



**International Society for Human Ethology**

## **6<sup>th</sup> Summer Institute**

**4 - 6 June 2017**

**Boise State University  
Idaho, USA**



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# Organising Team

## Organisers

John Ziker, Dept of Anthropology, Boise State University, USA  
Tom Alley, Dept of Psychology, Clemson University, USA  
S. Craig Roberts, Division of Psychology, University of Stirling, UK

## Programme Committee

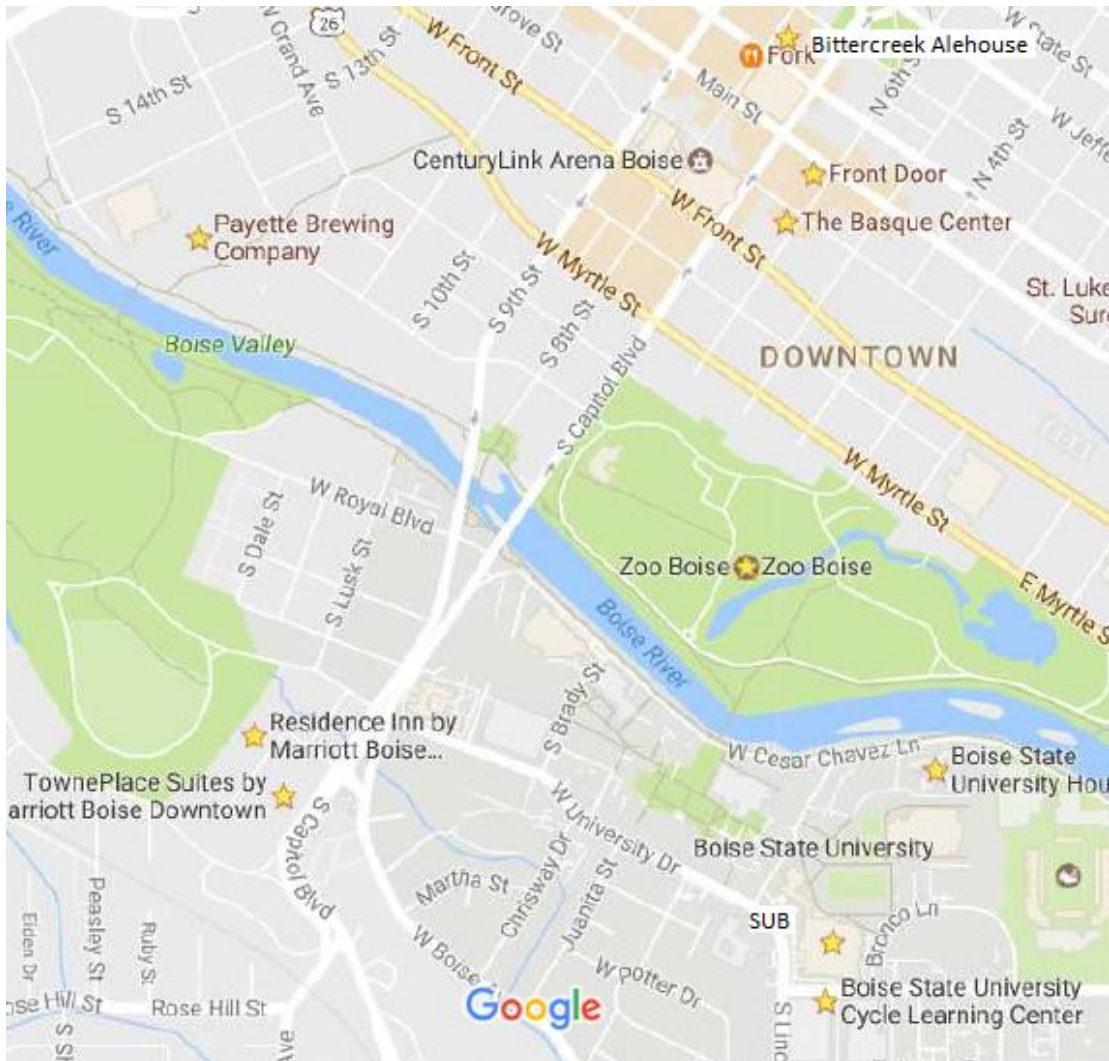
S. Craig Roberts (University of Stirling, UK) - Chair  
Tom Alley (Clemson University, USA)  
Amanda Hahn (University of Glasgow, UK)  
Jan Havlíček (Charles University, Czech Republic)  
Michal Kandrik (University of Glasgow, UK)  
Dan Kruger (University of Michigan, USA)  
Kasia Pisanski (University of Sussex, UK)  
Agniewska Sorokowska (University of Wroclaw, Poland)  
Piotr Sorokowski (University of Wroclaw, Poland)

## Conference Venue

The meeting will take place in the Student Union Building (SUB) on the Boise State University campus.

The main meeting room is the **Lookout Room**, with some workshops also taking place in the **Hatch Ballroom** and the **Forum Room**.

The Banquet will take place at the Basque Center (601 W Grove St).



## Catering Arrangements

All refreshments and snacks at mid-morning and mid-afternoon coffee breaks, and the buffet lunch on Sunday 4<sup>th</sup> June, are included in your registration.

Please make your own arrangements for lunch on Tuesday and Wednesday. The dining room in the Student's Union is available.

## Wi-Fi and Communicating

Connection will require device registration by *providing* and *verifying* a valid email address, in order to use the **Bronco-Guest** wireless network. After verification, Bronco-Guest will be available for 7 days and will require re-registration to continue use.

You should also be able to connect to wireless using the Boise State [eduroam](#) network, particularly if you have a @xx .edu email address.

If you need assistance connecting to a wireless network, please contact the OIT Help Desk at [\(208\) 426-4357](tel:2084264357) or email [helpdesk@boisestate.edu](mailto:helpdesk@boisestate.edu).

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## Programme at a Glance

	Sun 4 June	Mon 5 June	Tue 6 June
9.00	<b>Plenary:</b> <b>Colin Hendrie</b>	<b>Plenary:</b> <b>Elizabeth Cashdan</b>	<b>Plenary:</b> <b>Randy Thornhill</b>
10.00	<i>Coffee</i>	<i>Coffee</i>	<i>Coffee</i>
10.30	<b>Oral presentations I</b>	<b>Oral presentations II</b>  <b>Linda Mealey symposium</b>	<b>Oral presentations IV</b>
12.30	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
14.00	<b>Workshops</b> Direct Observation: Why & How to do it.	<b>Oral presentations III</b>	<b>Oral presentations V</b>
15.30*	Follow the Duck! (Lookout)  &  Causal Mediation – Metatheoretical Foundations and Procedures (Hatch)  <i>ISHE Officers Meeting starts at 1745</i>	<b>Poster Session</b>	<b>Workshops</b> Facial Image Processing – from pictures to stimuli (Lookout)  &  Above all else, show the data: ggplot (Forum)
Evening	Foraging in groups  <i>Unofficial gathering place: <b>Payette Brewing</b> 733 S Pioneer St</i>	Foraging in groups  <i>Unofficial gathering place: <b>BitterCreek Ale House</b> - 246 N 8TH ST</i>	<b>Banquet Dinner</b> at Basque Center (601 W Grove St), arrive for 7pm  <i>Unofficial gathering afterwards at <b>The Front Door</b> (105 South Sixth Street)</i>

*\*Refreshments will be available around 3.30 on each afternoon*

## Sunday 4th June

08.00	
<b>Registration opens</b>	SUB

<b>Welcome Address and Plenary I</b>	
<b>Colin Hendrie</b> Ethology, Psychology and embracing the "return to nature"	Lookout Room 09.00 – 10.15  <i>Chair: Elizabeth Oberzaucher</i>

10.15 – 10.30	
<b>Coffee</b>	

<b>Talks</b>	<b>Lookout Room</b> <i>Chair: John Richer</i>
<b>10.30</b>	<b>Sophie Hedges (SFA)</b> Are children more valuable at school or at home? Testing the assumptions underlying economic and evolutionary models of the demographic transition in rural Tanzania
<b>10.50</b>	<b>Heitor B. F. Fernandes (SFA)</b> Is life history one or multiple factors? Integrating diverse views using human and nonhuman data with the Strategic Differentiation-Integration Effort theory
<b>11.10</b>	<b>Michael A. Woodley of Menie</b> General intelligence is a source of individual differences between species: Solving an anomaly
<b>11.30</b>	<b>Joey T. Cheng</b> The Social Transmission of Overconfidence
<b>11.50</b>	<b>Danielle K. Morrison (SFA)</b> Social Perception of Faces and Bodies Predicts Motivational Salience
<b>12.10</b>	<b>Yong Zhi Foo</b> Predictors of facial attractiveness and health in humans

12.30 – 14.00	
<b>Lunch</b>	SUB



14.00 – 18.00

**Workshops**

*With refreshments around 15.30*

<b>Lookout Room</b>	<b>Hatch Ballroom</b>
<p data-bbox="248 457 846 535"><b>Direct observation: why it is important and how to do it. “Follow the Duck!”</b></p> <p data-bbox="248 609 846 724">Elisabeth Oberzaucher, Nancy L. Segal, Maryanne L. Fisher, Colin Hendrie, John Richer</p>	<p data-bbox="846 457 1427 577"><b>Meta-Theoretical Foundations and Statistical Procedures for the Study of Causal Mediation</b></p> <p data-bbox="846 609 1427 682">Aurelio Jose Figueredo and Heitor B. F. Fernandes</p>

**Evening**

<b>Foraging in Groups</b>	<i>Unofficial gathering place:</i> <b>Payette Brewing</b> 733 S Pioneer St, Boise, ID 83702
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## Monday 5th June

Plenary II	
<b>Elizabeth Cashdan</b> Sex differences in spatial behavior and spatial cognition	Lookout Room 09.00 – 10.05  <i>Chair: Tom Alley</i>

10.00 – 10.30
<b>Coffee</b>

Talks	<b>Lookout Room</b> <i>Chair: Ian Stephen</i>
<b>10.30</b>	<b>Tara DeLecce</b> (SFA) Applying the benefit-provisioning and cost-inflicting theory of mate retention to predict separation in married couples
<b>10.50</b>	<b>Amanda Rotella</b> (SFA) Female Sexual Function Across Relationship Statuses: A Mate Acquisition Trade-Off Hypothesis
<b>11.10</b>	<b>Chengyang Han</b> (SFA) Cross-cultural differences in facial attractiveness judgments: Evidence from White UK and Chinese participants' preferences for experimentally manipulated facial coloration
<b>11.30</b>	<b>SYMPOSIUM</b> <b>Linda Mealey: Extending Her Vision in Ethological Research Today</b> Carol C. Weisfeld, Nancy L. Segal, and J. Anderson Thomson, Jr.

12.30 – 14.00	
<b>Lunch</b>	SUB

<b>Talks</b>	<b>Lookout Room</b> <i>Chair: Gert Stulp</i>
<b>14.00</b>	<b>Daniel J. Kruger</b> Observational perspectives on mobile phone use in social environments
<b>14.20</b>	<b>Jeanne Bovet</b> Men prefer women with high residual fertility
<b>14.40</b>	<b>Marie M Armstrong</b> (SFA) Height perception mediates voice pitch-based dominance ratings
<b>15.00</b>	<b>Alexandra N. Cruz</b> (SFA) Constructing cohesion through political identity: Leadership in the 2016 election
<b>15.20</b>	<b>Greg Bryant</b> The social ecology of volitional laughter

15.40 – 16.00

<b>Refreshments</b>	SUB
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16.00 – 18.00

<b>Poster Session</b>	Lookout Room
Presenters of odd-numbered posters to be at posters from 16.00-17.00;	
Presenters of even-numbered posters to be at posters from 17.00-18.00	

Evening

<b>Foraging in Groups</b>	<i>Unofficial gathering place:</i> <b><i>BitterCreek Ale House - 246 N 8TH ST</i></b>
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## Tuesday 6th June

Plenary III	
<b>Randy Thornhill</b> The Parasite-stress Theory of Cultural Values and Sociality	Lookout Room 09.00 – 10.00  <i>Chair: Craig Roberts</i>

10.00 – 10.30
Coffee

Talks	Lookout Room <i>Chair: Amanda Hahn</i>
<b>10.30</b>	<b>Michal Misiak</b> (SFA) Biology of hunters and warriors. Examination of digit ratio, hand grip strength and their link to hunting skills and warriorship status among men of Yali tribe
<b>10.50</b>	<b>Kraig Shattuck</b> (SFA) Marriage in Brazil: A cross-cultural analysis using the Marriage and Relationship Questionnaire (MARQ)
<b>11.10</b>	<b>Espen Sjøberg</b> (SFA) Optimality or impulsivity? A systematic review of the evidence for an animal model of ADHD
<b>11.30</b>	<b>Romana Žihlavičková</b> (SFA) Would a doctor steal? Deindividuation and reputation management
<b>11.50</b>	<b>Anna Mezentseva</b> (SFA) Do facial markers predict aggression in Maasai males?
<b>12.10</b>	<b>Martin Hůla</b> (SFA) Habitat selection theory and flower preference – an empirical study

12.30 – 14.00	
<b>Lunch</b>	SUB

<b>Talks</b>	<b>Lookout Room</b> <i>Chair: Jeanne Bovet</i>
<b>14.00</b>	<b>James G. Zerbe (SFA)</b> Network Centrality and Coalitional Competition: a PGG Experiment in an Achuar and Sápara Community
<b>14.20</b>	<b>Juan Perote-Peña</b> Gossip disguising and the human propensity to story-telling
<b>14.40</b>	<b>Ian D Stephen</b> Disentangling social distance and potential reputational damage in a dictator game
<b>15.00</b>	<b>Patrick A. Stewart</b> Facing your competition: Findings from the 2016 presidential election

15.20 Refreshments, followed by

**Workshops**  
**15.30-18.00**

<b>Lookout Room</b>	<b>Hatch Ballroom</b>
<b>Facial Image Processing: From pictures to stimuli</b>	<b>Above all else, show the data: how ggplot can improve your graphs and increase understanding of your data</b>
Michal Kandrik, Iris J Holzleitner, Amanda C Hahn, Lisa M DeBruine	Gert Stulp

**Evening**

<b>Institute Banquet</b>	<b>Basque Center (601 W Grove St.)</b> <i>and afterwards at <b>The Front Door</b> (105 South Sixth Street)</i>
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## **Abstracts**

## Sunday 4th June

08.00	
<b>Registration opens</b>	SUB

<b>Welcome Address and Plenary I</b>	
<b>Colin Hendrie</b> Ethology, Psychology and embracing the "return to nature"	Lookout Room 09.00 – 10.15  <i>Chair: Elizabeth Oberzaucher</i>

<b>Oral Presentations I</b>	
<b>10.30 – 12.30</b>	Lookout Room  <i>Chair: John Richer</i>

14.00 – 18.00	
<b>Workshops</b> <i>With refreshments around 15.30</i>	
<b>Lookout Room</b>  <b>Direct observation: why it is important          and how to do it. "Follow the Duck!"</b>  Elisabeth Oberzaucher, Nancy L. Segal, Maryanne L. Fisher, Colin Hendrie, John Richer	<b>Hatch Ballroom</b>  <b>Meta-Theoretical Foundations and          Statistical Procedures for the Study of          Causal Mediation</b>  Aurelio Jose Figueredo and Heitor B. F. Fernandes

## PLENARY

### **Ethology, Psychology and embracing the "return to nature"**

Colin Hendrie

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Tinbergen considered the four major problems of biology as applied to behaviour to be causation, survival value, ontogeny, and evolution (Dewsbury, 1992). These ideas have their roots in Julian Huxley's "three aspects of biological fact" (e.g. Huxley, 1942, 40). The journal *Behaviour*, founded by Tinbergen and WH Thorpe in 1948, refers to Tinbergen's four questions as "prisms" and describes them as follows; at the proximate level, we have 1) the causation of behavior (its underlying motivation, cognition, and emotions), and 2) the behavior's ontogeny, such as how it develops or is acquired. At the ultimate level, we have 3) the behavior's survival value, and 4) its evolution and phylogeny. Tinbergen was, in addition to formulating these questions, also unequivocal about direct observation being at the heart of this process, and he took care to spell this out, saying that "the starting point of our work has been and remains inductive, for which description of observable phenomena is required" (Tinbergen, 1963, p.411). Tinbergen was in this context critical of the Psychology of his time; firstly because of its tendency not to directly observe and secondly because of its dependence on a few phenomena observed in a handful of species which were kept in impoverished environments, to formulate theories which were claimed to be general. Conditioning paradigms no longer hold the same sway over today's psychologists as they did in the 1950s/60s. However, psychology as a discipline has still, for the most part, failed to embrace the "return to nature" approach that Tinbergen saw as being its antithesis. This has had consequences for psychology and related disciplines, such as psychiatry and behavioural neuroscience. In this talk, I will review the most salient of these issues, and discuss ways in which the ethological approach can help to resolve them.

#### References:

Dewsbury, D. A. (1992). Essay on contemporary issues in ethology: On the problems studied in ethology, comparative psychology, and animal behavior. *Ethology*, 92(2), 89-107

Huxley J (1942) *Evolution: the modern synthesis*. London: George Allen & Unwin Ltd

Tinbergen, N (1963) On aims and methods of ethology. *Zeitschrift für Tierpsychologie* 20:410-433



## ORAL PRESENTATIONS I

Talks	Lookout Room <i>Chair: John Richer</i>
<b>10.30</b>	<b>Sophie Hedges (SFA)</b> Are children more valuable at school or at home? Testing the assumptions underlying economic and evolutionary models of the demographic transition in rural Tanzania
<b>10.50</b>	<b>Heitor B. F. Fernandes (SFA)</b> Is life history one or multiple factors? Integrating diverse views using human and nonhuman data with the Strategic Differentiation-Integration Effort theory
<b>11.10</b>	<b>Michael A. Woodley of Menie</b> General intelligence is a source of individual differences between species: Solving an anomaly
<b>11.30</b>	<b>Joey T. Cheng</b> The Social Transmission of Overconfidence
<b>11.50</b>	<b>Danielle K. Morrison (SFA)</b> Social Perception of Faces and Bodies Predicts Motivational Salience
<b>12.10</b>	<b>Yong Zhi Foo</b> Predictors of facial attractiveness and health in humans

### OWEN ALDIS AWARD WINNER

#### **Are children more valuable at school or at home? Testing the assumptions underlying economic and evolutionary models of the demographic transition in rural Tanzania (SFA)**

Sophie Hedges (1), Rebecca Sear (1), Jim Todd (1,2), Mark Urassa (2) & David W. Lawson (3)

*(1) Dept of Population Health, London School of Hygiene and Tropical Medicine, UK*

*(2) National Institute for Medical Research, Mwanza, Tanzania (3) Dept of*

*Anthropology, University of California, Santa Barbara, USA*

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High levels of parental investment, extended juvenile dependency and children's contributions to the household economy are unusual features of human life history, enabling high fertility and facilitating complex skill acquisition. Evolutionary anthropologists have argued that economic modernisation leads to a transition to low fertility because parents perceive increased benefits to formal education, and reduced benefits to children's work. However, few studies have empirically examined children's time allocation in modernising economies, to test the assumptions

underlying this model. In rural African settings, children's time allocation presents a dilemma for parents. While skills gained through formal education are increasingly important, children's work remains valuable to households. Using data collected from 1,278 children, we consider the impacts of household livelihood on children's time allocation in a rural area of Mwanza, north-western Tanzania. We predict that parents in more market-integrated livelihoods will value education more and child work less than parents engaged in subsistence livelihoods (agropastoralism). Contrary to predictions, market-integrated livelihoods were not associated with more time spent in education. For girls, market-integrated livelihoods were associated with less time in education, and more time in household chores, suggesting they may be compensating for the loss of adult women's household work. For boys, agropastoralism was associated with increased work time, but the expected trade-off between work and education was not seen: instead these boys had less leisure time compared with boys in other livelihoods. These findings question some of the common assumptions underlying economic and evolutionary models of the demographic transition.

**Is life history one or multiple factors? Integrating diverse views using human and nonhuman data with the Strategic Differentiation-Integration Effort theory (SFA)**

Heitor B. F. Fernandes (1), Aurelio José Figueredo (1) & Michael A. Woodley of Menie (2)

(1) *Department of Psychology, University of Arizona, USA*

(2) *Center Leo Apostel for Interdisciplinary Studies, Vrije Universiteit Brussel, Belgium*  
hbffernandes@email.arizona.edu

Much debate exists over how many dimensions of life history variation exist, with doubt frequently being cast on the proposed overarching fast-slow continuum. This study presents evidence that permit inferring that the seemingly contrasting views on life history dimensionality can actually be complementary, both in human and nonhuman primates. According to the Strategic Differentiation-Integration Effort (SD-IE) hypothesis of life-history evolution, organisms of slower life history are more differentiated among themselves than faster ones. The diversification should be observed through weaker correlations among their specific life history components, with thus a single overarching dimension not being enough to explain most of the variation in these traits when analyzing data from organisms in the slower pole of life history speed. Here, first present a review of the last five years of evidence of SD-IE within and among human populations, both with biodemographic and psychometric life history data. We then test SD-IE predictions among 111 primate species to examine if the phenomenon generalizes, by compiling and analyzing species means of female maturity age, gestation and lactation length, interbirth interval, maximum lifespan, neonatal and adult body mass. Using General Linear Models with scores on

the fast-slow continuum to predict the Continuous Parameter Estimates of the correlation between each life history component and the fast-slow continuum, SD-IE effects were found for all life history components, with moderate effect magnitudes similar to those recently found among and within human populations. SD-IE supportive effects were found both with and without controls for independent of phylogenetic inertia, suggesting that it is not simply a by-product of phylogenetic auto-correlation, but a product of selection. Results suggest that both in human and nonhuman primates, the independence among life history variables (or, conversely, the conformity of their variation to a single continuum) is considerably a function of life history speed itself.

**General intelligence is a source of individual differences between species:  
Solving an anomaly**

Michael A. Woodley of Menie (1), Heitor B. F. Fernandes (2), Jan te Nijenhuis (3), Aurelio-José Figueredo (2) and Mateo Peñaherrera Aguirre (4) (1) *Center Leo Apostel for Interdisciplinary Research, Vrije Universiteit Brussel, Belgium*

(2) *Department of Psychology, University of Arizona, USA*

(3) *Department of Institutional and Organisational Psychology, University of Amsterdam, The Netherlands*

(4) *Department of Psychology, University of New Brunswick, Canada*

Michael.Woodley@vub.ac.be

The general factor of intelligence (g) exists among individual differences in performance on measures of cognitive ability in several species. A similar latent factor of intelligence also exists at the level of cross-species comparisons involving aggregate measures of cognitive performance - termed Big G. A paradox has been noted as there is ambiguous evidence for the existence of the general intelligence factor when comparing individuals of different species evaluated using the same cognitive ability batteries. Using the method of correlated vectors, it is found that among the subtests of the PCTB battery administered to samples of human children and chimpanzees the g-loading of each subtest only weakly positively predicts the magnitude of the species difference in performance. Sequentially removing subtests that imposed floor or ceiling effects on the performance of one or the other species using coefficient of phenotypic variance as an index, boosted the correlation between subtest g-loading and species differences in performance to the point where the g-loadings of the three subtests exhibiting the highest coefficients of variance for both species perfectly correlated with the species differences in performance on those subtests. The presence of floor and ceiling effects on specific abilities result from the fact that some ability measures tap processes that are domain specific and modular in one species but not in another. These mask the degree to which a common g-factor predicts individual differences between species on mixed tests of cognitive ability.

### **The Social Transmission of Overconfidence**

Joey T. Cheng (1), Cameron Anderson (2), Elizabeth R. Tenney (3), Sebastien Brion (4), Don A. Moore (2) & Jennifer M. Logg (5)

(1) *University of Illinois at Urbana-Champaign, USA*

(2) *University of California, Berkeley, USA*

(3) *University of Utah, USA*

(4) *University of Navarra, Spain*

(5) *Harvard University, USA*

jtcheng@illinois.edu

Why do individuals consistently hold faulty, overly positive beliefs about their capacities? Such a pervasive bias towards overconfidence is puzzling, especially in light of its many pernicious consequences. Prior work addressing this question has focused on the cognitive limitations of the mind and the possible fitness-relevant advantages conferred by this bias, such as increased competitiveness, persistence, and social status. Here we explore the possibility that this bias may also derive from cultural transmission. We present evidence from five studies showing that overconfidence partially arises through social transmission, such that a person's overconfidence is readily influenced by that of others. Using field data, Study 1 demonstrates that individuals socially connected to each other show greater convergence in overconfidence relative to individuals not connected. Study 2 shows that interactions in the laboratory between strangers assigned to collaborate lead to convergence in overconfidence. Using experimental designs, Studies 3-5 replicate these findings by demonstrating that exposure to overconfident others causally increases not just confidence but also overconfidence, and further show that imitation is a key psychological mechanism that underpins this effect. Moreover, this bias transmits even across direct social ties to individuals who are not part of the original interaction with the overconfident peer, suggesting that overconfidence cascades from person to person to person (Study 4). These results advance understanding of the social forces that underlie overconfidence and suggest that cultural transmission processes help explain the roots of this cognitive bias.

### **Social Perception of Faces and Bodies Predicts Motivational Salience (SFA)**

Danielle K. Morrison, Hongyi Wang, Benedict C. Jones, Lisa M. DeBruine *University of Glasgow, Glasgow, UK*

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Previous research indicates that social perception of faces and voices show a consistent two-factor pattern of valence and dominance, while social perception of bodies consists of a one-factor pattern where both valence and dominance correlate. Valence and dominance have been shown to independently predict the motivational

saliency of faces; participants used key-presses to increase viewing time more for faces that scored higher on valence and/or dominance. To test the relationship between motivational saliency and the social perception of bodies, 77 participants (39 men) performed the same key-press task on 50 male and 50 female faces and bodies. Valence and dominance significantly, positively, and independently predicted the motivational saliency of male and female faces, replicating earlier work. The main social perception factor for bodies, which was positively correlated with both valence and dominance, significantly and positively predicted motivational saliency for both male and female bodies. Waist-to-chest ratio (WCR) also significantly and positively predicted motivational saliency for male bodies, while waist-to-hip ratio (WHR) did not predict motivational saliency for female bodies and BMI did not linearly or quadratically predict motivational saliency for either male or female bodies.

### **Predictors of facial attractiveness and health in humans**

Yong Zhi Foo (1,2), Leigh W. Simmons (1,2), and Gillian Rhodes (1)

*(1) ARC Centre of Excellence in Cognition and its Disorders, School of Psychology, University of Western Australia*

*(2) Centre for Evolutionary Biology & School of Animal Biology, University of Western Australia*

*yong.foo@uwa.edu.au*

Facial attractiveness has been suggested to provide signals of biological quality, particularly health, in humans. The attractive traits that have been implicated as signals of biological quality include sexual dimorphism, symmetry, averageness, adiposity, and carotenoid-based skin colour. In this study, we first provide a comprehensive examination of the traits that predict attractiveness. In men, attractiveness was predicted positively by masculinity, symmetry, averageness, and negatively by adiposity. In women, attractiveness was predicted positively by femininity and negatively by adiposity. Skin colour did not predict attractiveness in either sex, suggesting that, despite recent interest in the literature, colour may play limited role in determining attractiveness. We then examined whether appearance predicted actual health using measures that have been theoretically linked to sexual selection, including immune function, oxidative stress, and semen quality. In women, there was little evidence that female appearance predicted health. In men, we found support for the phenotype-linked fertility hypothesis that male masculinity signalled semen quality. However, we also found a negative relationship between averageness and semen quality. Overall, these results indicate weak links between attractive facial traits and health.

**WORKSHOP 1 - LOOKOUT ROOM**  
**14.00 – 18.00**

**Direct observation: why it is important and how to do it. “Follow the Duck!”**

Elisabeth Oberzaucher<sup>1</sup>, Nancy L. Segal<sup>2</sup>, Maryanne L. Fisher<sup>3</sup>, Colin Hendrie<sup>4</sup>, John Richer<sup>5</sup>

<sup>1</sup>*Faculty of Life Sciences, University of Vienna; Dept for Artificial Intelligence, University of Ulm, Austria*

<sup>2</sup>*Dept of Psychology and Director, Twin Studies Center, California State University, Fullerton, CA, USA*

<sup>3</sup>*Dept of Psychology, Saint Mary's University, Halifax, Canada*

<sup>4</sup>*School of Psychology, University of Leeds, UK*

<sup>5</sup>*Paediatric Psychology, Oxford University Hospitals; Dept of Physiology, Anatomy and Genetics, Oxford University, UK*

When Bill Charlesworth said “follow the duck, not the theory of the duck” he was emphasising the importance of observing and trying to understand naturally occurring behaviour and not just testing armchair theories about behaviour.

Niko Tinbergen memorably wrote, ““It has been said that, in its haste to step into the twentieth century and to become a respectable science, Psychology skipped the preliminary descriptive stage other natural sciences had gone through, and was soon losing touch with the natural phenomena”.

But human behaviour is not easy to observe scientifically, partly because we think we know all about it already. And we do, but it is the wrong sort of knowledge, it is a practical mentalistic knowledge which is useful for dealing with each other. And it differs from culture to culture. Stepping outside this mind set and observing human behaviour as one might the behaviour of lions or herring gulls or salmon requires considerable discipline.

Then the observer is confronted by the complexity and flexibility of human behaviour and can feel overwhelmed.

This seminar aims to offer useful practical approaches to direct observation, ways of generating fertile questions, and methods of recording, measurement and analysis. Workshop leaders will offer examples from their own work. There will be observation exercises so that attendees can practice and discuss observation skills.

The workshops is in two parts:

1. theoretical background and methodological considerations
2. practical workshops observing and discussing videos of samples of human behaviour

**WORKSHOP 2 - LOOKOUT ROOM**  
**14.00 - 17.00**

**Meta-Theoretical Foundations and Statistical Procedures for the Study of Causal Mediation**

Aurelio José Figueredo and Heitor B. F. Fernandes  
*Dept of Psychology, University of Arizona, USA*  
ajf@u.arizona.edu

This workshop is a tutorial on both the theory and practice of testing theories of causal mediation. A theoretical introduction is provided, followed by a brief interactive workshop highlighting some specialized but user-friendly statistical software that handles such problems with great efficiency and ease. Participants should bring their laptops so they can experience the application of that software interactively at no charge to the user.

## Monday 5th June

<b>Plenary II</b>	
<b>Elizabeth Cashdan</b> Sex differences in spatial behavior and spatial cognition	Lookout Room 09.00 – 10.05  <i>Chair: Tom Alley</i>
<b>Oral Presentations II</b>	
<b>10.30 – 11.30</b>	Lookout Room  <i>Chair: Ian Stephen</i>
<b>11.30 – 12.30</b>	<b>SYMPOSIUM</b> <b>Linda Mealey: Extending Her Vision in Ethological Research Today</b> Carol C. Weisfeld, Nancy L. Segal, and J. Anderson Thomson, Jr.
<b>Oral Presentations III</b>	
<b>14.00 – 15.40</b>	Lookout Room  <i>Chair: Gert Stulp</i>
<b>16.00 – 18.00</b>	
<b>Poster Session</b>	Lookout Room  <i>Presenters of odd-numbered posters to be at posters from 16.00-17.00</i>  <i>Presenters of even-numbered posters to be at posters from 17.00-18.00</i>



## **PLENARY**

### **Sex differences in spatial behavior and spatial cognition**

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Sex differences in range size and navigation are widely reported, both in humans and other non-monogamous species, with males ranging farther and often showing better spatial ability. Our research has addressed both the selection pressures and motivational mediators underlying these sex differences. In a variety of other taxa, spatial abilities conducive to larger ranges appear to reflect male mating competition, and our cross-cultural work suggests that the same is likely to be true for humans. Among Tse foragers, where affairs are routine and mating competition is high, men range much farther than women, often in search of mates, and the sex difference in range size is associated with sex differences in spatial performance. Among the monogamous Maya, on the other hand, where mating competition is low, the sex difference in range size is minimal and more consistent with paternal provisioning than mate search. The Tsimane appear to be somewhere in between, with sex differences only in young adulthood, when mating competition is highest. We are also interested in evolved trait differences that might motivate differences in spatial behavior, particularly sexually-dimorphic responses to risk and harm-avoidance. We have found in our Utah samples that the sex difference in range size is partially mediated by individual differences in harm avoidance, and that larger ranges lead in turn to wayfinding strategies associated with enhanced navigational performance and confidence. By focusing on the role of mobility in spatial cognition, we hope to learn how spatial performance can be enhanced through spatial experience.

## ORAL PRESENTATIONS II

Talks	Lookout Room <i>Chair: Ian Stephen</i>
<b>10.30</b>	<b>Tara DeLecce</b> (SFA) Applying the benefit-provisioning and cost-inflicting theory of mate retention to predict separation in married couples
<b>10.50</b>	<b>Amanda Rotella</b> (SFA) Female Sexual Function Across Relationship Statuses: A Mate Acquisition Trade-Off Hypothesis
<b>11.10</b>	<b>Chengyang Han</b> (SFA) Cross-cultural differences in facial attractiveness judgments: Evidence from White UK and Chinese participants' preferences for experimentally manipulated facial coloration
<b>11.30</b>	<b>SYMPOSIUM</b> <b>Linda Mealey: Extending Her Vision in Ethological Research Today</b> Carol C. Weisfeld, Nancy L. Segal, and J. Anderson Thomson, Jr.

### **Applying the benefit-provisioning and cost-inflicting theory of mate retention to predict separation in married couples (SFA)**

Tara DeLecce, Glenn Weisfeld, & Carol C. Weisfeld  
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The current research examines the effectiveness of mate retention tactics in both American and British married couples. While past research has only investigated mate retention tactic effectiveness through measures of marital satisfaction, the current research achieves this by using mate retention tactics to predict the relationship outcome of couple separation. Mate retention tactic classification was organized via the theoretical framework proposed by Miner and colleagues (2009) that identifies tactics as benefit-provisioning or cost-inflicting. Results were consistent with this theoretical framework such that a period of separation between couples was predicted by cost-inflicting tactics for wives such as sexual coercion; for husbands, instead of the obvious infliction of costs (such as sexual coercion) a lack of benefit-provisioning such as sexual fulfillment was more predictive of separation. Discussion will focus on how these results can be integrated into the existing literature following this theoretical framework, as it has largely been applied to non-married couples.

## **Female Sexual Function Across Relationship Statuses: A Mate Acquisition Trade-Off Hypothesis (SFA)**

Amanda Rotella (1), Jillian J.M. O'Connor (1), Rebecca Breuer (2), Robin R. Milhausen (2)

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Compared to men, women have greater minimum obligatory reproduction costs. These costs have strongly influenced female mating psychology, as evident by women's choosiness. In addition to their role in reproduction, desire, arousal, and orgasm function may be mechanisms which help guide female mate acquisition and choice. We propose that stage of mate acquisition, using relationship status as a proxy (single, dating, committed), calibrates levels of sexual function that inform mate acquisition and retention decisions. To test this, 1,154 women completed the Female Sexual Function Index (FSFI) and indicated their relationship status (single, dating, and committed). The FSFI sub-scales were entered into a MANCOVA controlling for age, relationship duration, relationship satisfaction and general health. Women in committed relationships reported less sexual desire and arousal than women who were single or dating, partnered women reported greater orgasm function than single women, and dating women reported greater satisfaction than both single and committed women. Additionally, sexual functions that were not predicted to vary with stage of mate acquisition, such as pain and lubrication, did not vary with relationship status. These findings supports the hypothesis that female sexual desire and arousal have functions in mate selection and orgasm function may inform mate retention decisions. We discuss these results in the context of reproductive trade-offs and female mate choice.

## **Cross-cultural differences in facial attractiveness judgments: Evidence from White UK and Chinese participants' preferences for experimentally manipulated facial coloration (SFA)**

Chengyang Han(1), Hongyi Wang(1), Amanda Hahn(2), Claire Fisher(1), Michal Kandrik(1), Vanessa Fasolt(1), Danielle K. Morrison (1), Anthony J. Lee (1), Iris Holzleitner(1), Lisa M. DeBruine (1), & Benedict Jones(1)

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Work suggesting that the combined effects of skin characteristics on facial attractiveness judgments are at least as large as (if not greater than) those of facial morphology has seen attractiveness researchers increasingly focus on facial skin

characteristics, such as coloration. Research showing similar effects of facial coloration when White UK participants judge the attractiveness of White UK faces and when Black African participants judge the attractiveness of Black African faces has been interpreted as evidence for cross-cultural similarity in the effects of facial coloration on attractiveness. This cross-cultural similarity has been hypothesized to reflect facial coloration's putative function as a health cue, in combination with psychological adaptations for avoiding unhealthy individuals. The current study used Chinese and White UK face stimuli that had been experimentally manipulated in facial coloration to study cross-cultural similarity in the effects of facial coloration on Chinese (N=95) and White UK (N=101) participants' facial attractiveness judgments. Chinese participants showed stronger preferences for lightness, but weaker preferences for redness, than did White UK participants. Strikingly, yellowness had a positive effect on White UK participants' facial attractiveness judgments, but had a negative effect on Chinese participants' facial attractiveness judgments. These patterns generally held true regardless of the ethnicity of the stimulus faces and also occurred for health judgments of faces. Together, our results demonstrate cross-cultural differences in facial attractiveness judgments and demonstrate that preferences for facial coloration are not universal. The cross-cultural differences we observed in facial color preferences are consistent with recent research questioning the extent to which facial coloration is related to actual health.

## **SYMPOSIUM**

### **Linda Mealey: Extending Her Vision in Ethological Research Today**

Carol C. Weisfeld (1), Nancy L. Segal (2), and J. Anderson Thomson, Jr (3)

(1) *Wayne State University, Detroit, USA*

(2) *California State University, Fullerton, USA*

(3) *University of Virginia, USA*

This symposium aims to discuss and celebrate the significant influence of Linda Mealey's work on three areas of the study of human behavior:

***Twin Studies*** (Nancy L. Segal). Comparing monozygotic (MZ or identical) twins with dizygotic (DZ or fraternal) twins can combine ethological, behavioral-genetic and evolutionary approaches to human behavior. Dr. Linda Mealey authored two very creative twin studies, one on the heritability of reproductive characteristics and another on facial attractiveness and facial asymmetry. The rationale, methods, findings and implications of her work will be described. Her work will also serve as a point of departure for raising new questions and suggesting new ways of using twins, as well as adoptees and other genetically and environmentally informative couples (e.g., same-age unrelated individuals raised together; genetically unrelated look-alikes), in ethologically-based research.

***Sex Differences*** (Carol C. Weisfeld). This section will review some of Linda's insights into evolved sex differences in humans, as found in her 2000 book *Sex Differences: Developmental and Evolutionary Strategies*. It will include a "Where do we go from here" discussion of potential ethological research projects following on those insights from Linda Mealey's book. The aim is to provide student attendees with ideas for their own future research projects dealing with human sex differences.

***Contributions to the Clinic*** (J. Anderson Thomson, Jr.). Throughout her all too brief career Linda Mealey cared deeply about human suffering. The possible clinical application of evolutionary thought motivated much of her work. She tackled the tough question of how much of antisocial behavior is nature, how much is troubled nurture. Her comprehensive review of sociopathy in BBS with an evolutionary model still provides forensic clinicians with a nuanced view that avoids the pitfalls of the present classification system, the Diagnostic and Statistical Manual. Linda's work on anorexia nervosa provides a needed corrective to models of eating disorder treatment that continue to be based on old theories with no empirical support. Anchored in a reproductive suppression framework, Linda's formulation of eating disorders directs clinicians to probe female/female competition as part of the treatment. Her textbook on sex differences contains a superb section on clinical issues, with a focus on the sex differences in stress, depression and suicide, as well as a trenchant critique of DSM and gender biases in diagnosis. At the time of her death she was working on a draft of a comprehensive psychopathology from an evolutionary perspective.

### ORAL PRESENTATIONS III

Talks	Lookout Room <i>Chair: Gert Stulp</i>
14.00	<b>Daniel J. Kruger</b> Observational perspectives on mobile phone use in social environments
14.20	<b>Jeanne Bovet</b> Men prefer women with high residual fertility
14.40	<b>Marie M Armstrong</b> (SFA) Height perception mediates voice pitch-based dominance ratings
15.00	<b>Alexandra N. Cruz</b> (SFA) Constructing cohesion through political identity: Leadership in the 2016 election
15.20	<b>Greg Bryant</b> The social ecology of volitional laughter

#### **Observational perspectives on mobile phone use in social environments**

Daniel J. Kruger

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Mobile phones are integral to socialization in contemporary societies and there is a large and growing research literature, primarily based on self-report surveys. However, the accuracy of self-reported phone usage is questionable as it only correlates moderately with objective server log data. Naturalistic observations of phone use may complement findings from self-report surveys. I will review 5 observational studies examining patterns of phone use in a Midwestern USA college town. These projects provided basic descriptives (e.g. what proportion of pedestrians and automobile drivers are using phones?) and tested a priori hypotheses. Trained unobtrusive observers conducted sessions in public locations, recording characteristics of individuals observed, including gender, approximate age, social group size, whether individuals were engaged in a live conversation, and phone usage. Results supported most a priori predictions. Across contexts, individuals were less likely to use their phones when engaged in live conversations. Phone use was socially contagious, when one person in a pair used their phone; the other person was more likely to use their phone in the immediate future. Younger automobile drivers had higher rates of phone use than older drivers, and all drivers were less likely to use phones when they had passengers and when it was raining. Individuals had high rates of phone use in downtime or waiting spaces, most using their phones within 10s of arrival. After experiencing phone deprivation, temporary restrictions on phone use, individuals were more likely to use their phones than before deprivation. These

results demonstrate the value of observational studies for understanding the use of social technology such as mobile phones. There may be overlap with the content assessed by self-report surveys and objective server log data; however, observational methods may best address particular research questions.

### **Men prefer women with high residual fertility**

Jeanne Bovet (1), Mélissa Barkat-Defradas (2), Valérie Durand (2), Charlotte Faurie (2), Michel Raymond (2) (1) *Institute for Advanced Study in Toulouse, France*  
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Multiple studies have demonstrated that features linked to short-term fertility explain much of the variance in men's judgments of female attractiveness. Evolutionary theory predicts that for short-term relationships, men should prefer females of the age at which their fertility peaks. For long-term relationships, a high residual fertility (expected future reproductive output influenced by age at menopause) is also relevant. Accordingly, being near peak fertility and having a late expected age at menopause is hypothesized to be preferred by men. Here, we show that expected age at menopause (estimated using mothers' age at menopause) influences judgments of facial attractiveness of young women. We found that men judged faces of women with a later expected age at menopause as more attractive than those of women with an earlier expected age at menopause, even when controlling for age and other correlates of attractiveness.

### **Height perception mediates voice pitch-based dominance ratings (SFA)**

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Studies show that lower-pitched voices are judged as being relatively more socially and physically dominant. Outside the lab, voice pitch has been accurately linked to measures of social dominance such as CEO pay and political leadership. Objective measures of physical dominance such as strength and fighting ability are not clearly-linked to voice pitch, as positive results have not been replicated across studies from independent labs. Furthermore, meta-analyses show that height, the primary correlate of physical dominance, is not related to voice pitch in any meaningful way, despite several studies showing very strong perceptions that the two features are related. We examined the idea that physical dominance judgements are influenced by the false perception that voice pitch and perceived height are strongly linked. We measured physical height from 180 individuals and recorded their voices. Participants then rated these voices for perceived height, physical dominance, and

social dominance. For male voices, we found a weak linear relationship between voice pitch and measured height, but a larger residual component of height perception that was unrelated to measured height than was related to actual height. For female voices, there was no relationship between voice pitch and measured height, despite perceptions. The relationship between voice pitch and false height perception significantly mediated the relationship between both physical and social dominance and voice pitch for women's voices, and for physical dominance judgments for men's voices. Measured height was a relatively poor mediator of the relationship between voice pitch and dominance judgments for male voices. Together, these results imply that the link between perceived physical dominance and voice pitch is based largely on false perceptions of body size. False perceptions of body size influence perceptions of women's voices more than they affect men's voices, suggest stronger selection pressure for honest indicators of dominance in male than in female voices.

### **Constructing cohesion through political identity: Leadership in the 2016 election (SFA)**

Alexandra N. Cruz (1), Bryan Sherburne (1), Amber M. Gaffney (1), Justin D. Hackett (2)

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People elect and support leaders they feel best represent and clarify their group identities (i.e., are prototypical). This process of social identity representation and clarification is particularly important in competitive intergroup contexts, such as elections, where groups strive to differentiate themselves from their competitors. The 2016 U.S. Presidential election, however, witnessed two relatively 'non-prototypical' candidates leading their parties (a woman and a non-politician), posing the question of how their leadership impacted each party's identity and cohesiveness. Partisan Democrats and Republicans, who view their parties as an extension of the self, might be particularly motivated to perceive Trump and Clinton as truly representative of their party. As a result, this process may have increased each party's cohesiveness and clarified their group's identity in the image of their candidate. This work examines partisans' perceptions of their leaders' prototypicality as mediating the relationship between their identification with their party and perceptions of their party's cohesiveness and prototype clarity. A representative sample of Republicans and Democrats completed an online survey approximately three weeks before the election (N Republican = 338; N Democrat = 330) and two weeks after the election (N Republican = 159; N Democrat = 160). Both pre-election and post-election results suggest that strongly identified Republicans and Democrats demonstrated a desire to perceive Trump or Clinton as prototypical of their respective party, and this in turn predicted participants' ratings of their party's cohesion and the clarity of each party's



prototype. These findings highlight the importance of leadership prototypicality in clarifying a group's identity and the leader's ability to construct a sense of group cohesion. Importantly, people who strongly identify with their groups (such as partisan Democrats and Republicans) might be especially motivated to view their leaders as prototypical, and as a result, refer to this leader for further definition and clarification of their group's prototype. Through this influential process, the leader's high-prototypicality clarifies the entire group prototype, creating a stronger sense of group cohesion.

### **The social ecology of volitional laughter**

Greg Bryant

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Human laughter is a spontaneous nonverbal vocalization phylogenetically related to play vocalizations in numerous social mammals. The evolution of the speech system in humans afforded volitional control over many types of vocalizations, including laughter, that changed the social ecology of how and when these vocalizations occur in interaction. Volitional laughter has several perceivable acoustic distinctions from spontaneous laughter and can be used strategically for a variety of communicative effects. Here I will describe these acoustic distinctions, and then explore both cooperative and non-cooperative social uses. I will provide a rough sketch of a taxonomy of volitional laughter including the subtle polite laughs that help regulate conversational dynamics to the exaggerated cackling of fake amusement.

## POSTER ABSTRACTS

### **1. The interplay of sexual arousal and disgust: Current research and future directions (SFA)**

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Sex is a double-edged sword. On one hand, it is the key to reproduction and fitness. On the other hand, it involves a large risk of pathogen transmission. Thus, sex-related stimuli can elicit both disgust and sexual arousal. Disgust has evolved to protect us from disease, while sexual arousal facilitates sexual interaction. The two seem to be incompatible, and research as well as theory suggest that they inhibit each other. But the few studies that have been conducted show seemingly inconclusive result. I will summarize the existing research on sexual arousal and disgust, including a study of my own, and explain results in light of theory. Based on these findings, I will suggest avenues for future research, and highlight implications for practice.

### **2. Parental care and grandparenting in modern Russia as a reflection of discriminant parental investment theory (SFA)**

Olga Semenova (1) & Marina Butovskaya (1,2)

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Studies on grandparental investment have revealed that mothers' parents are more helpful to their grandchildren than are fathers' parents. The goal of this study was to test whether the data on discriminant parental care and grandparenting in modern Russia are consistent with evolutionary predictions. It was hypothesized that discriminant parental and grandparental care are due to the fact that mothers' parents often have the potential to invest in genetically more certain kin (daughters' offspring). Our second assumption was that biological grandparents would prefer to invest their care into grandsons than granddaughters. To test these hypotheses, 233 Russian participants (157 women, 76 men) aged 17 to 60 ( $M = 27$ ) completed a questionnaire in which they rated the amount of care that had been received from grandparents during childhood, particularly amount of time grandparents spent caring and babysitting during vacations and illnesses. We also asked about amount of care received from biological mothers and fathers, and spatial distance between their parents' and grandparents' houses. Results indicated that the Russian family model and way of raising children remains traditional to the extent that significant amounts of care for children are still provided by grandparents. Our data confirmed the initial hypothesis: maternal grandparents provided significantly more care. Families with

children tend to live closer to the maternal grandparents' home. To control for this, we selected for further analysis only those cases where families with children and grandparents lived in different cities; even here, help obtained from maternal grandparents was significantly higher. We did not find any difference in parental care that was given by biological mothers or fathers dependent on the child's sex. However, the amount of care that had been provided by grandparents was sensitive to the sex of grandchildren, with investment in boys being significantly higher from both sets of grandparents.

### **3. Parent-offspring conflict over mate choice: An experimental investigation using Chinese marriage markets**

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Both parents and offspring have evolved mating preferences that enable them to select mates and in-laws to maximize their inclusive fitness. Although such preferences may substantially overlap, theory of parent-offspring conflict predicts that preferences for potential mates may differ between parents and their offspring, especially with respect to the importance of material resources and physical attractiveness of potential mates. Indeed, individuals are expected to value physical attractiveness more in their mates than in their in-laws, and to value material resources more in their in-laws than in their mates. We tested this hypothesis in China using naturalistic "marriage markets" arranged by parents actively searching for marital partners for their children. These markets consist of parents advertising the characteristics of their adult children looking for a potential son or daughter-in-law. To experimentally investigate parent-offspring conflict in mating preferences, we presented 800 parents and young adults from the city of Kunming (Yunnan) with hypothetical mating candidates varying in their levels of income and physical attractiveness. Consistent with parent-offspring conflict theory, we found significant differences between preferences of adult children and parents, with children evaluating physical attractiveness as more important. We also found a strong effect of the sex of the mating candidate on preferences, as physical attractiveness was deemed more valuable in a female potential mate or in-law, thus underlining the specific role of female physical appearance in the evolution of mate choice.

#### **4. Nature catches the eye: human gaze behavior as a measure for aesthetic preference**

Kathrin Masuch (1,2), Carmen Schwarzl (1), Karolin Einenkel (1), Manuel Weninger (1), Vsevolods Girsovics (1), Elisabeth Oberzaucher (1,2,3)

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Featuring wide and open spaces, scattered high trees and a sufficient amount of water, the African savanna provided the optimal setting for early humans to develop bipedal locomotion and to increase the size of both brain and social groups. Until today, the savanna habitat is seen as the optimal environment for the human species. Based on the well-known Savanna hypothesis, studies showed that in comparison to a modern, man-made environment, natural ones are preferred. By using an electrooculogram, we surveyed whether this preference also manifests in gaze behavior in a laboratory study setting. Participants were confronted with 20 pairs of pictures, each consisting of a modern man-made stimulus and a natural stimulus. Stimuli were matched in size, color and purpose of the depicted item. We tested 64 participants. Our results show that even when the stimuli were presented for just 2 seconds, the natural one was looked at longer than the artificial one. Results remained stable when we controlled for sex, age and environmental preferences of our subjects. This indicates that the differential gaze behavior is triggered by involuntary and unconscious processes.

#### **5. Food Neophobia and Germ Aversion as Components of the Behavioral Immune System**

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Food neophobia, a resistance to consuming unfamiliar items, is a species-typical trait that can be adaptive since it reduces the likelihood of consuming unfamiliar things that may be harmful. From this perspective, food neophobia can be considered to be part of the human behavioral immune system. That is, it serves a protective function as do other behavioral tendencies that help prevent infection or reduce harmful consequences of toxic agents. While adaptive, such behavioral tendencies can also have negative consequences, such as an overly restrictive diet in food neophobics, and display considerable individual variation. Do individual differences in protective behavioral dispositions tend to co-vary? That is, if an individual is high in germ aversion, is it likely they are also highly food neophobic, highly prone to pathogen disgust, etc.? As an initial approach to this question, levels of food neophobia were

correlated with levels of germ aversion. More specifically, 263 young adults completed a questionnaire that included the Food Neophobia Scale (FNS; Pliner & Hobden, 1992) and the Perceived Vulnerability to Disease scale (PVD; Duncan, Schaller & Park, 2009). The 15-item PVD scale is comprised of an 8-question Germ Aversion (GA) subscale to measure respondents' avoidant behavior in situations with a high chance of germ transmission, and a 7-question Perceived Infectability (PI) subscale to measure perceptions of susceptibility to infectious diseases. While the PI measure consists of items that reflect perceived disease resistance, the GA subscale largely reflects behaviors and situations, providing a better fit with the notion of a behavioral immune system. The findings included a low but positive correlation between FNS scores and the GA subscale, but no relationship of FNS scores to Perceived Infectability. Thus, food neophobia levels showed some tendency to vary with germ aversion, the other measure that was dependent on reported behavioral tendencies, but were unrelated to the more cognitive measure of susceptibility to infection (PI). This pattern provides some support for the view that the behavioral immune system consists of multiple components that may tend to co-vary across individuals.

## **6. Facial features predict physical attractiveness but body predicts sexual desirability of women (SFA)**

Tomáš Hladký (1), Timothy Jason Wells (1, 2), Klára Bártová (1, 2), Kateřina Potyszová (1, 2), Lucie Krejčová (1, 2) & Jakub Binter (3)

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Research suggests that men are most attracted to specific facial features and body shapes of women that develop under the influence of estrogen. Moreover, subjective ratings of female faces and bodies have been shown to be correlated, although faces were found to be the greatest predictor of overall attractiveness. Female attractiveness is believed to be an indicator of genetic fitness and developmental stability which would be ideal for producing healthy offspring. Nevertheless, attractiveness is not necessarily a prerequisite for sexual behaviour; attractiveness and sexual desire can occur independently of one another. Here we investigated ratings of female faces, bodies, and face-body compounds using independent scales for attractiveness and sexual desire. We presented participants (51 men, 50 women) with three counterbalanced blocks of stimuli: 1) facial photos, 2) body photos (dressed in casual clothing) with blurred faces, 3) photo of the body and face together.

The participants rated the stimuli on two, seven-point scales (1 = very physically unattractive/sexually undesirable, 7 = very physically attractive/sexually desirable). Data were analyzed using a hierarchical linear model. The results showed no appreciable difference between the ratings of men and women for ratings of either attractiveness or sexual desire. Relationship status and age also failed to improve the model fit. Face and body ratings both significantly predicted the ratings of face-body compounds. However, the face was found to account for a greater proportion of compound attractiveness ratings. In contrast, the body was found to account for a greater proportion of compound sexual desire ratings. For both models, an interaction between face and body ratings did not improve the model fit. The ratings of face and body stimuli were however found to be moderately correlated. These findings show that the situational context is important for considering the relationship between aspects of female physical form and overall perception. Moreover, rating context could also determine the importance of different features. While faces might be attractive, bodies appear to be the greater focus of sexual desire.

## **7. Cross-cultural preference for facial adiposity (SFA)**

Xue Lei & David Perrett *School of Psychology & Neuroscience, University of St Andrews, UK*  
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Human attractiveness is partly based on health and fecundity. Research has shown that facial adiposity (perceived weight from face) is a predictor for facial attractiveness and health. An inversed U-shape relationship between Body Mass Index (BMI kg/m<sup>2</sup>) and attractiveness is reported in most studies with an attractiveness peak around 18-20 for women and 20-23 for men. However, health risk associated with BMI is ethnicity dependent. In some Asian populations BMI > 22.5 is associated with risk of obesity related diseases, for Caucasians the equivalent risk occurs with BMI > 25. Thus, face ethnicity may influence preference for facial adiposity, lower adiposity being preferred in Asian faces. While people are familiar with and better at processing their own-ethnicity faces, no study has yet compared people's preference for own and other-ethnicity faces in terms of adiposity. Here we investigated to what extent East Asians and Caucasians agree on the most attractive level of both own-ethnicity faces and other-ethnicity faces. 51 Caucasians and 66 East Asians were asked to optimize Caucasian and East Asian male and female faces by changing them along a continuum that represents the facial adiposity difference associated with BMI change. We found that people have a preference for significantly lower level of facial adiposity for East Asian females (16.2) compared to Caucasian females (18.4) but showed no difference for male faces (East Asian 20.4, Caucasian 20.6). Additionally, the results indicated that East Asians and Caucasians show a similar pattern of preference for facial adiposity regardless of the ethnicity of face and sex of face. These findings provide evidence for a cross-cultural similarity of

preference for thinner faces and suggest that this preference is face ethnicity and face sex dependent.

## **8. Triggering the behavioural immune system influences spatial proximity**

S. Craig Roberts

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The behavioural immune system comprises a suite of evolved psychological mechanisms which process the risk of infection through perceptual cues, activate aversive emotional and cognitive responses, and motivate avoidance behaviours to neutralise the perceived pathogen threat. For example, across species, individuals perceive infection or poor health in conspecifics and either avoid contact with them or are more disgusted by the prospect of contact with them. Here I tested whether these responses are generalised to non-specific cues of potential disease risk, exploring whether general perception of current environmental risk is sufficient to trigger subsequent avoidance behaviour towards individuals who lack obvious cues of infection. A total of 180 individuals (90 men, 90 women) were asked to sit at a table where they viewed and indicated their level of disgust towards either 4 images (e.g. a dirty toilet) that tended to elicit high levels of disgust (the Treatment condition,  $n = 100$ ) or a set of 4 matched images (e.g. a clean toilet) that contained less salient disgust cues (the Control condition,  $n = 90$ ). Following this, they were asked to take their chair over to a confederate, sitting 3m away, for some further data collection (e.g. completion of a personality questionnaire) and debriefing. We measured the distance between the confederate and where participants positioned their chair. We found a main effect of condition, such that those in the Treatment group, who saw more disgusting images, maintained a greater distance between themselves and the confederate compared with those in the Control group. We also found a sex x condition interaction, such that women maintained greater social distance in the Treatment condition than men did, while there was relatively little sex difference in the Control group. Our results suggest that in humans, and especially in women, perceptions of environmental cues can have direct effect on subsequent social interactions.

## **9. Third-Party Kin Recognition (SFA)**

Vanessa Fasolt, Iris Holzleitner, Anthony J. Lee, Kieran J O'Shea, Benedict C. Jones, Lisa M. DeBruine

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Kinship informs the allocation of pro-social and sexual behaviour. While cognitive cues, such as co-habitation, play an important role in assessing relatedness, phenotypic cues might also inform relatedness judgments. Research consistently shows that third parties can identify relatedness of individuals from their faces alone at levels somewhat above chance, but these studies differ in more nuanced findings. Some research has found that children resemble their fathers more than their mothers at age one, while other research found that infants look more like their mothers and female adults in general than fathers and male adults, yet others found no difference in whom children resemble. Another inconsistency between studies is the difference in methods used, as some studies used similarity ratings, some used binary kinship judgments, and others used a 3-alternative forced-choice task. Additionally, many studies have used non-laboratory photographs chosen by family members, which may contain biases. Most studies used stimuli with a neutral facial expression, however it is unclear why that decision was made, as emotional expression might be used as a cue of relatedness. Likewise, only siblings and parent-child pairings have been investigated so far and little is known about the impact of degree of relatedness on third party kinship recognition. Here, we review previous studies and outline new avenues of research that have not yet been explored. The goal of the review and suggestions will be to address the inconsistencies encountered in the field to build a replicable, clear and sophisticated set of criteria that could inform future studies in order to compare results and draw valid conclusions about third party kinship recognition.

## **10. Social Change in Times of Uncertainty: When Are Leaders Effective in Promoting Identity Continuity? (SFA)**

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Individuals are typically resistant to change within their social groups as this can evoke feelings of identity discontinuity. Thus, prototypical leaders who promote identity continuity are usually preferred. Here we examined whether this preference holds under high uncertainty. Participants (60 male, 136 female) were asked to complete an online survey measuring feelings of self-uncertainty. They were then presented with a vignette describing a fictional student pursuing a leadership role in the university. The leader was described as being either prototypical, non-



prototypical, or an outgroup member. The participants then filled out a measure of identity continuity and a leader evaluation scale. Analysis of the results showed significant main effects for leader prototypicality and identity continuity. Participants gave higher evaluations to prototypical leaders, and leaders who promoted identity continuity. A significant three-way interaction between uncertainty, prototypicality, and identity continuity was also found. Under low uncertainty, prototypical leaders were given more positive evaluations than non-prototypical or outgroup leaders when they promoted low continuity. There was no significant difference in evaluations for leaders promoting high continuity. Under high uncertainty, the opposite effect is seen. Prototypical leaders promoting high continuity were given more positive evaluations, with no difference in evaluations found for leaders promoting low continuity. The findings of this study suggest that under some conditions, non-prototypical or outgroup leaders can overcome the leader prototypicality advantage. They also suggest that in times of uncertainty, prototypical leaders are the ones trusted to enact social change.

### **11. What do we mean when talking about Dominance (SFA)**

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Dominance is a construct that is often studied and seems conceptually clear. However, there often are discrepancies in definitions of the dominance construct in human ethology research. Dominance is variably defined as a stable trait (e.g. psychological or morphological), as the result of hormonal influences, as the outcome of a specific interaction, or it is conflated with power and status. When partners are asked to characterize the dominance within their own relationships, we noticed that partners do not agree on the definition of dominance either. To investigate this further, we re-analyzed video recordings of interviews with 58 Czech couples dating for three years (mean age = 24.9) in order to see whether they agree on who was the dominant one in a reenactment of their stereotypical conflict. Surprisingly, even when partners were interviewed together, only 56% of couples agreed with one another. Full responses to the question “Why did you ascribe dominance to your partner/yourself?” were transcribed, open-coded for verbal content and qualitatively categorized. Five larger categories emerged: 33% of responses were referring to a higher level of activity (talking and moving more, being more expressive); 31% referred to win/loss (one’s request was fulfilled, or a partner resisted the other partner’s request). Expressed

aggression (appearing angry, yelling) was the reason to ascribe dominance in 18% of the cases. A category pointing to one's right or truth (one was being correct, had a right, partner made a mistake) occurred in 11% of the responses, and 7% of responses consisted of the simple ignorance of partner's request. It seems that the theoretical discrepancies, and maybe even discrepancies in research results, lie mostly in the differences in these approaches. We found three larger perspectives in what lay people are referring to when talking about dominance: (1) the outcome (win or lose), (2) the level of expressiveness (higher activity, ignoring and aggression), and (3) being right. Although the first two categories correspond with the psychological and behavioral perspective, the argument of "the right" potentially refers to a situational power source in interactions among partners in romantic couples and should be further examined.

## **12. Wanting and liking responses to infant cuteness among parents and non-parents**

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Infant facial features reliably elicit perceptions of cuteness and capture attention in adults. It is believed that this attunement to infant facial cues may enhance motivation to engage in caretaking behavior. Increased neural responses to infant facial cues have even been described as a neural signature of the parental instinct. A number of recent studies have investigated 'liking' and 'wanting' responses to infant faces using perceptual ratings of cuteness as a measure of liking and an effort-based key-press task as a behavioral measure of wanting. It has been speculated that these two measures are likely to be important components in parental behaviour, but this link has not yet been explicitly tested. To address this issue, we measured 'liking' and 'wanting' responses to infant facial cuteness in 45 parents and 45 non-parents. Results showed a sex difference in 'wanting' responses whereby women exerted greater effort in the key-press task to view high-cute vs low-cute infant faces than did men, although this effect was only marginally significant. There were no sex differences in 'liking' responses. Interestingly, there were no effects of parental status in either 'liking' or 'wanting' responses. These results suggest that although 'liking' and 'wanting' may be important components of caretaking behavior, their effects are not limited to parous individuals and may affect caretaking motivation similarly in parents and non-parents.

### **13. Sex differences on the Go/No-Go test of inhibition (SFA)**

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Parental investment theory suggests that women, due to greater investment in child rearing, can be more choosy than men when considering a potential mate. A corollary to this is that women should possess greater inhibition abilities compared to men in contexts related to sex and reproduction. This notion has found support from the inhibition literature demonstrating that whilst women do indeed show greater inhibition on tasks that include a social aspect, no such effect is found on cognitive tasks that do not possess a social component. In the present experiment, participants (n =66) performed a variant of a classic 'Go/No-Go' task consisting of infrequent No-Go trials in which a response needed to be withheld. Importantly, the stimuli were geometric shapes possessing no social component. Results found that women outperformed men on the No-Go trials, indicating greater inhibition. No significant difference was found in reaction time on Go trials. Thus the results cannot be explained in terms of a speed/accuracy trade-off. We discuss the findings in the context of the female-evolved inhibition hypothesis and the hunter-gatherer hypothesis.

### **14. Attachment styles and growth/decrease of romantic satisfaction in relationships (SFA)**

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There is substantial support that the attachment theory can be usefully applied to romantic relationships. A number of studies have shown that insecure adult attachment styles are related to lower relationship satisfaction. Our first aim was to verify these findings on a sample of men and women. Secondly, we investigated how the pattern of change in relationship satisfaction over first 3 years of relationship relates to attachment style of partners. The sample for this study consisted of 82 heterosexual men (mean age = 28.4) and 98 heterosexual women (mean age = 26.5) involved in a long term relationship. They were asked to complete The Relationship Questionnaire (Bartholomew and Horowitz, 1991) which assesses four categories of adult attachment and the Dyadic Adjustment Scale (DAS) (Spanier, 1976), and to depict a growth curve of their relationship satisfaction over years (first 3 years analyzed). Curves were categorized into 4 types: a) rising, b) falling, c) stable, and d) fluctuating. The results showed that Insecure (Fearful and Preoccupied/Anxious)

styles were connected to a lower level of the DAS subscale Dyadic cohesion in men. Attachment style in women did not relate to their relationship satisfaction. Moreover, higher level of the Preoccupied/Anxious style was associated with the falling type of relationship satisfaction curve. Our results show that men's, but not women's attachment style relate to current relationship satisfaction. However, participants high at the Preoccupied/Anxious style of both sexes reported decreasing satisfaction over years. This might be connected e.g. to their previously observed lower potential for self-disclosure to a closed person or to more frequent irrational beliefs about romantic relationship, which do not impair their ability to start a relationship, but rather the ability to develop and appreciate intimacy and closeness.

### **15. Searchers by Nature and Experience: Experience in Search Improves Searching Performance through Decision-Making (SFA)**

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The decisions made when searching for resources (e.g. food, mates or refuge) are of the utmost importance to mobile organisms since they are closely tied to survival and reproduction. Due to evolution by natural selection, adaptive responses to the environment are expected to be part of the decision-making mechanisms of searching behavior. Nevertheless, the adaptive behavior may be either inborn or acquired through learning. In this study, we aimed to evaluate the role of experience on the decision-making processes involved in searching behavior under the hypothesis of human universalities. To address this, we designed an open-field search task that simulates a patchy environment by arranging a series of 5 clusters of small opaque covers over a cement surface roughly the size of a basketball court. Six balls, also arranged in a patchy distribution, were hidden beneath the 30 covers forming each cluster. Subjects were instructed to find as many balls as possible a) within two minutes, b) when the time constraint was removed, c) when a small monetary reward was given for each ball found, or d) when subjects had previous information about the distribution of the balls within the clusters. We evaluated the effect of three factors on search decision-making and performance, namely time available, motivation and prior information. To date, we have found that only information improved performance by modifying the decisions of how to search within and when to leave a patch. To test this further, we are evaluating the effect of real-life foraging experience on the decision-making processes involved in searching, which along with the analysis of universalities will help us to determine to what extent experience and the information obtained through it modifies decision-making to fit responses to the environment during the search for resources.

## **16. Do adult sex ratio and violent crime rates predict regional variation in facial dominance perceptions? Evidence from an analysis of US states (SFA)**

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Recent research suggests that when the adult sex ratio of the local population is biased towards women, there is increased frequency of direct (i.e. violent) intrasexual competition among men, due to increased opportunity for short-term mating strategies. In order to mitigate against the potentially high costs of such conflicts, men may be more attuned to cues of other men's physical dominance under these conditions. Consequently, we investigated the relationships between the extent to which people (N=3586) ascribed high dominance to masculinized versus feminized versions of both male and female faces and variation in adult sex ratio (from US Census Bureau) and violent crime rates across US states (from Measure of America Project). Using linear mixed models we found that, consistent with previous work on dominance perceptions, masculinized faces were perceived as more dominant than feminized faces, and furthermore this manipulation had a greater effect on judgments of men's facial dominance, than on judgments of women's facial dominance. We find that, consistent with our predictions dominance perceptions were correlated to female biased adult sex ratio. However, this effect was both weak and non-significant. Additionally, dominance perceptions were unrelated to violent crime rates and the relationship between violent crime rates and adult sex ratio was not robust. We also find these relationships were not moderated by face sex, participant sex, or their interaction. We suggest that these results show sexually dimorphic facial morphology has a robust effect on dominance perceptions and that these perceptions are relatively unaffected by broad geographical differences in adult sex ratio and violent crime rates.

## **17. Using thermography to measure stress responses (SFA)**

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Previous studies have suggested that skin temperature increases during periods of heightened emotional and physiological arousal. One type of arousal that humans frequently experience is stress. When experiencing stress, the human body undergoes a suite of physiological changes, including changes in blood flow. These changes in

blood flow may be detectable using the relatively new research technique of thermal imaging. The present study was designed to determine the time-course and topography of temperature changes in the most consistently visible parts of human skin, the face and chest, during the experience of a stressor. Twenty-nine women participated in the current study, each wearing a standard tank top to ensure consistency in visible skin. Infrared images were taken while these participants completed the mental arithmetic component of the Tier Social Stress Test (TSST). During the task, participants continuously self-reported their experienced stress levels using a slider bar. All participants reported an increase in experienced stress levels during the task. We measure skin temperature from 5 facial regions of interest (forehead, eyes, nose, cheeks, and mouth) as well as one region on the chest. Changes in skin temperature during this task are discussed.

### **18. Girl Flirting: The Allomothering Hypothesis and Effective Strategies for Friendship Formation**

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In the Environment of Evolutionary Adaptedness, following the Allomothering Hypothesis, women bonded with other women as a survival strategy to help with the rearing of offspring if environmental circumstances dictate that help is required. Consistent with this, more recent research indicates that the most common theme involved in women's emotional attraction to other women is for friendship. But, to date there is no research examining how modern day women go about forming bonds, i.e., becoming friends, with other women. The present research examined how women go about forming friendships with other women. Study 1 ascertained the tactics used to form friendships and Study 2 examined the effectiveness of the most common techniques. For Study 1 (n = 305, age range 18 - 69), using act nomination methodology, women were asked to write down five acts or behaviors that they have performed (or might perform) in order to attract women as friends. Study 1 revealed 13 consensus tactics. For Study 2 (n = 222, age range = 18 - 65) women were asked to rate the effectiveness of the 13 consensus acts from Study 1. A 2 (sexual relationship history) x 13 (friendship tactics) Mixed Model Repeated Measures ANOVA revealed a significant effect for friendship tactics. The most effective tactics were: "spends time with her", "asks to go out to a meal together", "asks about common shared interests", and "invites her to go out to a party together". Additionally, a significant interaction of sexual relationship history and friendship tactics occurred. Independent samples t-tests revealed that women with sexual relationship experience rated the tactics: "asks her to go out to a party or meal together, and "talks to a classmate" as more effective than women with sexual relationship experience, and women without sexual relationship experience rated the tactic: "joins new clubs" as more effective than

women with sexual relationship experience. These results are discussed in terms of allomothering.

### **19. Intrasexual competition and attachment**

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Intrasexual competition is a powerful individual influence on mating that motivates masculine direct aggression and combat, as well as feminine aggression and social conflict, which in the case of females develops mostly indirectly or concealed. In humans, the prevalence of intrasexual competition has been widely documented, particularly in adolescent males, and when analyzing the life course of aggression throughout development. In women, intrasexual competition has also been extensively observed and analyzed, deriving in a solid line of evidence motivating indirect aggression and masked derogation that emerges also during the peak of reproduction and fertility. Nonetheless, the moderation of intrasexual competition throughout the life history of individuals has not been related to other influences on human development beyond the adaptive value that this feature has on the ontogeny of our species. The present research inquires on the links between intrasexual competition, as an adaptive feature of sexual reproduction, and attachment, positing that attachment will be linked to the enhancement of some cognitive and affective features of intrasexual competition, according to the developmental history experienced by men and women. We used a sample of 131 couples to inquire on the influence of the attachment features of closeness, dependence, and anxiety on intrasexual competition. We selected couples as a way to observe attachment influences in romantically attached individuals more directly. The results show a predicted link between anxiety of attachment and intrasexual competition, which strengthens the evidence that social development may underlie the development of aggression and a fast life history orientation in individuals who are later characterized by increased same sex reproductive rivalry and aggression.

## **20. Jealousy in heterosexual and homosexual individuals (SFA)**

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Jealousy is often explained as a result of selection pressures maximizing our reproductive capacity. Previous studies have shown gender differences in the perception of jealousy; men generally demonstrate higher response to sexual infidelity (SI), whereas women to emotional infidelity (EI). Studies on jealousy between homosexual partners showed, that gay men tend to be more sensitive to EI, whereas lesbians expressed more concerns regarding SI. These studies suggest that the type of jealousy might depend on the sex of respondent's partner. We explored the experience of jealousy in heterosexuals and homosexuals using an online survey, and to examine whether sexual/emotional jealousy differs depending on a respondent's partner's sex. We tested 286 participants, 137 men (mean age 27.8) and 149 women (mean age 25.07) who were in a relationship. All respondents completed a set of anonymous questionnaires about partner's jealousy (PJ) (Anticipated Sexual Jealousy Scale; Scale for Three Types of jealousy). We compared the differences in the type and extent of PJ between heterosexuals and homosexuals. Women were more jealous than men in all categories of PJ: heterosexual women were more jealous than heterosexual men, and homosexual women were more jealous than gay men. Men in a relationship with a woman (versus men in a relationship with a man) showed higher SI jealousy, and similarly women in a relationship with a woman (compared to women in a relationship with a man) also reported higher SI jealousy. Women in a relationship with a man (versus women in a relationship with a woman) showed higher jealousy to EI. In men we found no difference in the level of experiencing PJ in response to EI. The benefit of this study was in taking into account the partner status, which wasn't considered in previous studies. Similarly to previous studies, our results suggest differences in the experience of PJ in relation to the respondent's partner's sex.

## **21. The Effects of Relative Deprivation and Ambivalent Sexism on Voter Preferences (SFA)**

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The purpose of this research is to examine how ambivalent sexism affects Democrats' and Republicans' willingness to vote for a woman president in future elections as well as sociostructural predictors of ambivalent sexism. Ambivalent sexism is an ideology that combines both hostile and benevolent prejudice towards women. Using a broad



national sample of Republicans (N = 166) and Democrats (N = 162), we examine how feelings of group-based relative deprivation (perceiving that one's groups are deprived in comparison to other groups) contributes to sexism and willingness to vote for women presidential candidates in the aftermath of Trump's 2016 win. Our results found that among Democrats, ambivalent sexism does not predict willingness to vote for a woman president. However, among Republicans, ambivalent sexism negatively predicts willingness to vote for a woman president. Furthermore, group-based relative deprivation positively predicts ambivalent sexism among both Democrats and Republicans. Additionally, group-based relative deprivation negatively predicts willingness to vote for women presidents among both Democrats and Republicans. These findings provide an insight into how perceptions of intergroup relations and power and status dynamics predict voting behavior. Higher endorsement of ambivalent sexism is related to stronger beliefs in traditional gender roles which prove threatening for those people who feel deprived compared to other groups. Ambivalent sexism; however, is predictive of voting for women only among Republicans (who had overwhelmingly voted for Trump in favor of Clinton, a woman candidate for president).

## **22. Is Fighting Ability Related to Access to More Attractive Partners in Both Sexes? Research Proposal (SFA)**

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The selection of a partner can be understood as a two stage process; in the first stage it takes place between individuals of same sex, generally the males who compete with each other by intellectual but also physical means, the females remaining passive. In the second part, females select the more agreeable partners, supposedly from those who display social and physical dominance. Aggressive and dominant men are preferred by women, since they provide more protection and resources. Examples of highly physically dominant and aggressive men include professional fighters – judokas, boxers, MMA fighters – and such fighters were indeed found more attractive by women. On the other hand, too dominant men are also perceived as cold and are less preferred. Thus, ratings and ecologically relevant choices may differ. In our proposed study, our aim is to test whether girlfriends of fighters are more attractive than the general population, which would suggest that being a skilled fighter gives an advantage in mate choice. Photographs of 30 professional fighters' of each sex and

their partners will be obtained from the internet and 30 photographs of other men and women obtained from our past stimuli sets. In all cases, only Caucasians, aged between 20 and 30 years will be used. These will be presented to participants (100 men, 100 women, aged 20-30 years) in randomized order, and will be rated by both sexes on scales: a) physical attractiveness, and b) fighting ability, and c) sexual desirability which only raters of opposite sex of target stimuli will rate. In all cases Likert seven-point scales will be used (1 = lowest rating, 7 = highest rating). The same procedure will be brought out regarding partners of all fighters. The findings may be important for understanding the impact of physical dominance in partner choice. Especially in women, we can expect interesting results since physical aggression is less typical for women when competing for partners, but in those who are professional fighters, a higher degree of physical aggression might be expected. No such study has been conducted to our knowledge, even though the literature implies such a connection in men.

### **23. “Moral Brain” vs. “Legal Brain”: a New fMRI Study of our Brain’s Different Response to the “Trolley Problem” as Moral and Legal Dilemmas**

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The famous “Trolley Problem” has been studied as a purely moral dilemma, by philosophers and neuroscientists. Here, where the “bystander/action-taker” who could take action and stop the trolley, saving 5 lives while letting 1 die, there would be neither legal or whatsoever responsibility nor punishment/compensation to follow, based on such responsibility. What difference does it make when the scenario is posed as a legal question? That is, where the bystander/action-taker may well be held responsible, and therefore might be punished or held liable for compensation? We have conducted 2 studies with 450 healthy Japanese participants (mean age 22.6; 261 men, 182 women) to test if they give identical or different answers to moral and legal questions. We used 3 patterns of the Trolley Problem: the most classic “Spur Track”, the famous “Footbridge” where the bystander pushes an overweight person down, and a tricky “Trap” to be used by the bystander to kill the overweight person. The participants then stated freely, why they gave either identical or different answers. We found that about 60% gave identical answers, while 40% came up with different responses as to whether they take action to save 5 lives and let 1 die or not. No bias was observed for age, gender, etc. We then proceeded with the world’s first fMRI experiment on The Trolley Problem to test if the “Moral Brain” differs from the “Legal Brain”, testing the new participants with the same patterns of above-mentioned questions in fMRI. The results would show a significant difference of our brain’s neural networks and connectivities for moral and legal questions.

#### **24. Who is the second kindest relative? New support for the theory of paternity uncertainty (SFA)**

Radim Kuba & Jaroslav Flegr

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Kin selection theory suggests that individuals are more likely invest in individuals to whom they are genetically related. Many studies have shown that matrilineal family members may invest more than patrilineal members, which could be explained by level of paternity uncertainty. In other words, grandparents are more certain of biological relationships with their daughters' children than with their sons', and are expected to invest more in daughters' children. Here we focused on the effect of kinship among various family members on appraisal of a representative personal quality –kindness. We used an internet questionnaire and recruited respondents through a pool of research volunteers, Facebook and newspapers. The survey contained various socioeconomic, demographic and psychological questions, including measures of prejudice and superstition. We obtained data from 4914 respondents (2044 men, mean age 28.3; 2571 women, mean age 28.0). The respondents rated various family members (and step members) in the dimension of kindness (“this member is more/less kind than other people in general”) on a 5-point scale. Analysis of covariance (ANCOVA) with age of respondents as a covariate showed that respondents rated their mother as the “kindest” family member their mother (mean = 3.64) followed closely by matrilineal grandmother (3.59), matrilineal grandfather (3.45), patrilineal grandmother (3.37), father (3.37), patrilineal grandfather (3.26). All siblings were rated lower than parents and grandparents in general (3.05). We used various family step-members as a control group - their average rating was 2.62-2.71. No significant differences in the ratings were found if the respondent's gender was taken into account. In agreement with the hypothesis of paternity uncertainty, our results showed that the higher the certainty of biological kinship, the better rating the family member achieved.

#### **25. Environmental harshness influences the desire for signalling products (SFA)**

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Prior research has shown that as environmental harshness increases, consumers invest greater effort and financial resources into mate acquisition initiatives. These initiatives include the purchase and conspicuous display of products that either

intimidate same-sex rivals or attract members of the opposite sex. In this study, we examined how the desire for signalling products change depending on the nature of perceived environmental harshness; that is, when exposed to either safe or harsh social, economic or physical safety conditions. We first examined women's preferences for beautifying and financial status signalling products, and then men's preferences for physical power and financial status signalling products. The results show that harsh economic conditions decrease desire for products that signal financial status and financial power. However, when males were exposed to a harsh physical safety environment the desire for products that signalled physical power increased. Our findings are important in helping understanding how environmental conditions influence consumer psychology and the desire for signalling products.

## Tuesday 6th June

<b>Welcome Address and Plenary III</b>	
<b>Randy Thornill</b> The Parasite-stress Theory of Cultural Values and Sociality	Lookout Room 09.00 – 10.00  <i>Chair: Craig Roberts</i>
<b>Oral Presentations IV</b>	
<b>10.30 – 12.30</b>	Lookout Room  <i>Chair: Amanda Hahn</i>
<b>Oral Presentations V</b>	
<b>14.00 – 15.20</b>	Lookout Room  <i>Chair: Jeanne Bovet</i>
15.30 – 18.00	
<b>Workshops</b>	
<b>Lookout Room</b>	<b>Hatch Ballroom</b>
<b>Facial Image Processing: From pictures to stimuli</b>  Michal Kandrik, Iris J Holzleitner, Amanda C Hahn, Lisa M DeBruine	<b>Above all else, show the data: how ggplot can improve your graphs and increase understanding of your data</b>  Gert Stulp

## **PLENARY**

### **The Parasite-stress Theory of Cultural Values and Sociality**

Randy Thornhill

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The parasite-stress theory of values or sociality is a recent, encompassing perspective in human social psychology and behavior. As an ecological and evolutionary theory of peoples' cultural values/core preferences, it applies widely across many domains of human social life and human affairs. It is a general theory of human culture and sociality. Paramount to the theory is that other human beings are often the harbinger of infectious diseases, which has profound implications for the evolution of human core values and sociality. Fundamental to the theory is the behavioral immune system. The human behavioral immune system includes psychological traits and manifest behaviors for avoiding contact with infectious diseases; behaviors of in-group social preference, altruism, ethnocentrism, alliance and conformity that manage the negative effects of infectious diseases; mate choice to increase personal and offspring defense against parasites; culinary behavior; and components of personality. The contagion-avoidance aspect of behavioral immunity is much more than out-group avoidance and dislike (xenophobia). It includes also the preference for natal or local region (philopatry) and hence avoidance of foreignness in people and places where novel parasites may occur. It has produced a cornucopia of newly discovered patterns and informed and reinterpreted previously described patterns in the behavior of individuals and at the level of cultures/societies and regions. In novel ways, it informs and synthesizes knowledge of some major features of social life and societal-level affairs of people, ranging from prejudice and egalitarianism to personality, economic patterns, core values, interpersonal and intergroup violence, governmental systems, gender relations, family structure, religiosity, and the genesis and maintenance of cultural diversity across the world.

## ORAL PRESENTATIONS IV

Talks	Lookout Room <i>Chair: Amanda Hahn</i>
<b>10.30</b>	<b>Michal Misiak</b> (SFA) Biology of hunters and warriors. Examination of digit ratio, hand grip strength and their link to hunting skills and warriorship status among men of Yali tribe
<b>10.50</b>	<b>Kraig Shattuck</b> (SFA) Marriage in Brazil: A cross-cultural analysis using the Marriage and Relationship Questionnaire (MARQ)
<b>11.10</b>	<b>Espen Sjoberg</b> (SFA) Optimality or impulsivity? A systematic review of the evidence for an animal model of ADHD
<b>11.30</b>	<b>Romana Žihlavičková</b> (SFA) Would a doctor steal? Deindividuation and reputation management
<b>11.50</b>	<b>Anna Mezentseva</b> (SFA) Do facial markers predict aggression in Maasai males?
<b>12.10</b>	<b>Martin Hůla</b> (SFA) Habitat selection theory and flower preference – an empirical study

### **Biology of hunters and warriors: Examination of digit ratio, hand grip strength and their link to hunting skills and warriorship status among men of the Yali tribe (SFA)**

Michal Misiak & Piotr Sorokowski  
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Human male-male competition is considered as a selective pressure that shapes masculine physiological as well as behavioral characteristics. It has been shown that anthropometric indicators of physiological features may help us to predict male aggressiveness, competitiveness, physical performance, health and reproductive success. However, most of these studies were conducted in rich western societies of stable ecologies. Here, we tested a hypothesis that anthropometric indicators of health and masculinity allow us to predict performance of men inhabiting harsh ecology in male-specific activities. We conducted our study among 49 men of the Yali tribe which inhabits New Guinea highlands. Yali are considered a traditional tribe isolated from influence of western culture. To measure physiological traits, we took anthropometric measures of the men, such as digit ratio which indicates prenatal

exposure to sex hormones and hand grip strength which is an indicator of overall health. To measure masculine behavioral traits, we assessed hunting skills and determined warriorship status of Yali men, as these activities of male-male competition are predictors of reproductive success and social status. To evaluate men's hunting skills we asked them to provide us with numbers of mammals, marsupials and birds hunted down during their last hunt. To determine male warriorship status we asked them if they themselves take part in tribal wars, as Yali regularly wage war. Results of our study show that digit ratio and hand grip strength cannot be linked to hunting performance nor warriorship status, and therefore contradicts our hypothesis. It might be because our sample was too small, or because hunting skills and warriorship status depends on other traits than physical performance and masculinization (i.e. intelligence and creativity). Nonetheless, to draw further conclusions it is necessary to conduct more research on larger samples. Our findings are to be discussed in context of human behavioral ecology and evolution of male-male competition.

### **Marriage in Brazil: A cross-cultural analysis using the Marriage and Relationship Questionnaire (MARQ) (SFA)**

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In 2009, Brazilian groups began to use the Marriage and Relationship Questionnaire (MARQ) after they learned that it had demonstrated both cultural and gender invariance. Brazil, being the world's fifth-largest country, is ethnically and racially diverse, with over forty percent of Brazilians being of mixed white, black, and native origins. This mixed heritage reflects traditions of intermarriage across racial and ethnic lines that is greater than what is seen in many other countries in the West. Brazil is also sharply stratified economically, with a poverty rate of over thirty-three percent, and a relatively low rate of full-time employment. In Brazil, a large rate of Catholic observance and traditions mixes with African-based religions. The strong Catholic tradition has promoted the patriarchal family and sexual conservatism, especially for daughters. While children are not generally thought of as a main reason for getting married in Brazil, they are viewed as an integral component of marital cohesiveness. Finally, much like in other cultures, humor is a valued component of marital happiness in Brazil. In all, 131 couples from Belem, a city in Northern Brazil, completed the MARQ. Analyses to be presented include the influences on marriage of patterns of employment, religion, children, and humor in Brazil. Each of these analyses will also be compared with existing data from other



cultures (US, UK, Turkey, China, and Russia). While the sample is limited to one region in a diverse nation, these results help shed light on some of the cross-cultural similarities and differences that this region, and potentially all of Brazil, have with other cultures.

### **Optimality or impulsivity? A systematic review of the evidence for an animal model of ADHD (SFA)**

Espen Sjoberg & Espen B. Johansen

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The delay discounting paradigm involves choosing between a small, immediate reward or larger, delayed reward. As the delay between response and reinforcer increases for the large reward, patients with Attention-Deficit/Hyperactivity Disorder (ADHD) tend to choose the small reward more often than controls. This is typically interpreted as impulsive behaviour. Studies on an animal model of ADHD, the Spontaneously Hypertensive Rat (SHR), find the same results. This adds validity to the model, suggesting that it acts as a good representation of the human target group, in this case ADHD. However, one alternative explanation is that neither ADHD patients nor their analogous animals are impulsive, but are instead making foraging choices based on variables related to time and value of the reward. This would mean that performance is best explained from an evolutionary perspective in relation to optimal foraging theory. We review the evidence from available studies on delay discounting using the SHR animal model, and discuss whether the behavioral patterns are best explained as impulsive, optimal foraging behavior, both, or neither.

### **Would a doctor steal? Deindividuation and reputation management (SFA)**

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The psychologist Philip Zimbardo has done much to explain a process known as “deindividuation”. His contention is that uniforms render appearances less salient, promote anonymity and reduce self-awareness. Our study examines the advantages of this process in a “mirror-on-the-wall” experiment. There are two main theories that explain how mirrors reduce transgression. Self-awareness theory states that mirrors lead individuals into a state of self-awareness, whereby the discrepancy between inner moral standards and actual transgressive behaviour becomes salient, endangering self-esteem and resulting in compliant behaviour. Reputation management argues that the quick, non-conscious parts of the brain respond to

mirrors by stimulating the feeling of being watched. This results in representative behaviour that is more evolutionarily advantageous. Our aim was to assess to what extent individuals would be susceptible to mirrors in a deindividuated state, the assumption being that the weaker the effect on transgression in this group, the more self-awareness theory might play a role. Otherwise, it would provide more evidence in favour of reputation management. To test this, half of our participants (N total=158) were given a medical coat, hat and face-mask to wear for the duration of the experiment, thus concealing the majority of the face and clothing. The other half wore no uniform. After a pre-task (choosing a team from photos), all participants were instructed to take one reward from an empty room. One by one they were left alone in the room with a number of rewards and monitored using a hidden camera. Our aim was to find out whether individuals would transgress, i.e. take more than one reward. A mirror was mounted on the wall behind the rewards in half of the cases in each group. Using odds ratio we found no difference between groups (the mirror effect). Even when fully anonymised, dressed, concealed in medical clothing and when addressed only as “doctor”, the likelihood of transgression reduced. Our conclusions add to the growing evidence in favour of reputation management. Interestingly, there was a difference in transgression between the control groups. The likelihood of transgression in the “medical” group was 0.31 compared to the normally clothed group (0.79).

### **Do facial markers predict aggression in Maasai males? (SFA)**

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In this study we tested for possible associations between facial markers of sexual dimorphism and self-ratings on aggression in Maasai men, and aimed to provide visualization of Maasai faces in composite photos, ranked from lowest to highest on levels of aggression and 2D:4D ratios. Data were collected in 2015-2016 in Endulen, Northern Tanzania, from 196 traditional Maasai men aged 17 - 90. We did not find any significant correlations between left or right hand digit ratios (2D:4D) and facial traits, nor between self-ratings on aggression and facial traits. However our data revealed a significant negative correlation between self-reported physical aggression and right hand 2D:4D ratio. We discuss our findings with reference to peculiarities of Maasai social system and previous findings from Western and traditional small-scale societies.

## **Habitat selection theory and flower preference – an empirical study (SFA)**

Martin Hůla & Jaroslav Flegr

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Phytophilia, human attraction towards plants and flowers, is a well-known and widespread phenomenon. Human emotional responses to flowers are manifested in many ways, from ornamental gardens and product design to get-well gifts and therapeutic horticulture. Although this behavior deserves an explanation, it has generally been overlooked. Conceptual theories about emotional responses to flowers are lacking, except for the evolutionary approach to habitat selection by Orians and Heerwagen. In accordance with other proponents of evolutionary aesthetics, they suggest that human emotional responses towards objects and ability to discriminate between “beautiful” and “ugly” are adaptive, because they were crucial for survival of our ancestors. Dangerous objects or landscapes were considered ugly and avoided, whereas safe and beneficial object or landscapes were considered beautiful and approached. Flowering and fruiting plants represent a strong signal associated with productivity and resources and should elicit positive emotional responses. In this study, we want to empirically test whether human liking of flowers could be explained solely by this approach. Following its logic, the stronger a positive signal is, the more should it be preferred. Fruits are a direct and instant signal of food availability and should be preferred more than flowers, which are just a promise of a possible future presence of resources. In an online questionnaire, we will randomly present photographs of 15 plant species which are known to have edible fruits (5 herbs, 5 shrubs and 5 trees). There are six photographs for each species, varying in vegetative stage (blooming, fruiting) and distance from the plant (several meters, 1 meter, close-up). The respondents will rate how they like the plant in the photograph. We will compare the difference between the preference of flowers and fruits in general and also separately for each species, while taking into account other variables (distance, flower/fruit color etc.). We expect to collect responses from several thousand respondents. The data will be collected and analyzed before the beginning of the Summer Institute. The results will strengthen the conceptual framework explaining human flower preference.

## ORAL PRESENTATIONS V

Talks	Lookout Room <i>Chair: Jeanne Bovet</i>
<b>14.00</b>	<b>James G. Zerbe (SFA)</b> Network Centrality and Coalitional Competition: a PGG Experiment in an Achuar and Sápara Community
<b>14.20</b>	<b>Juan Perote-Peña</b> Gossip disguising and the human propensity to story-telling
<b>14.40</b>	<b>Ian D Stephen</b> Disentangling social distance and potential reputational damage in a dictator game
<b>15.00</b>	<b>Patrick A. Stewart</b> Facing your competition: Findings from the 2016 presidential election

### **Network Centrality and Coalitional Competition: a PGG Experiment in an Achuar and Sápara Community (SFA)**

James G. Zerbe (1), Mateo Penaherrera Aguirre (2), John Q. Patton (1)  
 (1) *California State University Fullerton, USA*  
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One instance of a cooperation dilemma consequential to humans is inter-coalitional competition and conflict. Here, results are reported from a series of five one-shot anonymous public goods games (PGG) designed to elicit varying coalitional and competition motivations for cooperation within the PGG. The data presented in this thesis were collected in Conambo, a bi-ethnic tribal community of Achuar and Sápara peoples in the Ecuadorian Amazon. This research has two aims: (a) discern the relative influence of group composition, random or coalitional, and the level of group competition, either none, intra-group, or inter-group on cooperation; and (b) test predictions concerning how variation in social network centrality affects cooperation in intergroup competition. Analyses of experimental PGG treatments reveal a significant increase in offers due to variation in group composition (from random to coalitional) in the context of between-group competition. Additionally, betweenness centrality in an alliance network was found to differentially affect cooperative offers in men and women across a range of coalitional and competitive contexts. These results give further confidence that group competition is a robust factor increasing cooperation and limited support for the argument that inter-individual differences rather than group level differences explain variation in PGG offers.

## **Gossip disguising and the human propensity to story-telling**

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The propensity to create, listen and propagate structured stories in fictional worlds is a human universal that still resists a fully evolutionary explanation. Stories everywhere consists in a set of characters that interact and solve some external or internal conflicts with an emotional appeal in a sequence of causally connected events that usually entail a moral lesson. Our brains are apparently wired to absorb these cultural products to the extent that stories activate the same parts of our brains that are activated when those fictional events are actually performed. Since both creating and listening/reading stories are time-consuming activities of our most expensive organ, an evolutionary explanation demands a significant fitness-enhancing function associated to the task. Several authors have proposed possible evolutionary functions of the trait of creating and absorbing stories that might increase the actor's adaptive fitness, like improving our theory-of-mind skills or serve as a "flight simulator" allowing to recreate complex social interactions in a fictional world to learn valuable social knowledge. Others have argued that story-telling skills could be a desirable trait to attract sexual partners or even just a side-effect of having a brain with high cognitive abilities. Since stories are essentially about fictional people in invented worlds, this decoupling from the real world makes any fitness-enhancing theory less convincing. I propose a possible evolutionary explanation that extends Dunbar's theory of gossip as a social trait that regulates individual reputations and therefore promotes cooperation in groups to explain our interest in stories. Gossip alone seems to be a slow mechanism to change individual misbehavior when releasing the reputational loss to the agent is costly to the third party receiving the gossip. This is the reason why the actor suffering a reputational loss due to a hidden action can be the last in noticing the gossip, and as a consequence, her behavior might never change. A charismatic person in the group serving as a gossip centralizer inventing related fictional stories denouncing some "anonymous character" (the antagonist) misbehavior who is finally punished by some fictional protagonist embodying the moral soul of the group might have served that purpose well.

## **Disentangling social distance and potential reputational damage in a dictator game**

Ian D Stephen (1,2,3), Alessandra Teunisse (1), Daniel Sturman (1), Timothy Marsh (1)

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The Dictator Game allows an allocator to split a reward with a recipient. Previous studies have found that allocators are more generous when the game takes place face-to-face than when it is conducted anonymously. This has often been explained by noting that face-to-face games have reduced social distance (that is, they increase the empathic salience of the receiver's humanity). Evolutionary psychologists have noted that face-to-face games decrease the allocators' anonymity (by exposing them and potentially threatening their reputation. Here we aimed to disentangle the two effects to determine if it is one or both of them that increases the generosity of offers in a Dictator Game. The 103 participants were allocated to face-to-face or online condition, and anonymous or revealed condition. Both the main effects of social distance and anonymity were significant, suggesting that both decreased social distance and decreased anonymity significantly and separately increased the offers participants made.

## **Facing your competition: Findings from the 2016 presidential election**

Patrick A. Stewart (1) and Elena Svetieva (2)

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*(2) Fors Marsh Group, Washington, DC, USA*

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This talk aims to introduce the literature of competition for political office and how visual presentation choices concerning the candidates and their displays intersect in influencing their public perception and evaluation. We do so by summarizing research carried out during the 2016 presidential election. First, we consider the visual frames of presidential candidates in competitive contexts, namely the primary and general election debates. Specifically, we recount findings from a content analytic study of the visual frames used during the first two primary debates for each political party, as well as the findings from two field experiments during the general election concerning participant response to the different frames presented by networks during the first debate and available to them during the third debate and how this influence trait evaluations. Next, we take a micro-analytic approach by considering how subtly framing context through short videos as competitive and comparative

affects the influence of the presence of microexpressions by Donald Trump as well as the behavior of Hillary Clinton, while appreciating the larger context of the campaign. We recount the findings of two experiments during the final weeks and days of the 2016 election. We conclude by discussing the interactive influence of the visual presentation styles chosen by networks, the facial displays by the candidates, and the larger context of the election on public perceptions.

### **WORKSHOP 3 - LOOKOUT ROOM**

**15.30 – 18.00**

#### **Facial Image Processing: From pictures to stimuli**

Michal Kandrik, Iris Holzleitner, Amanda Hahn, Lisa M. DeBruine  
*Institute of Neuroscience and Psychology, University of Glasgow, UK*  
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This workshop aims to familiarize novice participants with image processing techniques involved in modern face research. Through simple practical exercises participants will be taken through the whole image processing pipeline from delineation of raw images to research-grade facial stimuli. This will be all done via webmorph.org, an open web version of Psychomorph. We will provide participants with sample images, and participants are welcome to upload their own images to their Webmorph accounts. Participants are not expected to have any previous knowledge of facial photograph processing. Anyone who wishes to get involved with the practical exercises should request an account for webmorph.org (mention ISHE 2017 as a reason to request the account), and bring a laptop and a mouse to the session.

**WORKSHOP 4 - FORUM ROOM**  
**15.30 - 18.00**

**Above all else, show the data: how ggplot can improve your graphs and increase understanding of your data**

Gert Stulp

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Visualising your data is an essential part of research: a) it can help you to find the peculiarities in the data and check statistical assumptions; b) it can beautifully convey your main message (a picture is worth a thousand words, after all); c) it allows others to better scrutinise the data. ggplot2 is a free, excellent, and easy way to create high-quality graphs, even without much knowledge of R itself. In the first half of the workshop I shall give some of the examples that ggplot can do, including standard graphs such as scatter plots and box plots, but extends to network graphs, graphs involving maps, and interactive graphs. I will also explain the core language of ggplot. In the second half, participants will work on their own dataset in order to make the graph that they desire.

The aim of the course is to showcase the ease and quality of ggplot.

Important: respondents need no previous knowledge of R! Data preparation can be done by respondents in their favoured statistical software, and many different forms of data can be imported into R (e.g., SPSS, STATA, excel, csv).



## Post-meeting group excursions - Wednesday 7<sup>th</sup> June

There are two optional post-meeting excursions.

### Mountain biking

Rent a bike and take a tour led by anthropologist, conference organizer, and local resident John Ziker.

Bikes can be hired for 24h on Tuesday at the Cycle Learning Center, CLC, which is located in the Lincoln Avenue Parking garage across from the Student Union and adjacent to the Student Recreation Center. 24h hire of a mountain bike costs \$35. Meet at 7.30am at the Trail Head to Hulls Gulch/Camel's Back Reserve at 2207 N 9<sup>th</sup> St, which is about 2.8 miles north of the Campus, about 15-20min ride from Campus. Return to campus before noon.

Prebooking of bikes: <https://rec.boisestate.edu/clc>

### Zoo Boise

Walking excursion to Zoo [[zooboise.org](http://zooboise.org)] with optional extension for Boise Art Museum [[boiseartmuseum.org](http://boiseartmuseum.org)]. Entry costs: Zoo \$10. Museum: \$6 or less; students with ID: \$3. Both are an easy walk to/from dorms and Towneplace housing units. Meet at Zoo Entrance at 10.00am.

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