistently identified an association between the personality trait of impulsivity and alcohol use. Based on Eysenck's conceptualization, impulsivity has traditionally been defined as rash behaviour devoid of forethought. Alternatively, Reinforcement Sensitivity Theory posits that impulsivity reflects individual differences in sensitivity to the reinforcing effects of rewarding stimuli. As such, highly reward-sensitive individuals may be particularly responsive to the rewarding properties of alcohol and therefore more likely to drink excessively. Comprising reward drive (i.e., reward sensitivity) and rash impulsiveness (i.e., Eysenck's conceptualization), a two-factor model of impulsivity with regard to substance use was recently proposed; however, the cognitive mechanisms underlying the influence of impulsivity on alcohol use have yet to be examined. It is proposed that drinking expectancies and perceived impaired control are two such mechanisms that may explain the distinct association of each impulsivity factor with alcohol use. To investigate this, 132 participants aged 18 to 70 were surveyed. It was predicted that drinking expectancies would mediate the relationship between reward drive and alcohol use, and that perceived impaired control would mediate the effect of rash impulsiveness on alcohol use. The hypotheses were supported, suggesting that the two dimensions of impulsivity influence alcohol use through distinct cognitive processes.

19. **"Seeing" words that are not there: The effects of hallucination-proneness on visual search under different probability conditions**

Elias Tsakanikos¹ and Nicolina Spatuzzi² (elias.tsakanikos@kcl.ac.uk or Elias.Tsakanikos@roehampton.ac.uk) from ¹Department of Psychology, Roehampton University and Institute of Psychiatry, King's College London; ²Institute of Psychiatry, King's College London

The present study investigated the role of uncertainty and hallucination-proneness in the generation of laboratory-induced false perceptions in a large student sample (N= 170). We employed a visual search task of fast moving words and a within-subject design with words being presented at three probability levels: low (.25), medium (.50) and high (.75). All participants also completed a number of self-report measures assessing hallucination-proneness, social desirability and sub-clinical characteristics. The order of the experimental task and the self-report measure were counterbalance across the participants. The results showed that probability levels had an effect on both accuracy (+) and false perceptions (-) of words. However, hallucination-proneness was associated with generation of false-perceptions only under low probability levels. The effect was independent of accuracy, social desirability, task order and other sub-clinical characteristics. The findings are discussed in terms of putative cognitive/perceptual biases underlying hallucination-like experiences in non-clinical populations.

20. **Functional Brain Basis of Dysfunctional Impulsivity in Healthy and Psychotic Individuals: A Functional MRI Investigation**

Kumari V¹, Raghuvanshi S², Barkataki I¹, Sumich A¹, Taylor P³, Williams S¹, Das M⁴ from ¹King's College London; ² Imperial College, London; ³ Cardiff University, Cardiff; ⁴ Broadmoor Special Hospital, Berkshire

Dysfunctional impulsivity reflects 'recklessness without deliberation and evaluation of consequences' and has negative consequences whereas functional impulsivity reflects 'a fast responding to situational demands in order to maximise one's circumstances' and often has positive consequences (Dickman, 1990, J Person Soc Psychol). In this study we investigated functional brain basis of dysfunctional impulsivity in healthy and psychotic individuals.

Methods: Thirteen controls and 21 schizophrenia patients (10/21 with repetitive violence) underwent fMRI during a Go/ NoGo task. Dysfunctional impulsivity was indexed using the Impulsiveness subscale and functional impulsivity using the Venturesomeness subscale of the Impulsiveness-Venturesomeness-Empathy questionnaire (Eysenck et al. 1985, Person Indiv Diff).

Results: Violent patients had elevated Impulsiveness relative to non-violent patients and controls. Impulsiveness, but not Venturesomeness, correlated during the NoGO condition with lower anterior cingulate (AC) activity in controls, and lower inferior temporal and hippocampal activity in patients.

Conclusions: These findings, combined with our earlier observations of reduced hippocampal volume with high dysfunctional impulsivity in schizophrenia and reduced AC activation during a cognitive task in violent antisocial individuals, suggest that the influence of dysfunctional impulsivity in antisocial behaviour may be mediated via deficient functions of the AC and hippocampus.

Paper Session on Competence beyond IQ: Creativity and the Intelligence-Personality Interface, Tues 26th, 16:05-18:00

Chair: Richard Roberts: DRAMA STUDIO

21. **Experience-Producing Drive Theory: Do Cognitively-Stimulating Activities Mediate the Relationship Between Openness to Experience and Intelligence?**

Jason T. Major¹, Wendy Johnson^{1,2} and Thomas J. Bouchard, Jr.²(J.T.Major@sms.ed.ac.uk) from ¹The University of Edinburgh and ²The University of Minnesota-Twin Cities

Experience-Producing Drive (EPD) Theory states that the genetic influence on behavioral traits works through the formation of drives, which can be defined as "evolutionarily selected sensitivities to ubiquitous features of environments" (Bouchard, Lykken, Tellegen, & McGue, 1996, p. 29). EPD theory thereby conflicts with the view that genes have direct effects on intelligence through broad influences on brain structure. The two theories are difficult to distinguish, however, because if EPD theory is correct, the gene-environment interdependence that EPDs create cannot be detected by current-day behavioral genetic models (Johnson, 2010). Another possibility for testing EPD theory is to use an observed variable as a proxy for an EPD and to determine whether and how it relates to its target trait. Recently, Soubelet and Salthouse(2010) hypothesized that Openness to Experience, a trait that involves intellectual curiosity, would lead people to undertake more cognitively stimulating activities, and these activities would lead to an increase in measured intelligence. Soubelet and Salthouse did not find a significant mediating relation (although cf. Raine, Reynolds, Venables, & Mednick, 2002 on stimulation seeking). The present study re-examines this mediation using more extensive measures of activities and Openness, gathered from the Minnesota Study of Twins Reared Apart.

22. **Are dynamic decision making and implicit learning useful complements for IQ?**
Daniel Danner (daniel.danner@psychologie.uni-heidelberg.de) from University of Heidelberg

Dynamic decisions are made in complex, connected, non-transparent, and dynamic environments. Furthermore, implicit learning takes place without intention and awareness and allows to make correct decisions based on a person's gut feeling. In our research, we investigated (1) whether there are individual trait differences in dynamic decision making and implicit learning beyond IQ and (2) whether these differences can incrementally predict professional success. N=173 employees from different companies and occupational groups completed two standard intelligence tests, two dynamic decision making tasks and two implicit learning tasks at two measurement occasions. We used structural equation models to test latent-state-trait measurement models and the relation between the constructs. The results suggest (1) that there are substantial relations between general intelligence, dynamic decision making, and implicit learning. However, there are also individual trait difference in dynamic decision making and implicit learning beyond IQ. (2) General intelligence is the best predictor for income, social state, and educational attainment and there is no incremental predictive value for dynamic decision making and implicit learning. However, dynamic decision making can incrementally predict supervisor ratings.

23. **Confidence, Competence, Arrogance and Rigidity: Metacognition, its links to personality, thinking dispositions and cognition**
Sabina Kleitman (sabinak@psych.usyd.edu.au) from University of Sydney

We shall report the outcomes of two studies (Total N=396) in which metacognitive processes that take place during test-taking were assessed. An extensive battery of different thinking dispositions measures relating to the way in which people deal with uncertainty was employed together with measures of personality and self-concepts. Confirmatory Factor analysis produced five factors at the first order: Need for Structure, Outward (Overly) Assured Decisiveness, Rigid Thinking, Openness and Metacognitive Beliefs. At the second order of we obtained three broad factors. One of these reflects Cognitive Competence - a broad factor with loadings from measures of both ability and metacognition, with the other two broad factors, Rigid Thinking and Arrogance. The Rigid Thinking factor correlated negatively with the Cognitive Competence factor, while the Arrogance factor shared no relationship with it. Our results also suggest that Self-confidence is a genuine psychological trait reflecting metacognitive processes that take place during decision-making in test-taking situations and shares important links with both, people's metacognitive beliefs about the quality of their cognitive abilities and their actual cognitive abilities. Overall, these results contribute to an improved understanding of the cognitive/personality taxonomy and of the role of key metacognitive processes involved in test-taking.

- 23a. **Which of four physiological variables explain why neuroticism and reaction time interact synergistically on 7-year cognitive decline among females?**
Gareth Hagger-Johnson (garethhaggerjohnson@googlemail.com) from University College London

In a previous report, neuroticism interacted with slower and more variable reaction times, creating a synergistic risk factor for 7-year reaction time change (cognitive decline) among females in the Healthy and Lifestyle Survey (HALS; 1984 to 1991). This association was

removed after adjustment for four physiological variables: forced expiratory volume in one second (FEV1), Body Mass Index (BMI), diastolic and systolic blood pressure. The aim of the current study was to identify which variables might explain the interaction. Evidence of mediated moderation was found for FEV1, which was associated strongly with cognitive decline ($B = -.55, p < .01$) and partly mediated the association between the neuroticism*reaction time interaction and cognitive decline (indirect $B = -.55, p < .01$) in a well-fitting structural equation model ($N = 2040; \chi^2 = 19.41(13), p = .11, CFI = .996, TLI = .992, RMSEA = .02, SRMR = .01$). One possible explanation is that when neuroticism is high and reaction time is slow, this worsens lung function and accelerates cognitive decline, perhaps involving physical fitness more generally. Given that FEV can be improved following physical activity and lifestyle, this variable may be an important modifiable risk factor for preventing cognitive decline.

24. **Associative abilities underlying creativity**

Mathias Benedek and Aljoscha Neubauer (mathias.benedek@uni-graz.at) from University of Graz, Austria

Empirical approaches to creativity claim that divergent thinking represents a useful estimate for the potential of creative thought. According to theoretical approaches, the ability to fluently retrieve and combine remote associations was suggested to facilitate creative solutions. The present study aimed at linking these two approaches and to examine the validity of various facets of associative ability with respect to divergent thinking and creativity. Four word association tasks were employed to assess the abilities of associative fluency, associative combination, associative flexibility and dissociative ability. The sample comprised 150 students from various studies with and without explicit creativity-related demands. Associative abilities were found to substantially predict divergent thinking above and beyond intelligence and word fluency. Moreover, associative abilities compared favorably to divergent thinking in predicting whether participants pursue studies with specific creativity-related demands. The results especially confirmed the relevancy of associative combination and dissociative ability for the generation of creative thought. It is concluded that specific associative abilities represent relevant elementary cognitive prerequisites underlying creativity.

25. **Individual Differences and Creativity**

Mark Batey (markbatey@mac.com) from Psychometrics at Work Research Group, Manchester Business School

Creativity is of undeniable importance for the advancement of science, technology, business, the Arts and society. Yet, there is a paucity of research in comparison to individual differences in intelligence or personality. This presentation outlines the findings from several different studies that have examined a multitude of indices of creativity in relation to a range of individual difference constructs. The different studies reveal some consistencies in the relationships between individual difference constructs and creativity, but also differences depend on the methods by which creativity is assessed. The implications for the assessment of creativity in applied contexts are considered.

26. **Breaking down the Openness/Intellect domain: A four-factor model and relations with cognition, disposition, and creative achievement**

Scott Barry Kaufman (scott.barry.kaufman@nyu.edu) from New York University

Although Intellect is mixed with Openness in the Big Five model of personality, the two aspects can be studied separately from one another, both neurologically and behaviorally. The current study investigated the differential correlates of Intellect and Openness in a sample of high school students. Factor analysis of a large battery of cognitive and personality measures revealed four factors. Intellect could be broken down into two factors: Explicit Cognitive Ability and Intellectual Engagement. Measures of intelligence, cognitive mechanisms underlying intelligence, and self-rated Intellect loaded on the Explicit Cognitive ability factor. Measures relating to a preference for analytical and logical thinking loaded on the Intellectual Engagement factor. Openness could also be broken down into two factors: Affective Engagement and Aesthetic Engagement. Both factors were related to measures of implicit cognitive processing. Specifically, Affective Engagement was related to reduced latent inhibition and Aesthetic Engagement was related to implicit learning. All four factors also showed differential relations to the rest of the Big Five traits, impulsivity, and creative achievement. The results suggest that Intellect and Openness are related to different types of information processing, supporting the utility of investigating Intellect separately from Openness. The results are discussed within a dual-process framework.

27. **Genetic overlap between self-assessed intelligence, measured IQ and personality**
Denis Bratko (dbratko@ffzg.hr) from Department of Psychology, University of Zagreb, Croatia

Recent studies have shown that self-assessed intelligence (SAI) is correlated with measured IQ and personality, and that both are significant predictors of SAI. In this study we investigated to which extent genetic and environmental influences contributing to SAI, measured IQ and personality are shared, and to which extent they explain their phenotypic relations. Sample included 83 MZ and 173 DZ twin pairs. For SAI participants had to give estimate of their overall intelligence, as well as for verbal/linguistic, logical-mathematical, musical, body-kinesthetic, spatial, interpersonal, intrapersonal, naturalist, spiritual and existential intelligence using normal distribution of intelligence scores. Estimate of overall intelligence (SAI-E) and first factor score for multiple intelligences (SAI-F) were used as measure of SAI. Psychometric intelligence was assessed by Croatian adaptation of subtest of General Aptitude Test Battery measuring verbal ability. Personality was measured with NEO-FFI. When SAI-E was used as a measure of SAI, significant genetic overlap was found with measured IQ and openness indicating that 63% and 82% of their phenotypic correlation is due to shared genetic influences. When SAI-F was used as measure of SAI, genetic overlap was found with neuroticism and openness indicating that their total phenotypic correlation is due to shared genetic influences.

Paper Session on Intelligence/ Cognitive Ability, Tues 26th, 16:05-18:00
Chair: Aljoscha Neubauer: JEFFREY HALL

28. **The bigger they are, the higher they score: Meta-analyzing associations of in vivo brain volume and IQ**
Jakob Pietschnig (Jakob.Pietschnig@univie.ac.at) from University of Vienna, Department of Basic Psychological Research

Positive associations between intelligence and brain size have been already suspected more than 150 years ago (e.g., Tiedemann, 1836). Modern day psychometric assessment tools and sophisticated methods for measurement of (in vivo) brain volume (mainly MRI) now make it possible to investigate this proposed association. In the present study, we present the so far largest meta-analysis on this topic (over three times more samples than previous analyses),

examining correlations of IQ and in vivo brain volume of 79 studies in 139 independent healthy and patient-based mixed-sex samples (6,335 individuals). We demonstrate a moderate association of IQ and brain size ($r = .24$), thus showing a somewhat smaller effect than assessed in previous meta-analyses. Moreover, multiple weighted stepwise meta-regression indicated significantly higher correlations when correlation coefficients were published, when intelligence was assessed by means of a Wechsler-type intelligence test battery, and when the study had been included in the most recent meta-analysis on this topic (McDaniel, 2005), thus indicating confounding reporting bias of effect sizes. The overall association of in vivo brain volume with fullscale IQ seems to be remarkably robust, generalizing over sex, age (adults vs. children), and sample type (patients vs. normals).

29. **Consistency of Intelligence in the Brain**

Roberto Colom¹, Miguel Burgaleta¹, KeniaMartínez¹, Francisco J. Román¹, Juan Álvarez-Linera², M^a ÁngelesQuiroga³, Pei Chun Shih¹, Sergio Escorial³, JesúsPrivado³ from ¹Universidad Autónoma de Madrid, ²Fundación CIEN-RuberInternacional, ³Universidad Complutense de Madrid

Several reservations are raised when looking down at the brain correlates of individual differences in intelligence. Replication problems are usually attributed to the nature of the considered samples, scanning protocols, imaging analyses, and so forth. However, replication is crucial in science. Available summaries (e.g. Jung & Haier, 2007) are necessary but insufficient. Here we analyze two independent samples of young adults comprising thirteen participants each ($N = 13 + 13$). Both samples are matched by age, sex, handedness, and, importantly, they show exactly the same profile scores on verbal (verbal reasoning, DAT-VR) and non-verbal (advanced progressive matrices, APM) intelligence measures. Structural images were obtained by the same scanning protocol using identical machines. Conjunction analyses were computed for finding the gray matter correlates (voxels with correlations in common for the covariates of interest) of the two intelligence measures in both samples controlling for total gray matter. At $p < .0001$ uncorrected for multiple comparison, results showed little overlap after the four computed global conjunctions. The main findings suggest little consistency of intelligence in the brain, underscoring its probable dynamic and complex nature.

30. **Intelligence is more than working memory capacity: an experimental study**

Dirk Hagemann (dirk.hagemann@psychologie.uni-heidelberg.de) from University of Heidelberg

Empirical evidence suggested a great positive associations between measures of intelligence and working memory capacity, which suggested to some researchers that intelligence is not much more than working memory. Because this conclusion is based on correlation analysis, a causal relationship cannot be inferred. The aim of the present study was to experimentally analyse this relationship. $N = 60$ subjects completed items of the Advanced Progressive Matrices (APM) while simultaneously working on one of four secondary tasks. These tasks were standard procedures designed to load specific components of the working memory system, such as the phonological loop, the visual sketchpad, and the central executive, in addition to one control task. There was a deteriorating effect of loading the central executive on the APM performance, which could explain 15% of the variance of the APM score and 9% of the variance of APM reasoning time. These findings suggest a causal effect of working memory functioning on intelligence test performance, but the effect sizes also suggest that working memory capacity is not the only factor that may explain individual differences in general intelligence.

31. **Why is Intelligence So Deeply Insinuated in Social Inequality? Total Evidence Rule Forces Opposing Explanations to Compete Head-On**

Linda S. Gottfredson (gottfred@udel.edu) from University of Delaware

I show how the Total Evidence Rule can adjudicate between competing explanations of why the wide dispersion in human intelligence is related so consistently and substantially to so many forms of socioeconomic inequality in modern life. The evidence on these matters extends deep into the genetics and physiology of human traits, up through the psychometrics and pragmatics of human performance in diverse life settings, into the social institutions designed to foster talent and fairness, and outward to the occupational division of labor and other worldwide cultural regularities.

The Rule forces competing explanations—here, the “functional tool” and “social privilege” theories—to confront the *entire* network of evidence, not just selected parts. I use a sociological life-course model of life attainments to summarize the replicated (1) patterns in the phenotypic and genetic correlations between *g* and socioeconomic outcomes at successive life stages and (2) results of social interventions aimed at weakening the links between cognitive ability and social outcomes. I then hold this empirical pattern up against the assumptions, claims, and predictions of the two theories to judge their relative coverage of replicated phenomena, internal consistency and theoretical coherence, and accuracy in predicting non-obvious outcomes.

32. **Sex Differences in *g*: An analysis of the US standardization sample of the WAIS-III**

Paul Irwing (paul.irwing@mbs.ac.uk) from University of Manchester

This study employed both hierarchical and Bi-factor multi-group confirmatory factor analysis with mean structures (MGCFA) to investigate the question of whether sex differences are present in the US standardization sample of the WAIS-III. The data consisted of age scaled scores from 2,450 individuals aged from 16 to 89 years. The findings were more or less uniform across both analyses, showing a sex difference favoring men in *g* (0.19 - 0.22d), Information (0.40d), Arithmetic (0.37 - 0.39d) and Symbol Search (0.40 - 0.30d), and a sex difference favoring women in Processing Speed (0.72 - 1.30d).

33. **The Development of Cognitive Abilities over a Lifespan of 40 Years: Findings from the Longitudinal MAGRIP-Study in Luxembourg**

Daniela S. Schalke (daniela.schalke@uni.lu) from University of Luxembourg

Cognitive abilities become increasingly stable throughout childhood and show high stability even into late adulthood. However, only very little is known about the long-term stability of cognitive abilities because very few studies tracked individuals across time spans of more than twenty years. The present paper therefore investigates the developmental dynamics of general (*g*) and specific cognitive abilities over a time period of 40 years. Data were obtained from a representative sample of 374 persons (54.5% female) who participated in the longitudinal MAGRIP-study that encompassed two waves of data collection when people aged 12 and 52 years, respectively. The participants completed the same standardized intelligence test at both times of measurement. Longitudinal confirmatory factor analyses showed that the structure of cognitive abilities remained fairly stable across time. On average, *g* and specific abilities increased substantively from age 12 to age 52 years. Moreover, the rank order stability of both persons' general and specific abilities was very high across time. Further, *g* and specific verbal ability demonstrated greater differentiation

in adulthood compared to childhood whereas the heterogeneity of specific visual-spatial and specific mental speed did not increase. Implications of our findings are discussed.

34a. **Cognitive Ability Testing and Adverse Impact in Selection: Meta-analytic Evidence of Reductions in Black-White Differences in Ability Test Scores Over Time**

Stephen A. Woods, Claire Hardy, and Yves R. F. Guillaume (s.a.woods@aston.ac.uk) from Aston Business School, Aston University, Birmingham, UK

Ethnic differences in cognitive ability test (CAT) performance were examined meta-analytically in this study, to better understand issues of adverse impact in organizational assessment of ability. The primary purpose was to test a cultural/developmental theory of differences in CAT performance, which proposes that such differences arise because of educational, social, and economic inequality between ethnic groups, and to challenge a distributional perspective that proposes that such differences are enduring and stable. We focused on comparisons of working-age Black and White test-takers in the US, and identified 91 independent samples. Meta-analyses revealed a narrowing of differences in CAT performance (on tests of general cognitive ability) between Blacks and Whites over successive decades of the late 20th Century, supporting the cultural/developmental theory. We also found moderating effects of sampling, with the magnitude of differences being dependent on whether selection criteria had previously been applied to samples. The most likely explanation of the reduction in Black-White differences is the effect of societal-level changes in attitudes and policies, which have served to promote racial equality and increase opportunity for African Americans. We discuss implications for theory and assessment practice, as well as potential implications for policy.

34b. **Cognitive Capitalism: The impact of ability, mediated through science and economic freedom, on wealth**

Heiner Rindermann¹ and James Thompson² (heiner.rindermann@psychologie.tu-chemnitz.de) from ¹Department of Psychology, Chemnitz University of Technology, Germany and ²Department of Psychology, University College London, UK

Traditional theories of economic growth stress the relevance of political, institutional, economic, geographic and historical factors. In contrast, human capital theories claim that peoples' competences are the deciding factor in achieving technological progress leading to wealth. Using large scale assessments (TIMSS, PISA, PIRLS) cognitive competence sums for N=90 countries were calculated for the mean and the upper level and low level groups and compared for their influence on GDP. Cross-national analyses applied different statistical methods (path analyses, bootstrapping), measures developed by different research groups, for different country samples and historical periods. Additionally, as further indicator of the cognitive ability of intellectual classes the outcomes in International Mathematical Olympiads (IMO) were used. All results underscore the decisive relevance of cognitive ability, particularly of an upper ability group creating an intellectual class with high accomplishment in science, technology, engineering and math (STEM) and which predicts the quality of economic and political institutions, resulting in economic affluence. Cognitive resources enable the evolution of capitalism and the rise of wealth.

Paper Session on Methodological Issues in Personality Assessment, Tues 26th, 16:05-18:00
Chair: Eamonn Ferguson: CLARKE HALL

35. **Does design matter? On the predictive validity of a block vs. a single-block designed Implicit Association Test (IAT)**

Monika Fleischhauer, Sören Enge, Kathrin Rosenzweig, Alexander Strobel and Anja Strobel (fleischhauer@psychologie.tu-dresden.de) from Department of Psychology, Technische Universität Dresden, Dresden, Germany

Recent research accentuates the predictive power of indirect measures such as the Implicit Association Test (IAT) as this measure is assumed to tap into implicit aspects of the individual's self concept and thus provides incremental validity over and above direct self-report measures. Nevertheless, the IAT has not gone without criticism as other factors such as the IAT's block structure are supposed to produce construct-unrelated variance. Therefore, new designs of the IAT such as the Single Block IAT (Teige-Mocigemba, Klauer, & Rothermund, 2008) were developed. However, it has not been systematically tested whether eliminating the IAT's block structure increases its predictive power. Our research contributes to filling this gap. In Study 1 (n=203), an IAT measuring implicit aspects of the personality trait need for cognition (NFC) was observed to be predictive over and above the direct NFC scale especially regarding the more automatic aspects of NFC-related behaviour. In Study 2 (n=120), the predictive validity of the IAT was contrasted with a newly developed single-block IAT (the so-called Moving(M)-IAT). The results showed that both, the IAT and the M-IAT explain variance of NFC-related behaviour, but that the IAT was more contaminated by individual difference variables such as strategy use and verbal intelligence.

36. **Evaluating the construct validity of Implicit Association Tasks using Confirmatory Factor Analysis models**

Susan Thomas and Rapson Gomez (susant@utas.edu.au) from Clinical Psychometric Laboratory, School of Psychology, University of Tasmania (UTas), Tasmania, Australia

The Implicit Association Task (IAT) has been argued to be the premier technique in implicit attitude research. A critical examination of the psychometric properties of this task suggests it is substantially affected by measurement error, which may hinder any efforts to accurately estimate underlying attitudes. The current study examined data from 198 participants who completed four IATs, two priming tasks, and two attitude questionnaires. The IATs measured bias towards either the people of (racial IAT) or countries within (country IAT) the Middle East and Europe. Two of the four IATs were traditional verbal IATs, presenting only word stimuli, and two were non-verbal IATs that displayed only pictorial stimuli. Confirmatory Factor Analysis (CFA) provided support for the internal validity for each of the IATs, except for the verbal racial IAT which was supported marginally. CFA Multitrait-Multimethod (MT-MM) demonstrated that measurement error and method variance pose a threat to the validity of data derived from the IAT. The implications of the findings for understanding current IAT research data, and methodological procedures for future IAT research are examined.

37. **A simple trick for testing and improving the cross-cultural comparability of self-reports**

René Mõttus, Anu Realo, Jüri Allik and 33 Members of the "Comparability of Culture-Level Personality Scores" project (rmottus@staffmail.ed.ac.uk) from University of Tartu, Estonia, & University of Edinburgh, UK

An increasing amount of personality research is being carried out at the cultural level. Such research is based on the assumption that culture-level mean scores of personality traits are comparable. Yet there is evidence suggesting that this may not be the case. For instance, mean self-reported personality scores are not always congruent with objective criteria. One of the possible reasons for self-reports being incomparable across cultures is that people make their subjective judgements in relation to culture-specific standards (often called the

reference group effect; RGE). Although widely acknowledged, the existence and effect of the RGE has rarely been tested in large-scale cross-cultural personality studies. We employed a simple technique called anchoring vignettes for testing whether people from 21 countries have different standards for Conscientiousness, a personality trait that has repeatedly shown unexpected country-level relationships with external criteria. All participants rated their own Conscientiousness and that of the 30 hypothetical persons portrayed in short vignettes, the latter type of ratings expected to reveal individual differences in standards of Conscientiousness. Controlling for the small differences in standards did not substantially change the rankings of countries on mean Conscientiousness scores, lending little support for mean self-rated Conscientiousness scores being influenced by the RGE.

38. **Revisiting Assessments of Personality: Towards Understanding the Structure and Nature of Informant Reports of Personality** **SESSION CANCELLED!**

Jeremy C. Biesanz (jbiesanz@psych.ubc.ca) from University of British Columbia

One of the primary endeavours within personality psychology is to identify the meaningful dimensions along which people differ from each other. Considerable evidence suggests that natural language descriptors of behavior comprise (at least) five broad traits, called the Big Five, or the five factors. Are these five factors the highest dimension reflecting individual differences (e.g., McCrae & Costa, 1999) or are these five factors simply facets of even broader meaningful constructs? Considerable recent research has proposed theoretical and substantively important interpretations for interrelations among the Big Five (e.g., DeYoung, 2006; Rushton, 2009) as well as methodological trivial alternative explanations (e.g., Anusic & Schimmack, Pinkus, & Lockwood, 2009; Biesanz & West, 2004). Following Eid et al.'s (2008) distinction of exchangeable versus non-exchangeable methods, the present study examines informants that have minimal overlap with their observations of participants (i.e., are non-exchangeable) as well as informants that share considerable overlap (i.e., are exchangeable). Estimates from multi-trait, multi-method analyses of the relationship among broad personality factors reveals that (a) higher order factors are largely a function of exchangeable informants and consistent with shared biases, and (b) psychological adjustment, broadly construed, fully accounts for interrelationships among the big five across relatively non-exchangeable informants.

39. **Determinants of Consensus in the Judgment of Teachers' Personality at Zero Acquaintance**
Johanna Pretsch (pretsch@uni-landau.de) from University of Koblenz-Landau

When studying teachers' personality, information from self-report is often not available or might be subject to bias. One possibility to overcome these problems is to use personality ratings based on thin slices of behavior at zero acquaintance. Given acceptable consensus among judges about the teachers' traits, these ratings can provide a useful approach to assess personality. But how can consensus be increased to an acceptable level? Establishing a shared meaning system about the traits to be judged by giving trait descriptions and holding judges accountable for their ratings may increase consensus.

In the present study, judges saw 6s video clips of teachers and rated each teacher on the facets of the Big Five. In a 2 x 2 factorial design, judges were provided/ not provided with facet descriptions and were held/ not held accountable for their ratings.

For neuroticism, accountability had a positive effect on consensus, but only when descriptions of the neuroticism facets had been given. Inversely, when judges had received facet descriptions for openness and agreeableness, negative effects of accountability on consensus were revealed. High consensus under all conditions was found for extraversion and conscientiousness. Differences in observability and evaluativeness of the traits may

explain these findings.

40. **Of monkeys and men: Do personalities of raters influence ratings of rhesus macaques?**

Alexander Weiss (alex.weiss@ed.ac.uk) from Department of Psychology, School of Philosophy, Psychology and Language Sciences, The University of Edinburgh

Research on personality in nonhuman primates has shown that these measures are reliable across raters, stable over time, predict behavior, and related to physiological measures such as immune system functioning and neuroanatomy. When nonhuman primate personalities are assessed via ratings, one might ask whether raters are projecting their own traits onto the targets. We addressed this question in a study of 124 free-ranging rhesus macaques (*Macacamulatta*) rated by 11 raters who had been studying these individuals for an unrelated project. Raters assessed rhesus macaques using the Hominoid Personality Questionnaire which yielded six rhesus macaque personality components: Confidence, Openness, Dominance, Friendliness, Activity, and Anxiety. Each rater also assessed his or her own personality using the Revised NEO Personality Inventory (NEO-PI-R), a well-validated measure of the human Five-Factor Model. The results of linear mixed effects models suggest that a rater's Openness to Experience and Conscientiousness influenced their ratings of rhesus macaque Dominance, Confidence, Anxiety, and Openness. Similar models at the level of the facets suggested that these effects are manifestations of the greater perceptual depth and care made by raters who were high in Openness and Conscientiousness, respectively. Finally, these findings support the measure of animal personality via ratings.

41. **Psychometric features as a function of scoring method in performance-based test scores**

Vesna Buško (vbusko@ffzg.hr) from Department of Psychology, Faculty of Humanities and Social Sciences, University of Zagreb

The study presents an empirical demonstration of a model for quantitative treatment of performance-based test scores composed of multiple choice items. The proposed model assumes that the choice of an incorrect option is not a random function of an implied score on an underlying construct or a latent variable measured. Once distracters are made so that their choice is dependent on scores on the measured construct, individual items potentially turn into better measures, and the composite scores necessarily become more valid estimates compared to those based on a binary model. The performance of the formulated model of differential weighting was tested and exemplified using several sets of empirical data on different forms of a nonverbal abstract reasoning test and a verbal ability-based emotional intelligence test. The results showed an improvement in performance of both items and derived composite scores when the proposed differential weighting model was used, even with the tests initially created under standard, binary-scoring paradigm.

42. **Personality profiling in practice**

Joseph Glicksohn (jglick@bgu.ac.il) from Bar-Ilan University, Israel

Prosocial professionals whose work entails calculated risk-taking and physical risk exhibit a personality profile conforming to that of the nonimpulsive sensation seeker, who is also emotionally stable. Their choice of profession seems to be related to their particular cognitive style, in that those who are required to exhibit a skillful and detached mode of operation 'on the job' (e.g., bomb-disposal experts) are field independent (FI), while those who are required to exhibit teamwork skills (e.g., anti-terror operatives) are field dependent (FD). Up till now, this claim was based on a single study in the literature (Glicksohn&Bozna,

2000). In this paper, I will report on the results of a recent study looking at this issue, focusing on a group of bodyguards (Israeli dignitary protection) who had completed professional training in this vocation (Glicksohn&Rechtman, in press). I will also report on our current study, focusing on a group of pilots. As I will stress, the feasibility of personality profiling is an important issue for both personality theory and its practical implementation.

Paper Sessions on Personality in Adolescence, Wed 27th, 14:00-14:50

Chair: Phillip Corr: ELVIN HALL

43. **Individual Differences in the Development of Impulsivity and Sensation Seeking during Adolescence**

K. Paige Harden, Patrick D. Quinn and Elliot M. Tucker-Drob
(harden@psy.utexas.edu) from Department of Psychology and Population Research Center, University of Texas at Austin

Previous research has established that both impulsivity and sensation seeking are robust predictors of alcohol use and other risk-taking behaviors during adolescence and early adulthood. The present study used longitudinal data on 7,640 youth from the National Longitudinal Study of Youth: Children and Young Adults, a nationally representative sample assessed biennially from 1994 to 2008. Latent growth curve models were used to investigate individual differences in age-related changes in self-reports of impulsivity and sensation seeking from age 12 to 24, as well as the relation between these changes and alcohol and substance use. Consistent with research in developmental neuroscience, impulsivity and sensation seeking showed diverging patterns of longitudinal change at the population level, with sensation seeking increasing in early adolescence and peaking around age 15, and impulsivity steadily declining through adolescence. However, there was also substantial person-to-person variation in the magnitudes of developmental change in both impulsivity and sensation seeking. In addition, age-related changes in impulsivity, but not sensation seeking, were significantly correlated with changes in alcohol and substance use: Adolescents who experienced slower maturational declines in impulsivity demonstrated sharper escalations in substance use. These results are discussed with regards to the developmental challenges of the transitions to early adulthood.

44. **Interactions between Reinforcement Sensitivity and family environment as predictors of adolescent personality**

Kuznetsova Valeriya B., Slobodskaya Helena R. (vb.kuznetsova@gmail.com) from Research Institute of Physiology SB RAMS

The study tested joint-subsystems hypothesis examining complex interactions between Sensitivity to Punishment (SP), Sensitivity to Reward (SR), and family factors such as parents' education and occupation, family type, affluence, family cohesion, parenting, parental monitoring and social support in the prediction of the Big Five and mid-level traits. A community sample of 1380 Russian adolescents aged 10 to 18 years completed the Junior SPSRQ and the ICID. There was significant three-way interaction between SP, SR and monitoring in the prediction of Neuroticism and mid-level trait Shyness: in the context of parents who knew much about their children the effect of SR on these traits was found in low SP group, whereas with the low parental knowledge, the effect of SR was significant only in adolescents high on SP. Three-way interaction between SP, SR and social support contributed significantly to the prediction of Extraversion and mid-level trait Sociability. In adolescents with low SR and high SP, the effect of social support was highest, in adolescents with low SR and low SP and with high SR and low SP the effect of social support was lower,

and in adolescents with both high SR and SP the effect of social support was not significant.

45. **What is religion good for? Religious values and the development of trait hope**
Patrick C. L. Heaven and Joseph Ciarrochi (pheaven@uow.edu.au) from University of Wollongong, Australia

Many empirical studies have revealed positive relationships between religious sentiment and the Big Five dimensions and other indicators of psychological adjustment such as self-esteem, trait hope, and optimism. However, there are almost no longitudinal studies into the consequential outcomes of religious sentiment in the psychological literature. Using data from the Wollongong Youth Study, we ascertained the relationships between religious values and trait hope in Grades 11 and 12. Participants were 565 Grade 11 students (mean age = 16.16 yrs., sd = .475). In Grade 12 we obtained the responses of 468 students, and we were able to directly match the Time 1 and Time 2 responses of 393 participants. Cross-lagged panel analyses revealed that Grade 11 religious values predicted Grade 12 trait hope, after controlling for Grade 11 hope, the Big Five, and Eysenck's P dimension. The results are discussed with reference to the place of religious sentiment in the development of personality traits in adolescence.

Paper Sessions on Personality in Childhood and Late Adulthood, Wed 27th, 14:00-14:50

Chair: Wendy Johnson: DRAMA STUDIO

46. **What childhood characteristics influence subjective well-being in middle adulthood?**
Magda Chmiel (magda.chmiel@uni.lu) from University of Luxembourg

Childhood characteristics such as intelligence (IQ), grade point average (GPA) and their parents' socioeconomic status (SES) are known to be positively related to success in later life. However, it is still unclear whether and how those characteristics influence people's general (i.e., general life satisfaction, positive and negative affect) and specific components (i.e., satisfaction with health, family, work, self, people, finance, housing, and free-time) of subjective well-being (SWB) in later life. To tackle this question, the authors drew on a representative longitudinal study called MAGRIP where 738 persons (53% female) participated in 1968 (when aging about 12 years) and in 2008 (when aging about 42 years). The results of correlation and regression analysis showed that SWB components were only marginally predicted by childhood SES, GPA and IQ. Specifically, IQ was positively associated with positive affect and negatively related with negative affect, it was also positively associated with satisfaction with health, finance and housing. SES was positively related to satisfaction with finance but negatively related to satisfaction with family life. Finally, GPA was positively related to both positive affect and satisfaction with financial situation. The authors discuss implications for further research on SWB.

47. **The role of reinforcement sensitivity in the development of childhood personality**
Slobodskaya Helena R. (hslob@physiol.ru) from Institute of Physiology SB RAMS

The study examined the contribution of reinforcement sensitivity to childhood personality at three levels of the hierarchical structure, mid-level traits, the Big Five and two higher-order factors, Alpha and Beta, and the moderating role of age in a community sample of 3-18 year old Russian children (N=536). Reinforcement sensitivity was measured by Sensitivity to Punishment (SP) and Sensitivity to Reward (SR) Scales for Children, personality was measured by the Inventory of Child Individual Differences (ICID). SP was associated with Introversion, Agreeableness and Neuroticism domains, and negatively related to Beta, while

SR was positively associated with Extraversion, Openness and Beta domains and negatively related to Agreeableness, Conscientiousness and Alpha domains. Overall, reinforcement sensitivity accounted for 23% of the variance in mid-level personality traits, 26% of the personality variance at the five-factor level and 38% of the personality variance at the higher-order level. There was significant moderating effect of age: the contribution of SP to Beta, Extraversion and mid-level traits from this domain, Activity and Positive Emotions, from early childhood to late adolescence increased.

48. **Personality in old and very old age: stability but also change**

René Mõttus, Wendy Johnson and Ian Deary, (rmottus@staffmail.ed.ac.uk) University of Edinburgh, UK and University of Tartu, Estonia

Personality development in old age is a largely underexplored area, especially in the ninth decade of life. Lothian Birth Cohorts 1936 and 1921 were used to study the longitudinal stability and change of Five-Factor Model personality traits from ages 69 to 72 years and from ages 81 to 87 years, and cross-cohort stability and mean-level differences between ages 69 and 81 years. Measurements within the FFM framework appeared to be adequately stable both within and across cohorts, and high rank-order stability was observed in both cohorts. Almost no mean-level change was observed in the younger cohort, whereas Extraversion, Agreeableness, Conscientiousness and Intellect declined somewhat in the older cohort. The older cohort scored higher in Agreeableness and Conscientiousness. Modest differences in change trajectories were not significantly associated with cognitive functioning, physical fitness, or independent functioning, or changes in them but were related to changes in emotional distress. We infer that stable individual differences continue to exist in old and very old age along with potentially accelerating mean-level changes. The individual differences in personality development are probably not related to the arguably important aspects of aging *per se* but rather to people's attitudes toward and ability to cope with those changes.

Paper Sessions on Social and Interpersonal Competence, Wed 27th, 14:00-14:50

Chair: Ricarda Steinmayer: CLARKE HALL

49. **The Benefit of Being Naive and Knowing it: The Unfavourable Impact of Context Familiarity on Learning in Complex Problem Solving Tasks**

Jens F. Beckmann (jensb@unsw.edu.au) from University of New South Wales, Accelerated Learning Laboratory

Previous research has found that the presence of a familiar context does not necessarily confer any advantage over a novel context in the acquisition of new knowledge about a complex dynamic system (Burns & Vollmeyer, 2002; Lazonder, Wilhelm & Hagemans, 2008; Lazonder, Wilhelm & Van Lieburg, 2009). This is known as the "semantic effect" (Beckmann, 1994). The aim of this study was to test two competing explanations that might account for the semantic effect: goal adoption versus suppositions. Participants were asked to find out the underlying causal structure of a linear system represented on a computer containing 3 outputs by changing 3 inputs. Across four conditions the number of familiar labels were varied. There was no evidence that goal adoption can explain poor knowledge acquisition under familiar conditions. Rather, it appears that a high number of a priori assumptions regarding the structure of the problem are the main barrier to the acquisition of new knowledge under familiar conditions. Implications for the design of computer-based dynamic systems as tools to study individual differences in knowledge acquisition and decision making are discussed.

50. **Comparison of expert and target scoring using the example of the video-based social understanding test (VSV)**

Kristin Conzelmann and Panja Andreßen from Department of Aviation and Space Psychology, German Aerospace Center, Germany

Based on the test principle of the Magdeburg Test of Social Intelligence (MTSI; Süß, Seidel, & Weis, 2008), the VSV was developed to measure the social intelligence dimension of social understanding. Social understanding is defined as the ability to interpret another person's feelings thoughts and relationships. As distinguished from the MTSI, the VSV is a combined audio and video test constricted to the aviation context. While the MTSI applies target scoring, the VSV additionally offers expert scoring (17 aviation psychologists). This paper examines how the scoring procedure affects the psychometric properties and the construct validity of the VSV. We assume that both scoring procedures produce indicators of the same construct and confirm findings of the MTSI concerning zero relationships of social understanding with academic intelligence and personality. A sample of 284 applicants for a pilot training completed the VSV, academic intelligence tasks and a personality measure in a real application situation. Findings: The expert scored test version shows better psychometric properties than the target version. Tests scores of both versions correlate moderately. They both confirm zero relationships of social understanding with personality and academic intelligence. Applicants with a comparatively better self-estimation of their social understanding score higher in the VSV.

51. **Individual Differences of Respect: Why Some Individual Get More Respect in Society**

Dominic M. Ghanbari from Jesus College, Oxford

The objective of my research is to investigate individual differences on respect, namely why some individuals get more respect than others. Study 1 examined the reciprocal nature of respect, finding respectful actions lead to greater respectful action tendencies, whether the person was perceived to be friendly or not. Study 2 examined competence as a basis for respect, finding competence to be more closely related to respect than to liking. Studies 3 and 4 further investigate competence as a basis for respect, incorporating video stimulus material rather than person descriptions to manipulate perceived competence. Study 4 employs behavioural measures as well as the action tendencies used in the previous studies as dependent variables. Studies 3 and 4 find greater perceptions of competence lead to greater respectful action tendencies and of the behaviours signalling respect. Taken together, my research furthers our knowledge of respect, and contributes to the understanding of respect as a social psychological concept, explaining some of the individual differences for respect.

Paper Sessions on Genetics of Personality and Subjective Well-being, Wed 27th, 14:00-14:50

Chair: Yulia Kovas: LOGAN HALL

52. **Does the s-allele of the 5-HTTLPR constitute a genetic vulnerability factor or a plasticity factor with respect to the effects life events on neuroticism and life-satisfaction in healthy adults?**

Kuepper, Y., Wielpuetz, C., Mueller, E. , Hennig, J. (yvonne.kuepper@psychol.uni-giessen.de) from Center for Psychobiology and Behavioral Medicine, University of Giessen, Department of Psychology, Otto-Behagel-Str. 10, D-35394 Giessen, Germany

Studies indicate the s-allele of the 5-HTTLPR to be a genetic vulnerability factor, being associated with an increased risk for affective disorders and/or maladaptive traits (e.g. neuroticism) especially after exposure with negative life events. Alternatively, it was hypothesized that

assumed genetic risk factors might constitute genetic plasticity factors. Concerning the s-allele this would mean s- allele carriers would be vulnerable to the negative effects of stressful life-events, but also disproportionately benefit from positive environmental influences. In order to test both hypotheses, 180 healthy subjects were genotyped, and provided self reports of neuroticism, life-satisfaction and life-events. Within SS-homozygotes we found an increased number of positive life events associated with reduced neuroticism and increased life-satisfaction ($p < .05$). Within SL-heterozygotes similar tendencies were found. No associations were detected in LL-homozygotes. We furthermore tested whether SS-homozygotes indeed benefited more from positive life-events. Results showed SS-homozygotes, with predominantly positive life-events, to exhibit the highest life-satisfaction scores and lowest neuroticism scores, as compared to other groups.

Our data support the idea that the s-allele of the 5-HTTLPR is associated with an overall increased reactivity to environmental influences, be they positive or negative. These findings constitute a promising ad-on to earlier data, supporting the plasticity hypothesis.

53. **Increased explanatory power using mediated effects of personality on behavior: Examples from coalition affiliation and wellbeing**

Timothy Bates (tim.bates@ed.ac.uk) from University of Edinburgh

Heritabilities for personality are typically below .5 and effect sizes on behaviour often smaller again. One explanation for this lies in the personality systems model, which recognizes both personality and behaviour, but interposes a middle layer containing values, beliefs, and habits, and where multiple highly heritable biological processes can interact with environmental cues to determine behavior. In this talk, analogies are made from modestly heritable physiological measures such as blood pressure with weak links to behavior, and highly heritable biological structures such as haemoglobin binding efficiency. Two examples applying the systems model to large datasets are then presented One examining coalition political behaviour and the other wellbeing traits. Support is found for both increasing effect sizes and heritabilities in this systems model.

54. **A Genetic Assessment of the Reward Sensitivity Construct**

Caroline Davis from York University, Toronto, Canada.

Questionnaire measures of *Reward Sensitivity* (RS) were designed to assess hedonic capacity and the motivation to engage in, and be reinforced by, pleasurable stimuli. Therefore, the activation potential of brain reward circuitry should correlate positively with self-report measures of RS. Both dopamine and opioid receptor functioning has been related to the strength of the reward signal in this neural pathway. To date, validation of RS scales has come largely from clinical and behavioural data. The present study aimed to extend this investigation with biological indices of reward. Using data from 257 healthy adult participants (ages 25-45 years), we tested the relationship between two functional genetic markers of brain reward circuitry, and the RS scale of the Sensitivity to Punishment Sensitivity to Reward Questionnaire (SPSRQ). The Taq1A A1 allele has been associated with a 30% diminution in dopamine D2 receptor availability – thereby predisposing to a hypo-dopaminergic signal, and representing a ‘loss of function’ marker for the common reward pathway. By contrast, the G allele of the functional A118G single nucleotide polymorphism of the OPRM1 *mu* receptor gene has been related to a hypersensitivity to rewarding stimuli, and a hedonic ‘gain of function’. We predicted that both the ‘gain of function’ 118G allele, and the absence of the A1 ‘loss of function’ allele would be associated with *higher* RS scores. A two-factor analysis of variance indicated a significant main effect for the A118G ($p=0.009$) and the Taq1A ($p=0.05$) markers - albeit in the direction opposite to expected. *Low* RS scores were associated with the hedonic ‘gain of function’ G allele and the absence of the ‘loss of function’ A1 allele. These data raise the interesting possibility that SR – as indicated by self-report

- may reflect a need for stimulation in order to improve a diminished hedonic tone, instead of a greater responsiveness to reward and a naturally high hedonic capacity.

Paper Session on Personality Correlates: from attention, decision-making, gambling, online dating, religion, and seating preferences , Thurs, 28th, 16:05-18:00

Chair: Adrian Furnham: CLARKE HALL

55. Trait and state correlates of the Attentional Network Test

Gerald Matthews¹, Moshe Zeidner² and Nirit Zwing² (Gerald.Matthews@uc.edu) from ¹University of Cincinnati, USA and ²University of Haifa, Israel)

Several trait and state factors may predict enhanced attentional functioning. Extraversion is linked to superior multi-tasking, conscientiousness to task motivation, and emotional stability to more effective selective attention. Recent work has also especially implicated the state factor of task engagement in performance of demanding attentional tasks. Such findings may be best understood in relation to specific attentional processes. Michael Posner and colleagues have developed the Attentional Network Test to assess alerting, orienting and executive control processes. The aim of the current study was to investigate relationships between the ANT and trait and state measures linked to attention. 104 Israeli undergraduates participated. They completed tests for the Five Factor Model and vocabulary, as well as the ANT. The Dundee Stress State Questionnaire was used to assess subjective state during ANT performance. Results confirmed Posner's claim that the three ANT indices are psychometrically distinct. Trait and state factors were differentially related to the ANT indices. As predicted, superior executive function was associated with extraversion, conscientiousness, state task engagement, and low state distress. Differing predictor sets were found for alertness and orienting. Vocabulary was non-predictive of ANT. Findings are discussed in relation to prominent models of personality, executive functioning and attentional task performance.

56. Personality Correlates of Decision Making under Risk

Panos Papaeconomou and Elizabeth Austin (p.papaeconomou@sms.ed.ac.uk) from University of Edinburgh

The purpose of these experiments was to investigate whether individual differences in personality, emotional intelligence (EI) and affect predicted risky behaviour. The participants were 64 (Experiment 1) and 68 (Experiment 2) university students; they completed a battery of tests including a trait EI measure (TEIQue-SF), Dickman's impulsivity inventory, the PANAS and the BIS/BAS scales, together with a binary choice-task, and a binary choice double gamble which involved choices between financial gains with different pay-offs and risk levels. In Experiment 1 there were significant correlations between positive affect (PA), BAS Drive and BAS Fun-Seeking (FS) and the number of risky choices in the binary choice task ($r = .280, .251, .255$; $p = .025, .046, .042$). In Experiment 2 there were significant correlations between PA and FS and the number of risky choices in the binary choice double gamble task ($r = .243, .251$; $p = .046, .039$). There were no significant associations of trait EI or (functional or dysfunctional) impulsivity with number of risky choices. These results indicate that individuals who are high in PA, BAS Drive and BAS Fun-Seeking tend to be riskier in decision making involving monetary incentives.

57. Individual differences in BAS/BIS predict behaviour in two Public Goods Games experiments

Anya Skatova and Eamonn Ferguson (anya.skatova@gmail.com) from University of Nottingham

Both economics and psychology findings suggest that the reinforcing nature of pro-social acts in part motivates people to cooperate; however, there is only limited research linking personality

traits and social preferences (cooperation and free-riding) within economic games. Reinforcement Sensitivity Theory (RST) (Gray & McNaughton, 2000) proposes that sensitivities to rewards and punishment explain the variation in personality traits. We suggest that individual variation in RST-traits can provide an explanation for some of the behavioural heterogeneity observed within social dilemmas. We report results of two Public Goods Game (PGG) experiments, investigating: (1) how information about the contributions of others influenced behaviour in the PGG; (2) the effects of a monetary punishment for free-riding on the contribution levels. Results demonstrated, consistent with the predictions, that individual differences in sensitivity to reward and behavioural inhibition contributed to explaining variation in cooperation and free-riding in PGGs. Specifically, sensitivity to reward (BAS-RR, a subscale of BAS from BIS/BAS, Carver & White, 1994) was related to more selfish responding (reduced contributions) when participants knew about the contributions of their group partners before they made a decision. Furthermore, behavioural inhibition (BIS-anxiety from the revised RST, Heym et al, 2008) was related to less free-riding in both games.

58. **Reinforcement Sensitivity Theory (RST) of personality and gambling**

Stephen J. Thompson¹ and Philip J. Corr² (four_symbols@hotmail.co.uk) from ¹IWEPS, UK and ²University of East Anglia, UK

The dominant theoretical approach to understanding gambling behaviour assumes that it is maintained by (in)sensitivity to prevailing reinforcement contingencies. Specifically, pathological gamblers seem to be especially sensitive to reward (i.e., winning) and/or insensitive to punishment (i.e., losing). The studies described in this talk reveal, however, that pathological gambling (PG) participants scored higher (vs. controls) on self-report measures of Gray's BIS, FFFS and BAS (the three main systems of RST), indicating that pathological gamblers were hypersensitive to punishment as well as to reward. Although the first of these findings runs contrary to the dominant belief that problem gamblers continue to gamble due to *insensitivity* to punishment (Vitaro et al., 1999), we suggest that these findings make sense within the context of Corr's (2009) and McNaughton and Corr's (2009) recent alternative explanation for the development and maintenance of maladaptive gambling behaviour based on the concept of 'relief of non-punishment'. Evidence collected on a card perseveration (CP) task (a computerised gambling task designed to measure maladaptive perseveration) will be presented to support the potential validity of this alternative explanation as well as to describe an effective method for reducing pathological gamblers' perseveration on this task.

59. **Individual differences and online dating: does personality predict expressed preferences?**

Beth Anderson and Tomas Chamorro-Premuzic (b.anderson@gold.ac.uk) from Goldsmiths, University of London

While the role played by physical attractiveness in partner selection is well-documented, there is an established need to understand better the personality factors that impact on mating behaviour, specifically, the individual differences that determine perceived and actual compatibility. People do not always know what qualities they want or need in a mate and, indeed, there is contradictory academic evidence about the combination of psychological attributes that constitute the "perfect match". In spite of this, partner selection is now a huge industry. The upsurge in use of "personal ads", speed-dating, social networking and dating websites means that decisions about romantic suitability are increasingly reliant on accurate and concise self-presentation, as well as an ability to infer and appraise potential partners' qualities, rapidly and based only on limited information. This study contributes to the literature on the nature of romantic compatibility. Participants (N = 800) in an online survey completed a battery of tests to assess 'Big Five' personality traits, romantic beliefs and ideal partner preferences.

Statistical analysis tested the extent to which personality and romantic beliefs predict 'ideal partner' preferences across six domains, using a bespoke inventory piloted in this study, the 'Ideal Partner Questionnaire' (IPQ).

60. **Understanding the genetic bases of religious belief: Religion can be explained by pre-existing adaptations underlying social integration and existential uncertainty**

Gary Lewis (glewis1@gmail.com) from University of Edinburgh

Differences in religious belief in part reflect genetic influences and the mechanisms for these influences have received increasing attention in recent years. Here we test whether genetic effects on religious beliefs can be accounted for by broader constructs of existential uncertainty and need for social integration. Results from a large, nationally representative twin sample examining religiosity and doctrinal literalism demonstrated that genetic effects underlying existential uncertainty and social integration completely accounted for the heritability of these religious beliefs. Familial environment accounted for additional variance in religiosity, but not for doctrinal literalism, nor in needs for social integration and existential uncertainty. These findings suggest that religion builds on biological systems for meeting basic social and emotional needs. Cultural transmission further enhances the strength of religious belief (but not of doctrinal literalism).

61. **Where shall I sit? The effects of personality, values and gender on student seating choice in a lecture hall**

Robinson, O.¹, Gosling, S.D.² and Pennebaker, J.W.². (o.c.robinson@gre.ac.uk) from ¹University of Greenwich, UK and ²University of Texas at Austin, USA

Seating location in a physical space has been shown in past research to be linked to social and personality variables (e.g. Sommer, 1961). It was hypothesised, based on a pilot study, that personality and values would affect student seating location within a lecture hall over the course of a semester. Data was gathered from a cohort of students on gender, personality traits, values, chronotype and gender. Seating location in a 521-seat hall was measured longitudinally, 11 times over the semester. It was found that males moved seating location over the term significantly more than females did. Sleeping habits were reliably associated with seating position, with later bedtime, wake-up time and chronotype positioned in the back of the hall. Higher conscientiousness was found towards the front of the lecture hall and students with high neuroticism tended to sit close to aisles. Values of achievement, self-direction, religiosity, universalism and desire for power showed significant clustering. These findings suggest that the physical variable of seating position is related to gender, personality and values. Future work can establish which effects are robust across student cohorts and examine the psychological processes by which these characteristics become expressed in seating choice.

Paper Session on Individual Differences in Academic Performance & Educational Outcomes, Thurs, 28th, 16:05-18:00

Chair: Sophie von Stumm: DRAMA STUDIO

62. **Assessing Intelligence for Education in the 21st Century: The benefits of microworlds**

Philipp Sonnleitner (philipp.sonnleitner@uni.lu) from University of Luxembourg

Computer-based problem solving scenarios - so-called microworlds - are contemporary educational assessment instruments of intelligence that offer several benefits compared to traditional paper-pencil tests. This involves tracking of students' mental representations of the problems as well as their problem solving strategies by means of behavioral data which provides

key information for educational interventions. Moreover, microworlds realize game-like characteristics that may increase test motivation and reduce test anxiety. In the present study, the Genetics Lab, a newly developed microworld, was completed by a representative sample of more than 800 Luxembourgish students. Students chose among three different languages (German, French and English) in which the problem content of the Genetics Lab was presented. The present paper analyzes the psychometric properties of the various performance scores derived for the Genetics Lab with respect to their relations to school grades, and measurement invariance across gender, chosen test language, and migration background. Moreover, a direct comparison with traditional measures of intelligence demonstrated construct validity of the performance scores of the Genetics Lab. In sum, the results obtained for the Genetics Lab show the benefits of behavioral data obtained for computer-based problem-solving scenarios and support the notion of microworlds to be a valuable measure of intelligence.

63. **“Still Flagged After All These Years”: Stability and Validity of Five-Factor Model Personality Disorder Counts To Predict Career Success After 15 Years**

Filip De Fruyt (Filip.DeFruyt@ugent.be) from Department of Developmental, Personality and Social Psychology, Ghent University

The stability and validity of Five-Factor Model (FFM) personality disorder (PD) compounds to predict intrinsic and extrinsic career success is examined in a sample of undergraduates (N = 251) administered the NEO-PI-R twice, prior to entering the labor market and 15 years later in their professional career. FFM PD compound scores were highly stable, including risk classification beyond specific FFM PD cut-offs. Undergraduates identified as resembling Paranoid, Schizoid, Schizotypal, Avoidant and Dependent FFM PD prototypes reported lower intrinsic and extrinsic career success and more strain after 15 years, and those matching the Schizotypal and Borderline patterns additionally showed longer unemployment. The Obsessive-Compulsive profile was unrelated to career success, whereas individuals matching the Antisocial and Psychopathic profiles reported higher extrinsic career success. FFM PD compounds predicted a number of specific career success criteria substantially and beyond FFM domains. It is concluded that FFM PD compounds suggest interesting avenues to form new linear combinations of FFM facets, complementing FFM domains and contributing to the explanation of career success variables in the general work population. The implications of this research for the assessment of dark side traits and the dark side of bright traits in psychological assessment are discussed.

64. **Socioeconomic Status modifies Interest-Knowledge Associations**

Elliot M. Tucker-Drob (tuckerdrob@psy.utexas.edu) from Department of Psychology, University of Texas at Austin

Contemporary research on the intersection between cognitive and noncognitive traits reflects a revival of Cattell's investment hypothesis that "this year's crystallized ability level is a function of last year's fluid ability level - and last year's interest in school work and abstract problems generally" (Cattell, 1971/1987). This presentation will discuss how socioeconomic disadvantage may affect the investment process. Because individuals living in poorer socioeconomic contexts have fewer opportunities to selectively attend to and expose themselves to educational contexts consistent with their interests, the relation between interests and academic achievement should be attenuated among poorer individuals. Results from two studies of interest-knowledge associations in adolescents support this prediction. The first study demonstrates a consistent attenuation of the relation between domain-specific interests and domain-specific knowledge for multiple scholastic and recreational domains. The second study demonstrates a similar attenuation of the relation between general academic interest and general academic achievement. The implications of these findings are discussed with regards to research on gene-

by-socioeconomic status interactions on academic achievement.

65. **Predictive Validity and Academic Selection in the United States**
Paul Westrick (paul-westrick@uiowa.edu) from The University of Iowa

Admission committees have used standardized admission test scores for undergraduate, graduate, and professional school admission decisions for decades, and over the years the differences between the performances of the nation's racial and ethnic groups on these admission tests have stirred debate. This study examines the predictive validity of seven tests used for undergraduate, graduate, and professional school admission decisions in the United States: ACT, SAT, General Record Examination (GRE), Law School Admission Test (LSAT), Dental Admission Test (DAT), General Management Admission Test (GMAT), and the Medical College Admission Test (MCAT). Validity studies demonstrate that the tests are valid predictors of future academic performance, and admission test scores tend to overpredict the performance of African-American and Hispanic students, not underpredict their performances as testing critics charge. A discussion of the shifting demographics in the United States and the implications for admission policies follows. Tension over group differences in test scores and academic performance will most likely persist for many years, and academic institutions will continue to face difficult choices as they try to strike a balance between meritocracy and diversity in their admission decisions.

66. **A theoretical framework for the personality of intellectual achievements**
Patrick Mussel (patrick.mussel@uni-wuerzburg.de) from Universität Würzburg

Personality researchers have always been fascinated by the investigation of personality factors that contribute to the explanation and prediction of intellectual achievement, over and above general mental ability. However, research has been conducted in different areas and under different labels, which makes it difficult to integrate relevant findings. The present study proposes a theoretical framework of the internal structure of the "personality of intelligence", which is labeled intellectance. The framework consists of two dimensions, one building upon the theory of motivation, the other on cognitive abilities. The framework claims to be suitable to integrate several highly related constructs, such as need for cognition, typical intellectual engagement, intrinsic motivation, openness to ideas, and curiosity. Based on a newly developed and pretested personality test, empirical data are provided which confirm the two-dimensional intellectance framework. Furthermore, it could be shown that the constructs mentioned above could be integrated into the framework. Finally, initial evidence regarding predictive validity is demonstrated. It is concluded that the framework might help to integrate existing findings on the personality of intellectual achievements. Furthermore, incorporating both motivational and cognitive ability concepts into this research domain might stimulate future research.

67. **Speed of Processing Predicts Academic Achievement beyond General Cognitive Ability**
Yulia A. Dodonova and Yury S. Dodonov (ya.dodonova@mail.ru) from
Moscow City University of Psychology and Education

Strong association between general cognitive ability and academic achievement is a well-established fact in the psychological studies. Individual differences in general intelligence are in turn partly explained by such constructs as speed of information processing and working memory. However, the relationships between the latter variables and academic achievements are not quite clear. Rare studies that addressed this problem provide an evidence of a mediating role of mental speed in the relationships between general intelligence and school achievements (for example, Luo, Thompson, & Detterman, 2003). Moreover, processing speed seems to

account for a significant amount of additional variance of mathematical achievements even with the measures of general cognitive ability partialled out (Rohde, Thompson, 2007). The present study aimed to investigate the relationships between speed of processing, general cognitive ability and high-school achievements in algebra, geometry and physics on a Russian sample (N=208). Latent intelligence and two latent processing speed variables modeled based on the speeded tasks designed for this study each made significant contributions to the prediction of the academic achievement (.34, -.20 and -.18). A comparative role of basic speed of discrimination and more complex speed of recognition in the prediction of mathematic achievements is also discussed.

68. **Predicting academic performance in university students**

María-José Sánchez-Ruiz¹, Gemma Filella², Anna Soldevila² and Juan-Carlos Pérez-González³ (mj.sanchezruiz@googlemail.com) from ¹Social Sciences Department, Lebanese American University, Lebanon, ²Faculty of Education, Universidad de Lleida and ³Spain Faculty of Education, UNED, Spain

Research shows some of the best predictors of academic performance (AP) are intelligence and certain personality traits such as conscientiousness and neuroticism (e.g., Chamorro-Premuzic&Arteche, 2008). However, there seem to be some particularities in the prediction of AP of Spanish undergraduates (Chamorro-Premuzic, Quiroga, &Colom, 2009). The present longitudinal study aims to investigate the predictive power of a number of psychological (cognitive and non-cognitive) constructs, including trait emotional intelligence (*trait EI* or *emotional self-efficacy*; Petrides, Pita, &Kokkinaki, 2007), on AP among Spanish university students. The sample consisted of 327 students enrolling in university in 2007-2008 and graduating in 2009-2010. The psychological predictors were academic self-concept, academic self-efficacy (both adapted from Marsh's Academic Self-concept scales), intelligence (Cattell's G Factor; Thurstone's PMA-R), the Big Five (Goldberg's bipolar adjectives), trait EI (Trait Emotional Intelligence Questionnaire), academic engagement (Student Academic Engagement), and self-regulated learning strategies (Motivated Strategies for Learning Questionnaire). All variables were assessed at enrollment and graduation, with measures at both points for 100 participants. Access grade on "selectividad" (equivalent to SAT exams) was also included. Academic performance variables considered as criteria were: course GPA (1st, 2nd, and 3rd course), and average grade on degree major (mean of the three courses' GPA). We also considered the proportion of registered credits that were passed during each course, as well as the abandon rates. Results will be reported and discussed.

Paper Session on Emotional intelligence and Emotional Processing, Thurs, 28th, 16:05-18:00

Chair: K.V. Petrides: JEFFREY HALL

69. **A process-oriented approach to emotional intelligence**

Marina Fiori (Marina.Fiori@unil.ch) from University of Lausanne - Institute of Psychology

Theorists of emotional intelligence claim that Emotional intelligence (EI) is an intelligence that pertains to discerning and understanding emotional information. However, how EI is related to emotion processing is still unclear. The present research addresses this issue by investigating whether and how EI scores were related to a complex emotional task involving selective attention. We used two simultaneous visual primes in which an emotional face was to be attended to and the other ignored, followed by a string of letters that could either form a word or not. Participants responded with a word or nonword judgment task in which speed of response was recorded. We predicted participant response time by EI (as assessed by the MSCEIT), general intelligence, and the Big Five personality scores. Results show that participants were faster in

providing a correct answer when the word to be judged was related to the prime participants attended to. General intelligence and Openness to Experience reduced response time, whereas Branch 2 and Branch 4 of the MSCEIT increased it. Results are discussed in light of the construct validity of the MSCEIT and the relationship between selective attention, intelligence, and emotional intelligence.

70. **Ability, stable self-perceptions, and competence are not the same thing: the case of 3 emotional intelligences**

J.C. Pérez-González (jcperez@edu.uned.es), Faculty of Education, UNED, Madrid, Spain

A growing number of researchers have recognized the convenient distinction between the two uncorrelated constructs of ability EI and trait EI. Nonetheless, some researchers still prefer using labels like "perceived EI", "self-perceived EI", "self-reported EI" or even simply "EI" when they use self-reports or other-reports. In the first three cases, researchers are implicitly suggesting that the adjective is only used in order to emphasize the type of measurement but that not clarify the type of psychological construct that is being measured. In the fourth case, researchers are assuming that we are measuring the same construct despite the type of measurement used. Finally, a number of researchers use ability, skill and competence as interchangeable terms, obviating that ability/aptitude and skills/competence concepts stem from two different research traditions. In the strict sense of the word, ability EI is a different thing than an emotional competence. Whereas the former is a cognitive potential (psychological processes), the latter is an observable demonstration (act or external expression of psychological processes) of an integrated set of behaviors. So, we should discriminate not between two but three conceptualizations (and operationalizations) of EI. Moreover, a lot of the researchers focused on emotional competencies are really measuring trait EI.

71. **Moderating effect of trait emotional intelligence on the coherence between experiential and cardiovascular responses during anticipation of real-life academic stress**

Freudenthaler H.H.; Gramer, M., Lackner, H.K., Nauschnegg, K., Schuler, G., Papousek, I. (heribert.freudenthal@uni-graz.at) from Department of Psychology, University of Graz

For many theorists, coherence across response systems represents both a defining feature and adaptive function of emotion, supposed to facilitate the organism's response to environmental demands. However, empirical findings have been mixed, encompassing considerable interindividual variance in the degree of response coherence. In the present study, we examined whether response coherence is moderated by trait emotional intelligence (EI), which has been shown to be a powerful predictor of various indicators of personal adaptation and social functioning. After a baseline measurement of heart rate and blood pressure, 90 first-year psychology students were told that there would be another recording at rest and that subsequently to this recording they would have to deliver a performance, that is, they would have to answer a question they should be able to answer in order to pass the next statistics exam. Their answer would be videotaped and later evaluated by the statistics professor. Empirical analyses revealed that the relationship between the level of experienced stress and the physiological response covaried positively with trait EI (was substantially moderated by trait EI). The stronger response coherence among high trait EI individuals could partly explain the relationship between trait EI and successful functioning in everyday life.

72. **Individual differences in emotion recognition and face cognition**

Hildebrandt, Andrea; Wilhelm, Oliver; Sommer, Werner (andrea.hildebrandt@psychologie.hu-berlin.de) from Humboldt-University at Berlin

The structure of human cognitive abilities in the interpersonal and emotional domain and their relation with established ability constructs is insufficiently substantiated. The present study investigated the status of emotion recognition tasks with faces. We developed operationally coherent tasks classes supposed to measure emotion perception, memory for emotional expressions in the face, the speed of emotion perception and the speed of recognizing emotional expressions from memory. We administered these newly developed tasks to N=250 participants together with tasks capturing face perception, identity recognition and the speed of face cognition using faces with neutral expressions. We critically discuss scoring and measurement issues of individual tasks and establish a measurement model for the three task classes. The newly established emotional ability factors are related to face cognition factors and general cognitive ability factors. Analyses provide insights into theoretically critical relations concerning the distinction between perceptual and mnemonic abilities for faces with emotional and neutral expressions. We derive recommendations for the measurement of interpersonal and emotional abilities using face stimuli.

73. Individual differences in mood regulation

Magdalena Marszał-Wisniewska (mmarszal@swps.edu.pl) from Warsaw School of Social Sciences and Humanities; Institute of Psychology, Polish Academy of Sciences

Ways of modifying or maintaining different mood states cover a wide range of strategies. Individuals differ from each other in their abilities for engaging in mood regulation strategies. Moreover, existing evidence suggest that while downward mood regulation is automatic, upward mood regulation can be both automatic and controlled. The aim of the presented study was to analyze the influence of individual tendencies toward mood improvement/deterioration on automatic and controlled mood changes.

Subjects (N=218) were assigned to one of four regulative types (increasing, decreasing, hot, cool). Direct (Mood Adjective Check List) and indirect (emotional lexical decision task) measures of mood changes in conditions created by experimental factors: induced mood (positive vs. negative), and the level of cognitive loading (easy vs. hard condition) were analyzed. Results confirmed that while downward mood regulation is automatic, upward mood regulation is especially controlled. Analyses showed also different patterns of mood changes for increasing and decreasing types. While decreasing type lowered positive mood during both high and low cognitive loading conditions (automatic mood deterioration), increasing type increased positive mood only in low cognitive loading condition (controlled mood improvement). More analyses of mood changes in hot and cool types are needed.

74a. A new look at Schutte's et al. (1998) Emotional Intelligence Scale

Alexandra Martins (alexmmartins@sapo.pt) from ISCTE-Lisbon University Institute

Schutte's et al. (1998) scale, one of the most widely used self-report measures of Emotional Intelligence, has been surrounded by uncertainty regarding its factor structure and also frequently criticized for its potential overlap with personality. Moreover, its self-descriptive nature is incongruent with the ability model it supposedly maps. Therefore, our purpose is to take a new look at this scale in an effort to contribute to the clarification of two important issues. The first one - the structural validity - was addressed by testing a two-factor model (intrapersonal and interpersonal), which showed not only acceptable fit, but also a good differentiation between the subscales. The second issue - the relationship with personality - was addressed by testing a structural model with the Big-five predicting Emotional Intelligence. Since this measure assesses typical performance, we have considered it within the trait perspective, which sees Emotional Intelligence as a lower-order personality construct (Petrides, Pita & Kokkinaki, 2007). This structural model had acceptable fit, showing significant associations with Neuroticism,

Extroversion and Openness. Although these personality dimensions seem to play a major role in determining Emotional Intelligence, they are not equivalent, especially in the interpersonal domain. Overall, we believe that this measure benefits from these new findings.

74b. Differing profiles of empathy predict autistic spectrum and psychopathic traits in typically-developing adults

Alice Jones, K. Polenik, & M. Miller, (a.jones@gold.ac.uk) from Goldsmiths, University of London, UK.

This study sought to test and extend recent theoretical and empirical work investigating the association between affective and cognitive empathy with psychiatric 'disorders of empathy'. This study tested the hypotheses that while affective empathy scores would predict psychopathic personality traits, cognitive empathy scores would not and conversely that while cognitive empathy scores would predict autistic traits, affective empathy scores would not. Self-report measures of psychopathic personality traits, autistic traits and cognitive and affective empathy were completed by a non-clinical, non-criminal sample of 165 typically-developing adults. In line with the patterns of empathic impairment previously observed to be associated with clinical psychopathy and autistic spectrum disorders, regression analyses indicated that affective empathy scores were a statistically significant negative predictor of psychopathic personality traits, while cognitive empathy scores were a statistically significant negative predictor of autistic traits. Gender was also a statistically significant predictor of psychopathic personality traits. This study lends support to the position that empathy deficits contribute differentially to psychiatric disorders, and we suggest that diagnostic and intervention strategies should take this profile of empathy deficit into account.

Paper Session on Personality Structure, Thurs, 28th, 16:05-18:00

Chair: Colin DeYoung: ELVIN HALL

75. Re-thinking personality by taking the lexical hypothesis seriously

Arthur Poropat (arthur.poropat@griffith.edu.au) from Griffith University, Australia

The most successful of current personality models were derived from the lexical hypothesis, the idea that important behavioural differences become encoded in natural languages. Such behaviours are important for observers, but have usually been interpreted as reflecting underlying psychological or physiological propensities. However, observers are indifferent to intra-personal psycho-physiological functioning, and importance for observers can best be explained by the socio-economic utility of observed behaviours. So, the failure of previous attempts to explain lexical personality factors is because they reflect a misunderstanding of the underlying logic of the lexical hypothesis. Consequently, a re-conceptualisation of lexical factors is presented that takes the implications of the lexical hypothesis seriously. This theory is then used to analyse issues in personality research relating to the reliability of personality measurement and the associations of personality with other constructs.

76. A General Factor of Personality in the Occupational Personality Questionnaire (OPQ32) in Two Validity Samples

Paul Irwing (paul.irwing@mbs.ac.uk) from University of Manchester

There is considerable evidence that forced choice response formats greatly reduce response biases such as social desirability. We reasoned, therefore, that if a General Factor of Personality (GFP) from a forced-choice and normative form of a personality inventory were essentially equivalent, then it could not be attributable to response bias. Applying multigroup confirmatory

factor analysis to the Occupational Personality Questionnaire in forced-choice (OPQ32r; N = 518) and normative (OPQ32n; N = 2,028) formats, we found the GFPs to be virtually identical ($\chi^2 = 64.5$; $df = 28$; $P < .001$; RMSEA = .035; NNFI = .99). This finding is inconsistent with explanations of the GFP in terms of any form of response bias.

77. **An evaluation of Cloninger's Structural Model of Personality: Revising the relationship between temperament and character**

Peter O'Connor, Queensland University of Technology, Australia; peter.oconnor@qut.edu.au

Cloninger, Svrakic and Przybeck (1993) proposed an influential general, clinically focused model of personality which explains behavior in terms of independent components of temperament and character. In this research we revise Cloninger et al.'s model and argue that temperament and character are not independent, but that character mediates temperament along approach and avoidance pathways. We provide a theoretical and empirical justification for our proposed revisions based on research conducted on Cloninger et al.'s model over the last 20 years. Then, across three studies we provide a psychometric evaluation of the proposed revisions in terms of factor structure and construct validity. In study 1 we use confirmatory factor analysis to compare the original and revised structural models (sample size = 780). In studies 2 (sample size = 322) and 3 (sample size = 70) we test the construct validity of our revised model by demonstrating that character mediates temperament in the prediction of a range of positive and negative applied outcomes.

78. **Structure of resilience and its roots in basic personality traits in physicians**

Jelena Zeleskov Djoric and Janko Medjedovic (jelena.zeleskov.djoric@fmk.edu.rs) from Institute of criminological and sociological research, Faculty of Media and Communication, Belgrade

The medical profession is very often connected with high level of stress at work and the risk of it negative consequences concerning mental health of physicians. In recent years, it has been well established that the basic personality traits and resilience could have important role in stress experience and coping. However, little is known about structure of resilience and its relationship with basic personality traits. To address this question we studied Five Factor Model – using NEO-PI-R inventory; Schizotypy, operationalized as a Disintegration trait and measured by DELTA10 inventory, and resilience using ARP test in a sample of 220 physicians.

Resilience indicators analysis showed that measures of resilience have very good indicator convergence. Confirmatory model, tested via structural equations, showed that the best fit with empirical data is achieved with three hierarchic levels of resilience. Exploratory principal components analysis in shared space consisted of Five-Factor facets, Schizotypy modalities and resilience measures, provided results indicating that resilience can't be reduced to basic personality traits. However, linear regression and canonical correlation analysis found several pathways linking resilience and personality traits. Basic conclusion derived from these analyses is that resilience is based on low Neuroticism and Schizotypy, but high Extraversion, Openness, Agreeableness and Conscientiousness.

79. **Reconciling conflicting theoretical models of disinhibition**

Ellirioma Gardiner (eliroma.gardiner@qut.edu.au) from Queensland University of Technology, Brisbane, Australia

Disinhibition is the tendency of an individual to fail to inhibit an already initiated and previously reinforced response despite such a response no longer resulting in reward. This form of behaviour is at least partly associated with approach tendencies. In light of evidence that approach behaviours are aligned to the left hemisphere, we suggest that lateral preference is likely to influence an individual's tendency to act disinhibitedly. We present four studies which

aim to test our hypothesis as well as simultaneously assess and reconcile three popular frameworks of disinhibition; Response Modulation Model (RMM; Patterson & Newman, 1993; Arnett et al., 1997), Robinson, Wilkowski and Meier's (2008) co-activation model of self-regulation and Jackson's (2008) lateral preference model. All participants completed measures of lateral preference, extraversion, neuroticism and attentional control (Study 4 only) as well as behavioural tasks of disinhibition. The results of the four studies provide partial support for all three competing frameworks and highlight the instability of extraversion in disinhibited behaviour. When including lateral preference with these competing frameworks, lateral preference appears to reconcile these relationships and clarify the discrepant findings reported by previous studies. Further discussion of the practical and theoretical implications of the current research is also provided.

80. **The Psychoticism-Psychopathy continuum: Relationships of P with primary and secondary psychopathic tendencies**

Nadja Heym (nadja.hey@nottingham.ac.uk) from University of Nottingham

Psychoticism (P) is associated with deficits seen in psychopathic populations (Heym & Lawrence, 2010; Corr, 2010), supporting Eysenck's view that psychopathy is at the extreme end of the P dimension (Eysenck & Eysenck, 1976). Recently, it has been suggested that P may be split into factors assessing primary and secondary psychopathic deficits (Heym, 2008; Corr, 2010). Two-hundred and twelve participants completed the Psychoticism (EPQ-R, Eysenck et al., 1985), IPIP-impulsivity (Goldberg et al., 2006), trait aggression (Buss & Perry, 1992), and empathy (IRI; Davis, 1983) scales. An exploratory factor analysis showed that P could be split into two factors similar to primary and secondary psychopathy. Zero-order correlations showed the hypothesised associations of primary and secondary P with reduced empathic concern (akin primary psychopathy) and increased impulsivity (akin secondary psychopathy), respectively. For trait aggression a mixed pattern emerged. A second study (N=306) showed that both P factors were associated with self-reported primary and secondary psychopathy (Levenson et al., 1995), respectively; and secondary Psychoticism was positively and consistently linked to impulsivity scales (BIS-11; Patton, et al. 1995; ZKPQ-III; Zuckerman et al. 1993; IPIP-imp; Goldberg et al. 2006) in the same way as self-reported psychopathy was. Implications for the continuity theory and psychopathy are discussed.

81. **What would an integrative model of personality look like?**

Arthur Poropat and Philip Corr (arthur.poropat@griffith.edu.au) from Griffith University, Australia and University of East Anglia, U.K.

Personality research currently reflects diverse conceptualisations and methodologies, many of which are apparently incommensurable. Lexical factors vie with biologically-inspired traits, while models relying on cognitive-affective and psychodynamic processes compete with behaviourist and dual-process constructions. Despite this situation, there has been little effort at comparative evaluation or integration of different personality approaches. In this presentation, a model will be outlined that is based on learning theory, but using perception rather than behaviour as the central feature. Specifically it is argued, perceptual processes are central to both the instigation of behaviour, giving rise to individual differences in behaviour, and also to the interpretation of behaviour, leading to predictable variations in personality assessment. Focusing on perception allows the integration of factors based on analysis of personality ratings with constructs reflecting underlying psychophysiology. An interesting consequence of the proposed perception-focused model is that social interactions and relationships must be central to human personality. Furthermore, components of measurement that are commonly treated as 'error' are actually legitimate components of personality. We ask, and attempt to answer the question: what would

an integrative model of personality look like? We discuss also the implications of our proposals for research and practice.