

XXIV BIENNIAL CONFERENCE ON HUMAN ETHOLOGY

ISHE INTERNATIONAL SOCIETY
FOR HUMAN ETHOLOGY

The logo features four stylized human figures in black silhouette. From left to right: a figure in a crouching pose with one arm raised; a figure in a crawling or low-crouching pose; a figure in a kneeling pose with arms extended forward; and a figure in a seated or kneeling pose with arms crossed.

3 - 7 September 2018

Santiago, Chile

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Organizing Team

Local Organizers

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Program Committee

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Kai Willfuehr, University of Oldenburg, Germany

Craig Roberts, University of Stirling, UK

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Eduardo Méndez Hidalgo

Sebastián Donoso Contreras

Conference Venue and other useful informations

The 2018 ISHE Congress will be held at the Hotel Plaza San Francisco, Santiago from on the 3rd – 7th September 2018.

Santiago is the capital and largest city of Chile, with an estimated population of 7 million people. It is located at an elevation of 520 m (1,706 ft) above sea level, surrounded by the Andes Mountains to the west, which are a natural frontier with Argentina. The climate of Santiago is temperate Mediterranean, with distinct four seasons. The average temperature at the beginning of September is 12 – 18 degrees celsius during the day, and the minimum averages fluctuate between 2 and 5 degrees celsius.

The city outskirts are surrounded by rural towns, vineyards, and Santiago is within a few hours of both the mountains (1 hour drive) and the Pacific Ocean (Valparaiso is 120 kms away, 1.5 hour drive)

Chile is one of the most secure countries of Latin America, and has the third best quality of life, but is also a bit more expensive than other South American countries.

The Evolution and Interpersonal Relationships Lab was founded in 2013 by Dr. Ana María Fernández, with the aim of studying interpersonal relationships from an evolutionary perspective. Its mission is to promote knowledge, research, and empirical applications of Human Ethology and Evolutionary Psychology to the study of interpersonal relationships and behaviour. The lab works in close collaborations with the Center for Research in Social Complexity at Universidad del Desarrollo and the Animal and Human Behavior Lab at University of Playa Ancha. All three institutions are cooperating in the ISHE 2018 local organisation.



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Playa Ancha

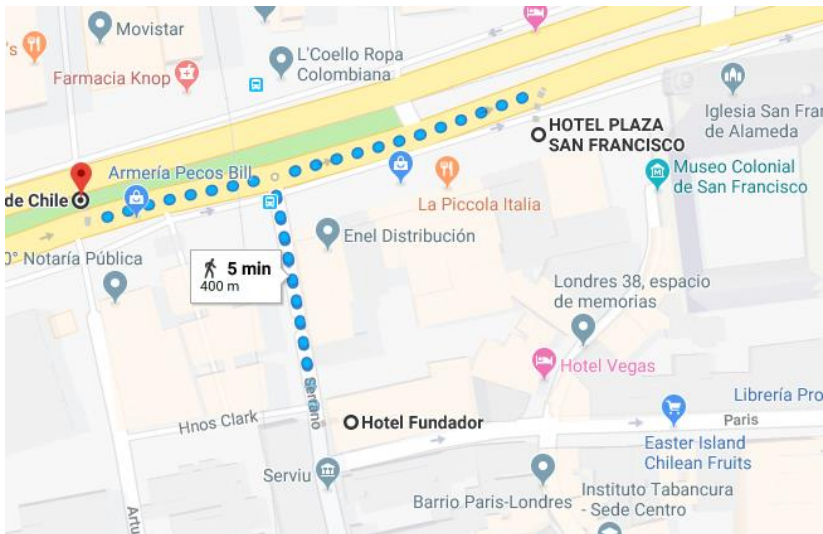
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Getting around Santiago

Public transport in Santiago offers frequent and reliable service through the subway (Metro) system. Buying a week ticket is probably the most economic solution.

Conference Venue

The conference will be held at Hotel Plaza San Francisco (Avda. Libertador Bernardo O'Higgins 816, Santiago, Región Metropolitana), which is conveniently located at the southwest exit of the Line 1 subway (Metro) station "Universidad de Chile". Hotel Fundador, is just around the corner from the Conference Venue, less than a three minute walk.



Program

Monday 3rd September

05:00 PM - 6:15 PM

Registration

Main Lobby

06:30 PM - 07:00 PM

Welcome Address

Salón Pergola

Plenary

Salón Pergola

SABINE TEBBICH
Behavioural innovations in animals
and humans

07:00 PM - 8:00 PM

08:00 PM - 10:00 PM

Reception

Salón Pergola

Tuesday 4th September

08:00 AM - 9:00 AM	
Registration	Piso 2

Plenary Salón Danubio-Tamesi	
LAWRENCE SUGIYAMA Life History Tradeoffs, Regulatory Variables and Health among Shuar of Ecuadorian Amazonia: Implications for evolutionary psychological and behavioral science.	09:00 AM - 10:00 AM

10:00 AM - 10:30 AM	
Coffee break	Foyer - Piso 2

I. Life history and hormones	Salón Danubio-Tamesi
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I. Life history and hormones	Salón Danubio-Tamesi
<p>Anthony J. Lee, Lisa M. DeBruine, Benedict C. Jones The influence of local mortality on how individuals evaluate future discounting decisions</p>	<p>10:30</p>
<p>Jakub Binter, Kateřina Klapilová, Klára Bártová, Lucie Krejčová, Pavel Šebesta, Juan David Leongómez, Hermann Prossinger Maximum Likelihood Methods Show that Single and Partnered Young Adult Males React with Different Changes in both Testosterone and Cortisol Levels during Virtual Competitions for a Desired Female (SFA)</p>	<p>10:50</p>
<p>Rebecca Lawn, Hannah Sallis, Robyn Wootton, Abigail Fraser, Ian Penton- Voak, Marcus Munafò (LMA) Age at menarche with life history traits: A Mendelian randomization study (SFA)</p>	<p>11:10</p>
<p>Juan Du (LMA) Marriage partner choice in a Tibetan pastoralist society</p>	<p>11:30</p>
<p>Rachel Ripardo, Victor Kenji Medeiros Shiramizu, Amanda Toledo Pereira de Carvalho, Naira Figueredo Marinho, Amanda Carvalho da Silva, Fívia de Araújo Lopes, Daniel Kruger (LMA) Mortality rates, childhood unpredictability, or current unpredictability: What predicts life history strategies in two of Brazil's most violent cities?</p>	<p>11:50</p>

I. Life history and hormones	Salón Danubio-Tamesi
<p>Iris J. Holzleitner, Anthony J Lee, Amanda C Hann, Lisa M DeBruine, Benedict C Jones A statistical model of facial attractiveness: replication and remix</p>	<p>12:10</p>

12:30 AM - 01:50 PM	
Lunch	Hotel Plaza San Francisco

II. Cooperation	Salón Danubio-Tamesi
<p>Natalia Dutra, Lynda Boothroyd, Emma Flynn (LMA) The effects of inequality on children's sharing after collaboration: a cross- cultural comparison (SFA)</p>	<p>02:00</p>
<p>Stephanie Josephine Eder (LMA) Getting in touch – Social status predicts physical interaction in classrooms (SFA)</p>	<p>02:20</p>
<p>Romana Žihlavičková, Kristýna Josrová, Ivan H. Tuf The surprisingly weak influence of a pro-social behavioural context on dishonesty (SFA)</p>	<p>02:40</p>

II. Cooperation	Salón Danubio-Tamesi
Adam Kenny, Laura Fortunato (LMA) Cooperation, competition, and contrade: Naturalistic measures in an historic Italian city (SFA)	03:00
Nancy L. Segal, Karen Yirmiya- Feldstein, Ariel Knafo-Noam Collaborators or Competitors? A Pair of Twin Studies	03:20
Carlos Rodríguez-Sickert, César Hidalgo, Cristian Candia, Victor Landaeta, Isabel Behncke, Tamas David-Barret Reciprocal exchange and friendship in children: lessons from the implementation of an onymous dyadic experiment in Chilean public schools	03:40
4:00 PM - 4:30 PM	
Coffee break	Foyer - Piso 2
III. Sustainability, morality and aesthetis	Salón Danubio-Tamesi
Kathrin Massuch, Pia Marlena Böhm, Johanna Köllner, Stefania Zingale, Elisabeth Oberzaucher Looking at trees – Leaf shapes and preferences (SFA)	04:30

III. Sustainability, morality and aesthetics	Salón Danubio-Tamesi
<p>Michał Misiak, Piotr Sorokowski, The adaptive nature of moral concerns regarding wasting food (SFA)</p>	<p>04:50</p>
<p>Eveline Seghers, Geoffrey Miller Visual imagery and the cultural transmission of religious concepts</p>	<p>05:10</p>
<p>Daniel J Kruger, Michael Falbo, Sophie Blanchard, Ethan Cole, Camille Gazoul, Noreen Nader, Shannon Murphy Territorial Context Influences Responses to Social Alliance Expressions</p>	<p>05:30</p>
<p>Miguel Pita, Patrick Durkee, Pablo Polo, José Antonio Muñoz-Reyes, Claudia Rodríguez-Ruiz, María Losada-Pérez, Enrique Turiégano, David Buss (LMA) Are those muscles that are harder to build more attractive? An evolutionary perspective</p>	<p>05:50</p>
<p>Charlotte De Backer, Maryanne L. Fisher It's more than a quick bite to eat: An evolutionary approach to commensality and sharing food as mechanisms for social bonding.</p>	<p>06:10</p>

Wednesday 5th September

Plenary Salón Danubio-Tamesi	
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LISA DEBRUINE How to avoid incest	09:00 AM - 10:00 AM
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10:00 AM - 10:30 AM	
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Coffee break	Foyer - Piso 2
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IV. Social Perception and attractiveness	Salón Danubio-Tamesi
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Kamila Pereira, Marco Varella, Karel Kleisner, Jan Havlíček, Ondřej Pavlovič, Jaroslava Valentova (LMA) Femininity-masculinity – associations between self-ratings, third-party ratings and objective measures (SFA)	10:30
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Amanda C Hahn, Hannah Fergusson, Karina Giegear, Jenn Masad, Kelly D Cobey, Lisa M DeBruine, Benedict C Jones Hormonal Factors Impacting Women's Intrasexual Competition	10:50
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IV. Social Perception and attractiveness	Salón Danubio-Tamesi
<p>Ian D Stephen, Bernard Tiddeman, Tan Kok Wei Skin texture and colour predict perceived health in Asian faces</p>	<p>11:10</p>
<p>Jitka Lindova, Anna Fiserova, Dan Fayette, Katerina Klapilova Calm women and sexual men are the best partners: Correlates of dyadic adjustment in romantic couples</p>	<p>11:30</p>
<p>Marie M. Armstrong, Tina Kocic, David R. Feinberg Dominance has no effect on perception of one's own voice (SFA)</p>	<p>11:50</p>
<p>Victoria V. Rostovtseva, A. A. Mezentseva, N.B. Dashieva, F. J. Weissing, M. L. Butovskaya Nonverbal markers of cooperative behaviour in Buryats of Southern Siberia (SFA)</p>	<p>12:10</p>
<p>12:30 AM - 01:50 PM</p>	
<p>Lunch</p>	<p>Hotel Plaza San Francisco</p>

V. Symposium on The Role of Voice Modulation in Human Communication	Salón Danubio-Tamesi
David Reby Introduction to Symposium	02:00
David Reby The origins, development and implications of sexual dimorphism in the human voice	02:20
Valentina Cartei, R. Banerjee, A. Garnham, J. Oakhill, D. Reby (LMA) Children's development and control of sex-related voice cues	02:40
Katarzyna Pisanski, Anna Oleszkiewicz, Justyna Placheta (LMA) Voice pitch modulation in real-life speed dating	03:00
Jordan Raine (SFA) Human listeners can accurately judge formidability from aggressive roars and speech	03:20
04:00 PM – 06:00 PM	
Poster Session 4:00-5:00PM, even numbers 5:00-6:00PM, odd numbers	Salón Danubio-Tamesi

Thursday 6th September

Plenary
Salón Danubio-Tamesi

DAVID SCHMITT Why are Human Cultures So Different? Three Evolutionary Perspectives, Six Ecological Triggers, and Twelve Ways Psychological Gender Facultatively Shifts Around the World	09:00 AM - 10:00 AM
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10:00 AM - 10:30 AM

Coffee break	Foyer - Piso 2
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VI. Jealousy and reproduction
Salón Danubio-Tamesi

María Teresa Barbato, Ana María Fernandez, Carlos Rodríguez-Sickert (LMA) Evocation of jealousy in romantic couples through a third party interaction (SFA)	10:30
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Ana Maria Fernandez, José Antonio Muñoz, Oriana Figueroa, Paula Pavez Jealousy, mate retention strategies, and partner aggression in parents versus non parents	10:50
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VI. Jealousy and reproduction	Salón Danubio-Tamesi
<p>Jaroslava Varella Valentova, Marco Antonio Correa Varella Sex of the rival influences jealousy distress on top of sex and sexual orientation</p>	<p>11:10</p>
<p>Karlijn Massar, Tanita Huskovic Virtual Rivals: Jealousy after exposure to a rival in a virtual reality environment</p>	<p>11:30</p>
<p>Marco A. C. Varella, Eloisa de S. Fernandes, Jonas A. Bueno, Tiziana G. Acquaviva, Rafael M. C. S. Hsu, Tania K. Lucci Vinicius F. David Twinning as an evolved age-dependent reproductive strategy: Evidence from large Brazilian samples (SFA)</p>	<p>11:50</p>
<p>Kai P. Willführ, Lisa Dillon, Johannes Johow, Eckart Voland Differential mortality of reproductive females by family network composition - Are interpopulational differences in kin effects explained by differences in population dynamics?</p>	<p>12:10</p>
<p>Minna T. Lyons, Gayle Brewer, Emma GilbertLuna Centifanti So many (wo)men, so little time? The role of sex ratio and personality in sexually coercive strategies</p>	<p>12:30</p>

2:00 PM

Social Program

Friday 7th September

Plenary
Salón Danubio-Tamesi

KATIE HINDE Life History Tactics & Tradeoffs in the Context of the Mother-Infant Dyad	09:00 AM - 10:00 AM
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10:00 AM - 10:30 AM

Coffee break	Foyer - Piso 2
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VII. Communication and Social Interaction	Salón Danubio-Tamesi
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Sethu Karthikeyan Could iconic pitch manipulations have facilitated the origin of (proto)words? Some thoughts.	10:30
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Janeeka Patel, Colin Hendrie Facial expressions following a hammer blow to a false hand in the false hand illusion	10:50
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Robin E Morrison, Magdalena Bermejo, Jacob C Dunn, Peter D Walsh (LMA) Multi-level Gorilla Society (SFA)	11:10
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VII. Communication and Social Interaction	Salón Danubio-Tamesi
Isabel Behncke. From play in wild bonobos to festivals in both Neolithic and contemporary humans	11:30
Kraig Shattuck, Glenn Weisfeld Proximity, touching, and testosterone: Observational research on mate guarding in humans (SFA)	11:50
Hermann Prossinger, Susanne Schmechl Elisabeth Oberzaucher Statistical analysis of gesture encoding: How consistently can ethologists encode what they observe?	12:10

12:50 AM - 1:50 PM

Lunch	Hotel Plaza San Francisco
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VIII. Personality and Sociality	Salón Danubio-Tamesi
Wanderson da Silva Costa, Gabriela de Souza Nascimento Nonverbal in clinical context: a contribution from an evolutionary perspective to psychology practice (SFA)	02:00

VIII. Personality and Sociality	Salón Danubio-Tamesi
Coltan Scrivner, Kyoung whan Choe, Wanitchaya Poonpatanapricha Dario Maestriperi, Marc Berman (LMA) Visual Attention Biases in Viewing Violence (SFA)	02:20
Gayle Brewer, Minna Lyons, Alexandra Perry Dark Triad Traits and Perceptions of Sexual Harassment	02:40
Christopher D Watkins Amanda Leitch If the shoe fits? Using sexual selection theories to examine potential between-women and within-women variation in their responses to high heels	03:00
Caroline Allen, Daniel Nettle Impulsivity, hunger, and early life deprivation	03:20
04:00 PM - 05:00 PM	
General Assembly	Salón Danubio-Tamesi

07:00 PM - 11:00 PM

Banquet

Restaurant Quitral - Barrio Lastarria

Plenaries

Plenary 1 – Monday Sept. 3rd 7:00 – 8:00pm

Behavioural innovations in animals and humans

SABINE TEBBICH

Department of Behavioural Biology, Faculty of Life Sciences,
University of Vienna

Animal innovations range from the discovery of novel food types to the invention of completely novel behaviours. Sparrows, for example, have learned to trigger the automatic doors of supermarkets to gain access to crisp packages; black kites carry burning twigs to other sites to spread bush fires and flush out their prey; chimpanzees use sticks to spear bush babies out of tree holes. We are fascinated and intrigued by these examples of animal innovation. They suggest, to some extent, that animals are akin to us in their ability to find novel solutions to problems, leading to the question whether these abilities are based on a similar cognitive mechanism. While this question has received some scientific attention during the last years, the evolutionary potential of behavioural innovations has received comparatively less consideration. Behaviour and underlying cognitive mechanisms are not only shaped by selection, behaviour is also a driver for evolution. Behavioural innovations have played an important role in our own evolutionary trajectory as well as in that of other animals. Innovations can give access to new opportunities, for instance novel food sources, and thus enable innovators to invade and create novel niches. This in turn can pave the way for morphological adaptation and adaptive radiation. In my talk I will present a theoretical framework that describes the interactions between underlying mechanisms, fitness benefits, and evolutionary significance of innovations and illustrate it with animal and human examples. Within said framework I will discuss why the use of tools holds a special role among behavioural innovations. Darwin's finches are particularly innovative, showing highly unusual behavioural innovations, including the use of tools: Woodpecker finches use twigs to pry insects out of tree holes and several Darwin's finch species apply the leaves of an endemic tree to their feathers to repel parasitic insects. Using Darwin's finches as a model, I will exemplify the evolutionary potential of innovation, discuss underlying mechanisms that are shared between animals and humans, and present data that sheds light on the ecological drivers for innovativeness.

Introduced by Elisabeth Oberzaucher

Plenary 2- Tuesday Sept. 4th 9:00 – 10:00 am

Life History Tradeoffs, Regulatory Variables and Health among Shuar of Ecuadorian Amazonia: Implications for evolutionary psychological and behavioral science.

LAWRENCE SUGIYAMA

Department of Anthropology, University of Oregon, Eugene, OR

This talk presents tests of core hypotheses about life history tradeoffs, psychology, and health among the Shuar of Ecuadorian Amazonia, a large indigenous population whose living conditions better match those to which humans are adapted than do those of industrialized populations. Significantly, the Shuar are currently experiencing rapid, highly variable levels of market integration, from subsistence foraging and horticulture to small-scale agro-pastoralism and wage labor. This allows us to test hypotheses about hypothesized life history tradeoffs, the function of different regulatory mechanisms, the effects of different socio-ecological conditions on the context-sensitive development and deployment of our psychology, and the effects of lifestyle change on infectious and chronic disease within a single society with shared genetic and cultural history. For example, comparison of industrialized and non-industrialized societies suggests that evolutionarily novel changes in infection/parasite exposure and in the human gut microbiome are linked to development of many “diseases of civilization” (e.g., cardiovascular disease, obesity, hypertension, type 2 diabetes, osteoporosis, allergies, auto-immune diseases), in part via immune function dysregulation. Our research shows that these changes may begin early in the transition from subsistence to market economy: chronic inflammation associated with cardio-vascular disease risk appears to be an evolutionarily novel effect of immune dysregulation functional immune regulation, but differences in gut microbiome diversity and composition (parallel to those found between developed and developing countries) are evident between more- and less market integrated Shuar, even at very early stages of market integration. We show that, as predicted, disgust sensitivity is associated with indicators of lower rates of infection, and that sensitivity is regulated in response to the local cost/benefit structure of pathogen avoidance. Functional regulation of disgust psychology operating in evolutionarily unprecedented modern environments may be implicated in evolutionarily unprecedented levels of pathogen avoidance in modern industrial societies, and the recent increase in allergy and auto-immune disease. Lassitude (an emotion we propose regulates energy allocation in response to the energetic demands of immune activity during illness) may also be implicated in motivations that exacerbate chronic disease in modern industrialized conditions. These and related findings are discussed in terms of two broader issues: the need to integrate evolution-based psychological and behavioral research into mainstream biological anthropology, and the recent increase in cross-cultural testing of hypotheses about our evolved psychology.

Introduced by John Richer

Plenary 3- Wednesday Sept. 5th 9:00 – 10:00 am

How to avoid incest

LISA DEBRUINE

Institute of Neuroscience and Psychology, University of Glasgow, UK

How and why do humans avoid incest? Using the Game of Thrones for examples (spoiler alert), I will discuss how humans use contextual cues like co-residence timing, co-residence duration, and maternal perinatal association to identify siblings and what happens when those processes go wrong. I will also discuss the potential for phenotype matching kin recognition mechanisms to influence sexual motivation and present evidence about how hormonal changes might relate to responses to kinship cues.

Introduced by Ian Stephen

Plenary 4- Thursday Sept. 6th 9:00 – 10:00 am

Why are Human Cultures So Different? Three Evolutionary Perspectives, Six Ecological Triggers, and Twelve Ways Psychological Gender Facultatively Shifts Around the World

DAVID SCHMITT

Brunel University, London, UK

The evolutionary sciences have struggled with the question of why our common human nature generates such a wide variety of cultural forms, practices, and values. Over the last few decades, theories from evolutionary psychology, behavioral ecology, and cultural evolution have begun to prove useful in answering this question. For instance, accumulating evidence suggests humans come psychologically equipped to generate certain types of cultures in response to local ecological conditions. Six interrelated features of local ecology appear especially important in generating human cultural diversity—population density, genetic relatedness, operational sex ratio, resource scarcity, pathogens/disease, and violence/mortality. High levels of pathogens and violence, for instance, may facultatively evoke anti-social psychological traits and, more generally, r-selected life history strategies. In some instances, these psychological shifts appear more intense in one sex than the other, even at times having sexually-antagonistic effects. In this presentation, I will review twelve fundamental ways sex differences appear to facultatively shift in response to cultural ecologies, with particular emphasis on why psychological sex differences are larger in some regions of the world (e.g., Northern Europe) than in others (e.g., Africa and South/Southeast Asia).

Introduced by Maryanne Fisher

Plenary 5- Friday Sept. 7th 9:00 – 10:00 am

Life History Tactics & Tradeoffs in the Context of the Mother-Infant Dyad

KATIE HINDE

Arizona State University, Tempe, AZ

Mother's milk has an organizational effect on infant outcomes, not just by providing the energy and materials for somatic growth, but through other milk constituents that shape immunological, neurobiological, behavioral, and cognitive development. Importantly, milk synthesis necessarily reflects a complex behavioral and physiological negotiation between mother and offspring. As such, investigations of the behavioral biology of milk synthesis at the maternal-infant interface in humans and non-human primates are essential for our understanding of ultimate implications for life history evolution and more proximately the developmental programming of offspring phenotype. Long-term research at the Comparative Lactation Lab and the California National Primate Research Center has produced >1000 milk samples from hundreds of rhesus macaque mothers (*Macaca mulatta*) since 2005. Fats, proteins, sugars, minerals, hormones, bacteria, and other constituents in mother's milk are highly variable. Here I will present emerging research that addresses the magnitude, sources, and consequences of inter-individual variation of bioactive constituents in milk and the behavioral dynamics that influence milk synthesis and infant assimilation of mother's milk. Importantly, experiences of early life adversity vs. advantage predict age at reproductive debut, milk synthesis, and subsequent reproduction. Moreover, maternal reproductive scheduling is associated with milk nutrients and hormones that seem to intergratively guide developmental tradeoffs between personality, cognition, and growth in progeny during early life organization that influences fitness outcomes such as survival, growth, and reproduction. Lastly, numerous hypotheses have been advanced to predict how mothers will differentially invest these limited resources in sons and daughters, however few studies have addressed sex-differentiated milk synthesis. Here I will summarize the evidence for different "biological recipes" in milk produced for sons and daughters and further review that even in the absence of different milk compositions produced by mothers, sex-differentiated mechanisms for assimilation of milk constituents may yield sex-differentiated outcomes. Taken together these findings enhance our understanding of primate life history.

Introduced by Craig Roberts

Abstracts

I. Life history and hormones

Chair: Thomas Alley

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1. Anthony J. Lee, Lisa M. DeBruine, Benedict C. Jones
The influence of local mortality on how individuals evaluate future discounting decisions
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2. Jakub Binter, Kateřina Klapilová, Klára Bártová, Lucie Krejčová, Pavel Šebesta, Juan David Leongómez, Hermann Prossinger
Maximum Likelihood Methods Show that Single and Partnered Young Adult Males React with Different Changes in both Testosterone and Cortisol Levels during Virtual Competitions for a Desired Female (SFA)
-
3. Rebecca Lawn, Hannah Sallis, Robyn Wootton, Abigail Fraser, Ian Penton-Voak, Marcus Munafo
Age at menarche with life history traits: A Mendelian randomization study (SFA, LMA)
-
4. Juan Du
Marriage partner choice in a Tibetan pastoralist society (LMA)
-
5. Rachel Ripardo, Victor Kenji Medeiros Shiramizu, Amanda Toledo Pereira de Carvalho, Naira Figueredo Marinho, Amanda Carvalho da Silva, Fívia de Araújo Lopes, Daniel Kruger
Mortality rates, childhood unpredictability, or current unpredictability: What predicts life history strategies in two of Brazil's most violent cities? (LMA)
-
6. Iris J. Holzleitner, Anthony J Lee, Amanda C Hann, Lisa M DeBruine, Benedict C Jones
A statistical model of facial attractiveness: replication and remix

The influence of local mortality on how individuals evaluate future discounting decisions

Anthony J. Lee, Lisa M. DeBruine, Benedict C. Jones

The Institute of Neuroscience and Psychology, The University of Glasgow, Glasgow, United Kingdom
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How organisms discount the value of future rewards is associated with many important outcomes, and may be a central component of theories of life-history. According to life-history theories, prioritising immediacy is indicative of an accelerated strategy (i.e., reaching reproductive maturity quickly and producing many offspring at the cost of long-term investment). Previous work extrapolating life-history theories to facultative calibration of life-history traits within individuals has theorised that local cues to mortality can trigger an accelerated strategy; however, compelling evidence for this hypothesis in modern humans is lacking. We assessed whether country-level life expectancy predicts individual future discounting behaviour across multiple intertemporal choice items in a sample of 13,429 participants from 54 countries. Individuals in countries with lower life expectancy were more likely to prefer an immediate reward to one that is delayed. Individuals from countries with greater life expectancy were especially more willing to wait for a future reward when the relative gain in choosing the future reward was large and/or the delay period was short. These results suggest that local mortality can influence the way individuals evaluate intertemporal decisions, which in turn can inform life-history trade-offs. We also found that older (but not very old) participants were more willing to wait for a future reward when there is a greater relative gain and/or shorter delay period, consistent with theoretical models that suggest individuals are more future-orientated at middle age.

Maximum Likelihood Methods Show that Single and Partnered Young Adult Males React with Different Changes in both Testosterone and Cortisol Levels during Virtual Competitions for a Desired Female (SFA)

Jakub Binter¹, Kateřina Klapilová², Klára Bártová², Lucie Krejčová², Pavel Šebesta², Juan David Leongómez³, Hermann Prossinger⁴

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Competitive behaviors elicit changes in the steroid hormones testosterone (T) and cortisol (C) in humans. Despite much research, investigations into one critical competition, namely that with peers for desired sexual partners, are currently lacking. Yet winning access to an opposite-sex partner would provide ultimate evolutionary advantages. We created a scenario in which 88 young adult men (aged 16–18 years) competed virtually for females with two pre-planned (but unknown to the males) consecutive outcomes: initially they were chosen by a desired female over their peers and later they were rejected by same female in favor of a male rival. Hormone samples were collected before the competition, after the positive outcome (being chosen), and after negative outcome (being rejected). Because the data samples are drawn from highly asymmetrically-distributed (statistical) populations, comparisons of point estimators of the samples are not meaningful and fraught with potential fallacies. We look at ML distributions and draw conclusions using these. We find that changes in both T- and C-levels depended on whether the males already had a regular sexual partner or not. We used a Rank-Style-of-Peers questionnaire to compare competition-related character features and modeled all possible combinations of character traits to explain hormone level changes. We use Akaike's Information Criterion, corrected for finite sample size, to eliminate models that include statistical noise. We find that only the trait 'willingness to form coalitions' best explained the T-level changes in the unpartnered group, while in partnered-group participants the traits

'dominance' and 'ruthless self-advancement' mediated the T-level reaction. These findings suggest that both the levels of these two steroid hormones and their shifts depended on partnership status and character traits of the competing males.

Age at menarche with life history traits: A Mendelian randomization study (SFA, LMA)

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There is substantial variation between humans in the timing of significant life events such as menarche. Life history theory explains this variation as an adaptive response to an individual's developmental environment. In some contexts, such as developmental environments characterized by harsh conditions, adopting a fast life history strategy may increase reproductive fitness, with childhood adversity associated with earlier age at menarche. Correlational methods have been used to examine life history theory, as manipulation of developmental environments and reproductive timing is not possible. Here we apply Mendelian randomization as a new alternative to investigate causal relationships between age at menarche and many evolutionary relevant outcomes in UK Biobank ($N = 41,766 - 181,235$). Mendelian randomization, a genetic instrumental variable analysis, is an increasingly popular method for strengthening causal inference in epidemiology. We find some evidence of a causal effect of later age at menarche with later age at first birth, later age at last birth, higher educational attainment, later age at leaving education, and decreased alcohol intake. We find no clear evidence of effects for age at menarche on risky behaviour, reproductive period, being unemployed, and whether participants had ever smoked, although these analyses included binary outcomes or smaller sample sizes and therefore had reduced statistical power. These results suggest that age at menarche is causally linked to some reproductive traits and social behaviours that characterise life history strategies. The present study further highlights how Mendelian randomization can be applied to test predictions of life history theory for our understanding of the determinants of health and social behaviour.

Marriage partner choice in a Tibetan pastoralist society (SFA, LMA)

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Various models have been proposed for interpreting the relationship between bridewealth exchange and different marital status, but how wealth investment associated with marriage stability has not been investigated systematically. Here we analyse how bridewealth and dowry are made and ended marriage partnership in a pastoralist society of Amdo Tibetans in China. We collected demographic and socioeconomic data from 420 women and 369 men over 5 villages to assess which factors predict long partnerships. We show that the payment of dowry and bridewealth from both sides of the family predict marriage survival. Having offspring, regardless of living status and gender difference has positive effects on the marriage sustainability. Trial marriage, as a time period before formal marriage, where working ability will be assessed by the new family, is also positively associated with marriage stability. We argue that If both bride and groom invest a bit of resources initially, be it wealth, offspring or labour, partnership will be stronger than couples who don't have any investment.

Mortality rates, childhood unpredictability, or current unpredictability: What predicts life history strategies in two of Brazil's most violent cities? (SFA, LMA)

Rachel Ripardo¹, Victor Kenji Medeiros Shiramizu², Amanda Toledo Pereira de Carvalho³, Naira Figueredo Marinho¹, Amanda Carvalho da Silva¹, Fívia de Araújo Lopes³, Daniel Kruger⁴

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Childhood unpredictability provides short and long-term information about environmentally available resources in the future. Among factors related to unpredictability perception, there are future expectation (e.g. life expectancy, mortality cues, future perception, temporal framework), socioeconomic status, perception of environmental control (e.g. sense of control, locus of control), and changes in the child's environment. However, current mortality is also a contextual clue used by animals to shift their life history strategy, and current unpredictability might also play a role. Life History Theory explains how humans adapt to different contexts, though research often finds mixed results. The present research compares samples from two of Brazil's most violent cities, Natal-RN and Belem-PA, each with 50 participants (total 100), with age from 18 to 45 years-old, to understand their life history strategies. Participants answered a sociodemographic questionnaire, a childhood familiar unpredictability scale (EIFI), an unpredictability beliefs scale, and a life history scale. In Natal, mortality and current unpredictability did not predict LH strategy, while childhood unpredictability did. Data collection continues in Belém, we hypothesize that the same result will be found. Gender might also be an important variable. These results may inform public policies, enhancing the effectiveness of interventions.

Keywords: mortality; unpredictability; life history strategy; violence.

A statistical model of facial attractiveness: replication and remix

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Using a sample of artificial face stimuli, Said and Todorov (2011 Psychological Science) demonstrated that a regression model defining attractiveness as a function of a face's position in a multidimensional face space provided considerably more predictive power than theory-driven models (sexual dimorphism and averageness). Here, we tested whether Said and Todorov's findings replicate in a large sample of natural faces. First, we took color-standardized photographs of 594 women, which were rated for attractiveness and delineated with 132 landmarks. Second, landmark templates and color values were subjected to principal component analyses. Resulting shape and colour principal components (PCs) were used to derive sexual dimorphism and averageness scores (theory-driven model) and to directly predict facial attractiveness (data-driven model). Consistent with Said and Todorov (2011 Psychological Science), we found that a data-driven model explained substantially more variance than models based on averageness and/or sexual dimorphism. We are currently carrying out follow-up analyses to explore what characteristics underpin the data-driven model.

II. Cooperation

Chair: Dori LeCroy

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1. Natalia Dutra, Lynda Boothroyd, Emma Flynn
The effects of inequality on children's sharing after collaboration: a cross-cultural comparison (SFA, LMA)
-
2. Stephanie Josephine Eder
Getting in touch – Social status predicts physical interaction in classrooms (SFA, LMA)
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3. Romana Žihlavičková, Kristýna Josrová, Ivan H. Tuf
The surprisingly weak influence of a pro-social behavioural context on dishonesty (SFA)
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4. Adam Kenny, Laura Fortunato
Cooperation, competition, and contrade: Naturalistic measures in an historic Italian city (SFA)
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5. Nancy L. Segal, Karen Yirmiya-Feldstein, Ariel Knafo-Noam
Collaborators or Competitors? A Pair of Twin Studies
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6. Carlos Rodríguez-Sickert, César Hidalgo, Cristian Candia, Victor Landaeta, Isabel Behncke, Tamas David-Barret
Reciprocal exchange and friendship in children: lessons from the implementation of an onymous dyadic experiment in Chilean public schools

The effects of inequality on children's sharing after collaboration: a cross-cultural comparison (SFA, LMA)

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According to the interdependency hypothesis, the ability to share resources might have evolved as a strategy to promote and stabilise collaboration in humans. In relation to this, the development of sharing skills is crucial, and there is evidence that even young children often share equally in collaborative situations. However, sharing must be conditional to a number of factors, including how limited are the resources available. We tested whether children would attempt to share equally in a collaborative task with unequal outcomes. In addition, we tested whether children's decisions were influenced by individual, social, and cultural variables. Pairs of 4- to 5-year-old ($n=136$) and 8- to 9-year-old ($n=148$) children from Brazil and England were tested in four trials of a collaborative task in which they could win marbles. Older children shared significantly more often than younger ones, but both groups shared more when they retrieved more marbles. Also, the opportunity to monopolise the marbles significantly affected the younger children's sharing decisions. Moreover, children's decisions seemed independent of individual characteristics, mothers' social preferences, social class and culture. Though there were no cultural differences in the amount shared, English children shared their marbles more actively than Brazilian children. We discuss possible explanations for this, and for the absence of effects regarding the other variables. Therefore, although children were very collaborative in the task from early on, their subsequent sharing decisions seem at odds with previous evidence. Young children behave strategically in collaborative settings, by securing more resources to themselves if the outcomes are unequal, and only later they develop more sophisticated strategies to achieve equity in these situations. Our findings support a more nuanced view of the development and evolution of sharing skills in collaborative interactions, by showing the effects of immediate context on children's decisions.

Getting in touch – Social status predicts physical interaction in classrooms (SFA, LMA)

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Social interactions and hierarchical structures in classrooms are studied by a number of scientific disciplines, yet the complexity of such systems makes them hard to investigate. In this study we investigate the relations between social status and bodily interaction. We developed a novel approach to assess social status in grammar school students: Classmates assessed their peers in intellectual, social and physical domains. Additionally, we measured the amount and nature of physical interactions among classmates during breaks in the classroom. These interactions were tracked with the help of older, trained and regularly supervised students from the same school. This peer-to-peer method generated large amounts of data over a period of two months, during which 168 students were observed repeatedly. Results show touching behaviour is modulated by social status and sex: Interactions with the opposite sex correlate significantly with social status. Same sex touching of private areas such as breasts, lap and buttocks occur more frequently among same-status girls and between boys differing in status. Extremely high and low ranked individuals are the only ones to touch private areas of the opposite sex. This study helps to understand formative interactions within classrooms and give rise to new questions on the establishment and maintenance on hierarchies in peer groups.

The surprisingly weak influence of a pro-social behavioural context on dishonesty (SFA)

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The evolution of cooperation has always depended on the principle of providing shared benefits for everyone involved. In comparison, the refusal to cooperate can lead to valuable partners being lost and opportunities missed to the detriment of the greater good. Connecting with others and caring for one another in the cooperative group are vitally important, behaviour that occurs on a non-conscious level. Reputation management is one of the major mechanisms that can help individuals to retain as well as find new cooperation partners. People are susceptible of being observed and, upon being observed, tend to behave in a more representative way. These findings are supported across various fields of study, confirming the universality of the principle. Our aim was to assess under experimental conditions whether a pro-social behavioural context would enforce the effect of implicit reputation cues. In mock exams before the experiment, we used two different contexts – a non-social context (a recipe) and a pro-social context (a story on the theme of altruism). Afterwards we examined whether there was any difference in the effect of implicit reputation cues between the groups. All participants were instructed to take one reward from an empty room. Each participant was 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. In 50% of cases, a picture of a pair of eyes was placed so as to be visible behind the reward. Interestingly, the results revealed almost no difference between the pro-social and recipe groups. There was a visible trend in support of the hypothesis, but too small to be significant. We intend to further discuss these surprising results with the aim of providing possible explanations as well as future recommendations.

Cooperation, competition, and contrade: Naturalistic measures in an historic Italian city (SFA, LMA)

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Human groups are ubiquitous. Many are demarcated by ideological boundaries, such as religion, but even purely symbolic markers are sufficient to bias behaviour towards members of the same "in-group" as opposed to members of a different "out-group". In particular, cooperative behaviour is known to be biased: cooperation is greater between in-group members than between out-group members. The level of bias is known to be affected by several factors, including intergroup competition and the relationship between groups. Yet the precise effects of these factors remain unclear. Does competition increase in-group cooperation, or decrease out-group cooperation? Does the level of cooperation differ in the presence of a rival vs. neutral out-group? This study of the seventeen contrade of Siena, Italy aims to answer these questions. The contrade are "districts" that have been in existence since the medieval period. Members of the contrade participate in year-round activities and rituals, and identify strongly with their group. The contrade compete in a pair of annual horse races held in the summer called the Palio, moments of intense competition. Contrade also maintain different relationships with each other: each contrada has rivals, allies, and neutral competitors. The setting thus provides both competition and multiple groups relationships. Using lab-in-the-field measures the effect of competition, group relationship, and group identity on cooperation was assessed. The empirical findings from this research will be presented, which reveal little effect of competition on cooperation but strong effects of group relationship. How naturalistic measures can be collected and informed through extended fieldwork will also be discussed.

Collaborators or Competitors? A Pair of Twin Studies

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The monozygotic (MZ)-dizygotic (DZ) twin comparison is a simple and elegant approach to examining genetic and environmental influences on behavior. By contrast, the "twins-as-couples" design focuses on social-interactional processes and outcomes displayed by MZ and DZ twins acting in pairs, offering insights into evolutionary-based hypotheses/questions regarding social relatedness. A behavior of continued interest is altruism in which behaviors are beneficial to a recipient at some cost to the benefactor. Hamilton's (1964) solution to this behavioral paradox was his theory of kin selection, i.e., individuals are predisposed to augment their fitness by enhancing the reproductive success of close kin. Two experimental semi-naturalistic twin studies, one at the University of Chicago (Segal, 1984) and the other at the Hebrew University of Jerusalem (Yirmiya, Segal, Bloch, & Knafo-Noam, in press) administered the same differential productivity task to twin children that poses prosocial and self-interested conditions, enabling informative comparisons. Twins in the Chicago study had a mean age of 7.94 years ($SD=1.37$), range: 6.09 - 11.30, while twins in the Jerusalem study had a mean age of 6.60 years ($SD=0.22$), range: 6.50- 6.92. It was anticipated that (1) individual twins would work harder for themselves than for their co-twins (self-interested condition), but that (2) MZ twins would work harder for their co-twins than DZ twins (prosocial condition). Both expectations were confirmed by Segal (1984), but MZ-DZ differences in prosocial behavior were not detected by Yirmiya, et al.; the positive correlations for both groups may suggest reciprocity. The Jerusalem study also found greater MZ than DZ correlations for self-interested behavior, possibly reflecting genetic effects. Additional results, appraisal of findings and reasons for discrepancies between this pair of studies are presented. Hamilton, W.D. (1964). *Journal of Theoretical Biology*, 7, 1-16. Segal, N.L. (1984). *Ethology & Sociobiology*, 5, 163-177. Yirmiya-Feldstein, K. et al. (in press). *Developmental Science*.

Reciprocal exchange and friendship in children: lessons from the implementation of an onymous dyadic experiment in Chilean public schools

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In order to shed light on the relationship between reciprocal exchange and friendship we implement two different instruments in 48 classrooms (from 3rd to 5th grade) in 14 different public schools from Santiago, Chile. The first instrument involved the implementation of an onymous dyadic experiment, characterized by potential mutual gains, but threatened by individual opportunistic incentives. During the experiment, all possible pairs combinations within each class had the opportunity to play the game. The second instrument was based on peer-nomination and students were asked to identify their friends. Using the data collected from the experiment, a complete weighted mutual support (or reciprocity) network was elicited for each class. At the level of the dyad, total mutual gains and the equitableness of the distribution of these gains could be computed. Using the data collected from the peer-nomination instrument, each dyad could be characterized as mutual friendship (both students identified the other member of the dyad as their friend), asymmetric (or unrequited) friendship (only one of the students identified the other member of the dyad as their friend) and no friendship (no student identified the other member of the dyad as their friend). We used the dyadic reciprocity measures obtained from the experiment (total gains and equitableness of its distribution) to characterize mutual friendships and unrequited friendships in terms of the nature of their reciprocal exchange.

III. Sustainability, morality and aesthetics

Chair: Nancy Segal

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1. Kathrin Massuch, Pia Marlena Böhm, Johanna Köllner, Stefania Zingale, Elisabeth Oberzaucher
Looking at trees – Leaf shapes and preferences (SFA)

 2. Michał Misiak, Piotr Sorokowski,
The adaptive nature of moral concerns regarding wasting food (SFA)

 3. Eveline Seghers, Geoffrey Miller
Visual imagery and the cultural transmission of religious concepts

 4. Daniel J Kruger, Michael Falbo, Sophie Blanchard, Ethan Cole, Camille Gazoul, Noreen Nader, Shannon Murphy
Territorial Context Influences Responses to Social Alliance Expressions

 5. Miguel Pita, Patrick Durkee, Pablo Polo, José Antonio Muñoz-Reyes, Claudia Rodríguez-Ruiz, María Losada-Pérez, Enrique Turiégano, David Buss
Are those muscles that are harder to build more attractive? An evolutionary perspective (LMA)

 6. Charlotte De Backer, Maryanne L. Fisher
It's more than a quick bite to eat: An evolutionary approach to commensality and sharing food as mechanisms for social bonding.

Looking at trees – Leaf shapes and preferences (SFA)

Kathrin Masuch¹, Pia Marlena Böhm², Johanna Köllner², Stefania Zingale², Elisabeth Oberzaucher¹

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During hominid evolution, trees and shrubs of the African savannah provided food, shade and protective shelter, as well as good vantage points to view the surroundings and scan them for potential dangers and opportunities. Thus, it lies at hand that natural green still affects our behaviour and well being. Hareli et al. showed that house prices are affected by the kind of plants surrounding real estate. Palm trees increase the willingness to pay. Several studies found a visual preference of sharp and pointy leaves over round and softer leaves. In the present study we used the original stimuli by Hareli et al. to investigate whether the effect of palm trees on willingness to pay can be linked to visual preference: In a forced choice looking experiment we presented 36 pairs of stimuli (individual leaves and real estate pictures), juxtaposing round and sharp contours, to a total of 96 participants. We measured visual preference by means of looking duration. Looking duration was linked to the willingness to pay data from the original study. Our findings link consumer behaviour to visual behaviour. By investigating the perceptual underpinnings of human behaviour, we gain better understanding of the mechanisms underlying decision making.

The adaptive nature of moral concerns regarding wasting food (SFA)

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People consider food wasting to be immoral. According to the Moral Foundations Theory (MFT), human moral concerns may serve as cultural adaptations to ecological and social challenges, such as childcare, identifying cheaters in social exchanges or even avoiding contamination. While food gathering, production and distribution are considered as a social and environmental challenge, there is a lack of research exploring the assumption that the moral concerns about food wasting may serve as an adaptation. We hypothesized that people who have strong moral concerns about wasting food tend to waste less food. We also assumed that moral concerns about wasting food would not be related to other categories of moral concerns implied by the MFT, namely: care, fairness, authority, loyalty and sanctity. In order to test our hypothesis, we conducted an online survey on 538 Poles. We evaluated their moral concerns through the Moral Foundation Questionnaire, which included an additional subscale that measures the moral concerns about wasting food. In addition, we asked each participant to estimate the amount of food they threw away in the week preceding the study. Each participant was asked to estimate the amount of food wasted in several categories (e.g. bread, meat, fruit or sweets). We found that people who had stronger beliefs regarding immorality of wasting food were wasting significantly less. Contrarily to our assumption, we found that the category of care concerns predicted moral concerns for wasting food, yet the relationship was weak. It suggests that wasting food moral concerns are partly determined by concern for the well-being of other people. We argue that moral concerns about wasting food can serve as cultural adaptation to minimize the loss of food. We will also discuss to what extent wasting food could be considered a separate category of moral concerns.

Visual imagery and the cultural transmission of religious concepts

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Visual imagery and the cultural transmission of religious concepts Visual imagery is central to many religious belief systems, both across cultures and throughout time. Culturally specific attitudes towards images are often explained by referring to the particular cultural context in which they appear, yet little is known about the more general, underlying psychological mechanisms of the presence of art in belief systems. Does visual art function as a supportive mechanism for reliably transmitting religious ideas? Are some types of imagery more effective in visualizing supernatural concepts? And which additional variables, such as emotional valence, may influence the psychological effect of these images? This research specifically addresses the concept of counterintuitiveness in the cognitive appeal of abstract, supernatural concepts. Counterintuitive concepts are mental representations that depart to a varying extent from our normal cognitive expectations about the world, such as talking animals, all-seeing gods, or humans with deviating physical properties like having multiple heads or arms. Existing research on religious narrative has indicated that minimally counterintuitive concepts – possessing only one or two of such deviations – appear to constitute a cognitive optimum for making abstract supernatural concepts more salient and memorable to our worldly cognition. So far, no research to date has investigated similar effects for visual imagery. This presentation will discuss data collected during a study adopting a cross-cultural perspective on religion, encompassing images from large world religions as well as more small-scale traditions. It will hypothesize that minimally counterintuitive imagery will be memorized more reliably than either intuitive or maximally counterintuitive images. The results are discussed in the context of evolutionary hypotheses on the origins of art and religion.

Territorial Context Influences Responses to Social Alliance Expressions

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We predicted that reactions to expressions of social allegiance would vary as a function of the social context. In the "home" environment, expressions of social allegiance provide relatively lower informational value. In a contested area, threats from rivals are greater and the importance of solidarity is higher. The importance of expressing solidarity with one's own group is highest when invading a rival's home territory during active conflict or rival engagement. Thus, we predict that reactions to expressions of social allegiance will be more prevalent, positive, and enthusiastic as one moves from the home environment to a contested area, and from a contested area to a rival's home territory during active conflict or rival engagement. We tested these predictions with naturalistic observations of reactions to allegiance expressions in the context of university sports team rivalries. One male confederate walked around wearing a university sweatshirt from one of the competing teams and said the most popular team slogan when seeing another adult wearing items featuring the same university. Observers (unaware of the hypothesized pattern) followed 5-10 meters behind and recorded any reactions from the other individual(s), coding the positivity and enthusiasm of responses. Results generally followed the predicted pattern. The highest reaction rate was in the rival territory, whereas the pattern for other locations differed somewhat from predictions. Sessions in locations featuring crowded and noisy holiday festivities had lower reaction rates. Observed reactions were most positive/enthusiastic in the rival territory, least positive/enthusiastic in the home territory, and intermediate in the contested territory and the periphery of the home territory. Also, men had higher reaction rates and more positive and enthusiastic reaction tones than women, supporting predictions. This project advances the understanding of coalitional behavior, indicating that the signal value of social alliance expressions varies as a function of the territorial context.

Are those muscles that are harder to build more attractive? An evolutionary perspective (LMA)

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Sexual selection is the mechanism that explains the origin and prevalence of adaptations that are directly related with reproductive fitness. Men's body is full of signals that are shaped by sexual selection (Puts, 2009), particularly body muscles (Frederik & Haselton, 2007). Given this framework, we propose that in men's bodies those muscles that are harder to build require a particular genetic background. We additionally hypothesize that women and men possess context-sensitive preferences for muscularity owing in part to an underlying evolved psychological mechanism also shaped by sexual selection. Consequently, for women the muscles that would be more attractive in a man's body would be those that are harder to build. Therefore, women would have evolved to detect and find attractive muscles that indicate good-genes. For men, those muscles that would be more attractive in a man's body would be those that indicate a higher fighting ability. That is, men would have evolved to detect and find attractive muscles that indicate good fighting ability in rivals (significantly upper-body muscles). We tested our hypothesis in a large sample of both participants and gym coaches to establish if those muscles that are harder to build are more attractive, and we found a partial support to our proposals, that are discussed in an evolutionary context.

It's more than a quick bite to eat: An evolutionary approach to commensality and sharing food as mechanisms for social bonding.

Charlotte De Backer, Maryanne L. Fisher

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In human's ancestral environments, the acquisition and distribution of food necessitated trust and cooperation among group members. Consequently, it has been proposed that the acquisition and distribution of food is the foundation of evolved mechanisms related to social bonding and morality. Even today, the sharing of (similar) foods is known to boost trust and cohesion among strangers, and commensality, defined as the act of eating together, has been linked to higher levels of trust and cooperation in larger scale communities. None of these studies have, however, made a difference between eating together (i.e., eating in the company of other people) and food-sharing (i.e., where foods, such as platters, are shared among people). In human's ancestral times food sharing was the norm; today and throughout history many societies use food sharing as an important marker of one's position in a community. That is, food sharing indicates whether one is an in-group or out-group member. Thus, we use data from the eHRAF to explore food sharing as an indicator of in-group and out-membership. We further explain in-depth why food-sharing may be more important (compared to the mere act of eating together) as a catalyst to social bonding, cooperation and trust. Sharing of food can elicit a potential dilemma: for example, will (both favorite and disliked) foods be shared fairly, and who will be served first, second, or last? In these ways, food-sharing acts as a subtle (unspoken) sign to socialize people to treat others fairly. We discuss these findings using our previously published data showing food-sharing and not eating together during childhood predicts altruistic behavior in adulthood. We conclude by putting forward hypotheses to further test the subtle, yet potentially important difference between eating together and food sharing in relation to social bonding, cooperation and trust using observational data.

IV. Social Perception and attractiveness

Chair: Iris Holzleitner

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1. Kamila Pereira, Marco Varella, Karel Kleisner, Jan Havlíček, Ondřej Pavlovič, Jaroslava Valentova
Femininity-masculinity – associations between self-ratings, third-party ratings and objective measures (SFA, LMA)
-
2. Amanda C Hahn, Hannah Fergusson, Karina Giggear, Jenn Masad, Kelly D Cobey, Lisa M DeBruine, Benedict C Jones
Hormonal Factors Impacting Women's Intrasexual Competition
-
3. Ian D Stephen, Bernard Tiddeman, Tan Kok Wei
Skin texture and colour predict perceived health in Asian faces
-
4. Jitka Lindova, Anna Fiserova, Dan Fayette, Katerina Klapilova
Calm women and sexual men are the best partners: Correlates of dyadic adjustment in romantic couples
-
5. Marie M. Armstrong, Tina Kocic, David R. Feinberg
Dominance has no effect on perception of one's own voice (SFA)
-
6. Victoria V. Rostovtseva, A. A. Mezentseva, N.B. Dashieva, F. J. Weissing, M. L. Butovskaya
Nonverbal markers of cooperative behaviour in Buryats of Southern Siberia (SFA)

Femininity-masculinity – associations between self-ratings, third-party ratings and objective measures (SFA, LMA)

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Femininity-masculinity (FM) indicates bearer's biological and social qualities. Though physiological FM is primarily influenced by reproductive hormones, its perceptions are mediated by biopsychosocial factors. Here we examined possible association between subjective perception (SP) and objective measures (OM) of facial, vocal, and behavioral FM by investigating (1) self-reported and third-party ratings, and (2) SP and OM. The study comprised of two independent samples of Brazilian students, aged 18-35 years, from the University of Sao Paulo. Firstly, 38 men and 41 women self-reported their facial, vocal and behavioral FM and afterwards their photos, voices and dance videos were judged by 21 men and 43 women on scales ranged from "very feminine" to "very masculine". Self-reports and third-party ratings comprised the SP. Moreover, we analyzed facial shape, fundamental vocal frequency (Fo), range of fundamental frequency (Fo range), ethogram of dance videos, body mass index (BMI) in both sexes, waist-to-hip ratio (WHR) in women, and waist-to-shoulder ratio (WSR) in men of the former sample; these variables comprised the OM. For women, no correlation was found between any of the SP elements, but women who assessed their behavior as more feminine had lower WHR. Such results suggest that, beside FM, other factors are influencing women's own perceptions, such as psychological and social components. Contrarily, there was a positive association between feminine faces evaluated by third-party raters and feminine facial shape and lower BMI, respectively. Moreover, voices rated by third-party raters as feminine correlated positively with feminine Fo. In men, self-reports and third-party

ratings were positively associated in facial and vocal stimuli. Moreover, self-reported vocal masculinity correlated with masculine Fo, and self-reported behavioral masculinity was associated with higher WSR. The results suggest that men's and women's own perceptions are influenced by OM. Importantly, self-reported, measured and third-party rated FM can lead to different results.

Hormonal Factors Impacting Women's Intrasexual Competition

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Intrasexual competition among women typically takes the form of indirect aggression, including self-promotion tactics and competitor derogation. Previous research has generally focused fertility-linked changes in women's intrasexual competition. While this approach is useful for testing hypotheses about the adaptive function of changes in women's intrasexual competitiveness, it offers little insight into the proximate mechanisms through which such changes might occur. To investigate this issue, we carried out a longitudinal study of the hormonal correlates of changes in intrasexual competitiveness in a large sample of heterosexual women (Study 1). Each woman provided saliva samples and completed an intrasexual competitiveness questionnaire in five weekly test sessions. Multilevel modeling of these data revealed a significant, positive within-subject effect of testosterone on intrasexual competitiveness, indicating that women reported greater intrasexual competitiveness when testosterone was high. By contrast, there were no significant effects of estradiol, progesterone, estradiol-to-progesterone ratio, or cortisol. Because hormonal contraception impacts levels of endogenous hormones, we also investigated intrasexual competition in women using combined oral contraceptives or long lasting, progesterone only contraceptives (Study 2). No significant differences were observed for reported intrasexual competition among these two groups of contraceptive users.

Skin texture and colour predict perceived health in Asian faces

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Facial skin texture and colour play an important role in observers' judgments of apparent health and have been linked to aspects of physiological health, including fitness, immunity and fertility. However, most studies have focused on Caucasian populations. Here, we report two studies that investigate the contribution of skin texture and colour to the apparent health of Malaysian Chinese faces. In Study 1, homogenous skin texture, as measured by wavelet analysis, was found to positively predict ratings of apparent health of Asian faces. In study 2, homogenous skin texture and increased skin yellowness positively predicted rated health of Malaysian Chinese faces. This finding suggests that skin condition serves as an important cue for subjective judgements of health in Malaysian Chinese faces.

Calm women and sexual men are the best partners: Correlates of dyadic adjustment in romantic couples

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Relationship maintenance behaviors are used by individuals with the aim to ensure stability of their romantic relationship, but may be different in terms of how much they contribute to perceived relationship quality. On the other hand, conflicts in general have a negative impact on perceived relationship quality, but some communication styles may weaken, and other communication styles may strongly intensify this negative effect. A final pattern of communication during conflict is determined by communication styles of both partners and their interaction. The relationship of dyadic conflict communication patterns, and of different relationship maintenance behaviors with perceived relationship quality by romantic partners was the focus of this study. We studied 60 long-term heterosexual couples who filled in the Romantic Partner Conflict Scale, Dyadic Adjustment Scale, and were asked to order a set of 10 pictures referring to 10 common relationship maintenance behaviors. Our results show that pattern of mutual compromise seeking is connected to higher and pattern of mutual reactivity to lower relationship adjustment in both partners (mutual compromise: $r = 0.27$, $p = 0.025$, and $r = 0.46$, $p < 0.001$ for men and women, respectively; mutual reactivity: $r = -0.40$, $p = 0.001$, and $r = -0.41$, $p = 0.001$ for men and women, respectively). In addition, man's dominant or separation styles combined with the woman's reactive style was connected to lower relationship adjustment in both partners. Finally, higher relationship adjustment of both men and women was associated with men's use of sex as a relationship maintenance behavior ($r = 0.46$, $p = 0.027$, and $r = -0.51$, $p = 0.011$, for men and women, respectively). The results are discussed with respect to evolutionary predictions about gender differences in relationship maintenance and communication.

Dominance has no effect on perception of one's own voice (SFA)

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The evolution of low voice pitch in men has been theorized to be due to intrasexual competition. Lower-pitched voices are consistently perceived as belonging to more dominant men and women, although this perception is not always matched with reality. Prior work in faces has shown that men who consumed exogenous testosterone overperceived their own dominance when performing a self-recognition task, as compared with a control group. If voice pitch is a true indicator of dominance, we would expect that individuals high in dominance would also over-perceive dominance when attempting a self-recognition task in voices. We recorded the voices of male and female participants and manipulated each person's voice into a series of eight higher-pitched and eight lower-pitched versions of each voice. Participants self-rated their level of physical and social dominance, and then were randomly assigned to completed either a powerful or powerless induction task. After the induction task, participants were asked to identify their true voice from the series of sixteen manipulated voices. Participants' power condition did not significantly affect how much lower-pitched or higher-pitched a voice they perceived as their own. Similarly, there was no significant difference in the voice perception based on participants' self-rated dominance. Participant sex also had no effect on own voice perception, nor did any interactions of these variables. Collectively, these results demonstrate that although people perceive lower-pitched voices as more dominant, this bias does not extend to perceptions of an individual's own voice.

Nonverbal markers of cooperative behaviour in Buryats of Southern Siberia (SFA)

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We report on an experimental study of human cooperativeness among native people of Buryatia (Southern Siberia), recruited in the capital of the region (Ulan-Ude). Our study includes a sample of around 200 participants at the age of 18 – 25 years (males and females), ethnically homogenous, who were involved in experimental economic games: group (Public Goods Game) and pair (Prisoner's Dilemma) interactions with real monetary pay-offs. We present a unique approach to investigation of human cooperation through Evolutionary Game Theory paradigm: our study involves face-to-face interactions with real partners, including whole spectrum of communicational means (both nonverbal, and verbal), videotaping of behaviour during interactions, and wide range of personal information collected during experiment. The main focus of our report is individual differences in cooperative, altruistic, or free-riding behaviour with regard to real social environment and nonverbal signaling (i.e quality, intensity, longevity, and frequencies of facial expressions and movements during group or (and) pair interactions). Possibly, some general sex effects, as well as personality features' impacts are to be reported in addition, if any. Our work suggests one of possible solutions to getting semi-controlled experimental studies closer to real-life conditions, which is extremely important, both for empirical and theoretical contemporary research. The experiment was conducted with the support of Owen F Aldis Award 2016, and data processing was supported by the RSCF grant 18-18-00075.

V. Symposium on the Role of Voice Modulation in Human Communication

Chair: Katarzyna Pisanski and David Reby

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1. David Reby
Introduction to Symposium
-
2. Prof. David Reby
The origins, development and implications of sexual dimorphism in the human voice
-
3. Dr. Valentina Cartei, R. Banerjee, A. Garnham, J. Oakhill, D. Reby
Children's development and control of sex-related voice cues (LMA)
-
4. Dr. Juan Leongómez, Alice K. Murray, S. Craig Roberts
Contextualising courtship: male body odour effects on vocal modulation
-
5. Dr. Katarzyna Pisanski, Anna Oleszkiewicz, Justyna Placheta
Voice pitch modulation in real-life speed dating (LMA)
-
6. Dr. Jordan Raine (SFA)
Human listeners can accurately judge formidability from aggressive roars and speech

The Role of Voice Modulation in Human Communication

Dr. Katarzyna Pisanski, ¹ Prof. David Reby², Dr. Valentina Cartei², Dr. Juan Leongómez³, Dr. Anna Oleszkiewicz⁴, Dr. Jordan Raine²

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We propose a symposium on the largely unexplored topic of human voice modulation. While the capacity to modify the nonverbal properties of the voice (such as pitch and vocal tract resonances) has typically been studied in the context of speech production, we plan to showcase new empirical evidence that humans also modulate the nonverbal components of their voices to convey or exaggerate evolutionarily and socially relevant traits. The proposed talks will show evidence of gender-stereotyped voice modulation patterns in young children, voice modulation in adults during every day social interactions including mate choice and professional contexts, and voice modulation in the production of nonverbal vocalisations (aggressive roars).

The origins, development and implications of sexual dimorphism in the human voice

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The aim of this introductory presentation will be to provide an evolutionary and biological background for our symposium on human voice modulation. I will start by reviewing comparative and experimental evidence indicating that sexual dimorphism in the human voice originates from sexual selection pressures. I will then describe the biological bases of this dimorphism, as well as its development throughout the lifespan. I will conclude that, combined with our rare and highly advanced voice control abilities, this dimorphism opens up the acoustic space of the human voice, supporting the dynamic communication of secondary cues to a wide range of traits including gender, attractiveness and dominance.

Children's development and control of sex-related voice cues (LMA)

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Prof Jane Oakhill, Prof David Reby

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The human voice is sexually dimorphic: men speak with lower voice pitch and more closely spaced vocal tract resonances (formants) than do women, and pre-pubertal boys speak with lower formants than do girls. In adults, these acoustic differences are largely due to sex differences arising after male puberty in relation to body size and to the dimensions of the vocal apparatus. Before puberty, however, there are no clear sex differences in vocal anatomy between the sexes, suggesting that voice differences between boys and girls have a strong behavioural component. In a series of studies with three to ten year olds, we explored how body size and shape, sex hormone levels, and behavioural indices of masculinity and femininity correlate with voice variation, and the extent to which children control the sex-related acoustic dimensions of their voices in social contexts involving peer audiences and sex stereotypical occupations. Our results suggest that children adapt their voices to express masculinity, femininity and attributes stereotypically associated with males and females, and that the voice could be used as an implicit measure of children's and adults' sex-role biases.

Contextualising courtship: male body odour effects on vocal modulation

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Voice characteristics are an important means to communicate socially relevant information. Recent research has shown how we alter our voices during social interactions, depending on the context and perceived characteristics of the audience. Also, numerous studies have shown that the presence of bodily odours can elicit a number of psychological changes in people. Here, we tested whether the presence of male axillary odour would also influence vocal modulations in courtship contexts. We measured vocal parameters (mean and variability (SD) of voice fundamental frequency (Fo), and similar measures of intensity), to test men's and women's vocal changes in the presence and absence of the odour (high- or low-quality, with or without added androstadienone) in responses to opposite-sex targets. The addition of male odour produced some clear changes in vocal parameters, in particular decreasing men's Fo and increasing women's Fo, suggesting that the presence of the male odour leads to vocal changes that increase perceived femininity in women, and masculinity/dominance in men. High quality odour, or added androstadienone, however, did not have additional effects, perhaps because the presence of the odour alone is sufficient to generate changes in modulation, or because the variability in odour quality was not sufficient to elicit quality-related changes in modulation. This demonstrates that increasing the ecological validity of the environment, providing not just a context and the images of the putative target listeners, but also an associated odour, can produce measurable changes in vocal parameters. This lends support to the idea that vocal modulations are extremely context-sensitive, and so can play an important part in shaping how we are perceived by others.

Voice pitch modulation in real-life speed dating (LMA)

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Like other mammals, inter-individual differences in human fundamental frequency (perceived as voice pitch) predict mate quality, reproductive success, and affect listeners' social attributions. However, unlike other mammals, humans can volitionally manipulate their vocal apparatus and pitch owing to increased neural control, for instance in the production of speech sounds and singing. Yet, little is known about whether humans exploit this capacity to adjust the nonverbal dimensions of their voices during social (including sexual) interactions. Here, we recorded full-length conversations of thirty adult men and women taking part in a real speed-dating event, and tested whether their voice pitch (mean, range, and variability) changed with group-level and individual mate preferences. We found that men lowered the minimum and mean pitch of their voices when interacting with women who were overall highly desired by other men, or with women they showed a personal preference for. Women spoke only with a lower and less variable pitch toward desirable men whom they also personally preferred. Accordingly, men preferred women who spoke with lower pitch minima. These results, derived in the first ecologically valid setting, support the hypothesis that human voice modulation functions in nonverbal communication to elicit favourable judgments and behaviours from others, including potential mates.

Human listeners can accurately judge formidability from aggressive roars and speech (SFA)

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While animal vocalisations and human speech are known to include acoustic cues to physical formidability, no previous study has examined whether human listeners can assess the strength or body size of vocalisers relative to their own, either from speech or from nonverbal vocalisations. Here, although men tended to underestimate women's formidability, and women to overestimate men's, listeners judged relative strength and height from aggressive roars and aggressive speech with high accuracy. For example, when judging roars, male listeners accurately identified vocalisers who were substantially stronger than themselves in 88% of trials, and never as weaker. For male vocalisers only, roars functioned to exaggerate the expression of threat compared to aggressive speech, as men were rated as relatively stronger when producing roars. These results indicate that, like other mammals, the acoustic structure of human aggressive vocal signals (and in particular nonverbal roars) may have been selected to communicate functional information relevant to listeners' survival.

VI. Jealousy and reproduction

Chair: Colin Hendrie

1. María Teresa Barbato, Ana María Fernandez, Carlos Rodríguez-Sickert
Evocation of jealousy in romantic couples through a third party interaction (SFA, LMA)

2. Ana Maria Fernandez, José Antonio Muñoz, Oriana Figueroa, Paula Pavez
Jealousy, mate retention strategies, and partner aggression in parents versus non parents

3. Jaroslava Varella Valentova, Marco Antonio Correa Varella
Sex of the rival influences jealousy distress on top of sex and sexual orientation

4. Karlijn Massar, Tanita Huskovic
Virtual Rivals: Jealousy after exposure to a rival in a virtual reality environment

5. Marco A. C. Varella, Eloisa de S. Fernandes, Jonas A. Bueno, Tiziana G. Acquaviva, Rafael M. C. S. Hsu, Tania K. Lucci Vinicius F. David
Twinning as an evolved age-dependent reproductive strategy: Evidence from large Brazilian samples (SFA)

6. Kai P. Willführ, Lisa Dillon, Johannes Johow, Eckart Voland
Differential mortality of reproductive females by family network composition - Are interpopulational differences in kin effects explained by differences in population dynamics?

7. Minna T Lyons, Gayle Brewer, Emma Gilbert, Luna Centifanti
So many (wo)men, so little time? The role of sex ratio and personality in sexually coercive strategies

Evocation of jealousy in romantic couples through a third party interaction (SFA, LMA)

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In long-term mating, individuals take advantage of all the benefits inherent to a cooperative relationship for survival and reproduction. If we consider that natural selection produced sex differences in the design of adaptations designed to solve the problems surrounding reproduction, then the design of human jealousy must also be triggered by distinct evoking acts that are specific challenges for women and men in their exclusivity of their pair-bond. We present an ongoing project to experimentally explore the evolutionary design of jealousy with a new method to evaluate sexual differences in jealousy using economic games. We test if using two dictator games against an opposite-sex third party, allows for experimentally evoking jealousy in the members of committed couples in response to knowing a third party allocated or received resources from their partner. In the first dictator game, each member of the couple performs the role of the allocator. In the second dictator game, each member of the couple performs the role of the recipient. The outcome of these games will be informed to the partner (jealousy evoking mechanism). We hypothesize that i) self-reported evoked jealousy will be greater for female subjects when informed about the outcome of the game in which her partner plays the role of the allocator (the game represents a situation in which their male partner invests resources in another female); and conversely, ii) self-reported jealousy will be greater for male subjects when their partner plays the role of the recipient (the game represents a situation in which his female partner receives resources from another male). We discuss the implications of these hypotheses for experimentally modeling romantic jealousy in economic games.

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Jealousy, mate retention strategies, and partner aggression in parents versus non parents

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According to parental investment theory, reproduction is a sexually asymmetric endeavor in which women have to undergo pregnancy and at least initial breastfeeding and childbearing, while men do not have these mandatory demands derived from reproduction. Based on this sexual difference in parenting effort, we inferred that having children would precipitate significant differences in the mating strategies of individuals who are parents compared with non-parents. Consequently, we predicted that having children would exacerbate women mating behaviors that are oriented towards ensuring men's commitment and provisioning, while in men with children jealousy and retention will be directed towards maintaining sexual exclusivity from women. We tested our predictions in a sample of 131 established couples ($n = 262$) of which 121 individuals were parents (45% women and 55% men). Our results yielded significant differences in terms of partner aggression, vigilance, public signs of commitment, and anxious jealousy, between parents and non-parents. This finding was in the predicted direction, even when we controlled by relationship satisfaction, which was decreased in parents compared with non-parents. We discuss the results in light of the demands parental investment brings about to men and women and the permanent changes this life event signifies in terms of mating effort compared to parenting effort.

Funding: Fondecyt Grants #1181114 & 1140234.

Sex of the rival influences jealousy distress on top of sex and sexual orientation

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Jealousy is classically framed as an evolved capacity promoting relationship maintenance that motivates behaviors reducing partners' sexual and/or emotional liaisons. Most studies have focused on differences between heterosexual men and women. However, sex of the partner and of the rival can shift the costs between sexual and emotional involvement, thus the inclusion of homosexual and bisexual individuals is needed to further explore the evolved nature of jealousy. On a sample of 220 Brazilian men (61 heterosexual, 125 homosexual, 34 bisexual) and 757 women (308, heterosexual, 168 homosexual, 281 bisexual) we investigated whether sex of the individual, of the partner and of the potential rival influences reported sexual and emotional jealousy. All groups showed higher emotional than sexual jealousy. Aligned with previous research, women reported higher emotional jealousy than men, and in particular Het-men had significantly lower emotional jealousy than all groups of women. Bi-women reported higher emotional jealousy for a female partner than for a male partner (no difference in bi-men). Further, all groups of men were most preoccupied with emotional scenario with male rival, followed by sexual scenario with a male rival, while all women were the most preoccupied with emotional scenario with a female rival. Thus, jealousy is not influenced only by sex of the respondents, sex of their partners but also by sex of the rivals: same-sex rival is perceived as the biggest threat to the relationship. The opposite sex rivals are not seen as such threatening, even when they might bring high reproductive costs (e.g. a male rival of a homosexual woman). The evolved mechanism of jealousy is thus independent of sexual orientation, but is rather invariably calibrated towards same-sex rivals. Besides being a strategy to maintain a primary relationship, jealousy can thus be understood in a larger context also as a specific intrasexual competition strategy.

Virtual Rivals: Jealousy after exposure to a rival in a virtual reality environment

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Background: Given the emphasis on physical attractiveness in male mate preferences, it follows that when confronted with an intrasexual rival, women are more likely to be jealous when she is highly attractive than when this rival is unattractive. Here, we extend previous research about the effect of implicit exposure to a rival and its effects on jealousy, using an Immersive Virtual Reality Environment (IVET) to expose women to an intrasexual rival. We present two studies ($n = 47$ and $n = 47$) in which we used a virtual Irish pub setting to expose female participants to either an attractive avatar or an unattractive avatar. Method: Under the guise of a memory task, women could walk around the virtual pub for approximately 10 minutes. Here, they were exposed to a woman who was standing at the bar and playing with her phone, in addition to a bartender and a man reading a newspaper. After leaving the IVET set-up, participants imagined a flirtatious situation between their partner and an unfamiliar woman, and indicated how much jealousy and 'upset' they would experience. Results: Women who were exposed to the attractive avatar reported significantly more jealousy and upset than women who were exposed to the unattractive avatar [$t(56) = 3.13, p < .001$ in Study 1, and $t(45) = 2.24, p < .05$ in Study 2]. Furthermore, in Study 2, this effect was mediated by participants' evaluations of the avatar's attractiveness, such that the more attractive they rated the avatar, the more jealousy they reported. Relationship status did not influence these results. Conclusion: These results suggest that humans are not always able to distinguish actual from virtual competitors. Given the overwhelming amount of competitors present in modern media – games, television, etc. – research that focuses on individuals' emotional responses to such virtual rivals is necessary.

Twinning as an evolved age-dependent reproductive strategy: Evidence from large Brazilian samples (SFA)

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Multiple pregnancy, the simultaneous gestation of two or more embryos, systematically occurs in humans, many primates, and other mammals, which indicates that the twinning propensity is phylogenetically old. In human populations, twinning is universal and ancient, with its occurrence registered in 17th and 18th-century populations. The propensity for monozygotic (MZ), and in particular for dizygotic (DZ) twinning is at least partly influenced by hereditary factors. In Europe, Africa, and America, despite its high energetic costs and augmented gestational risks, twinning increases mothers' fitness measured by the number of surviving offspring. There are several non-exclusive evolutionary explanations for the adaptive significance of twinning. Here we test the hypothesis that twinning represents an evolved physiological mechanism, particularly among older mothers, as an 'all-or-nothing' last chance strategy for additional reproduction just before menopause. We analyzed decade-long, large-scale public population data about live birth maternities from the city of São Paulo and the entire country of Brazil. Overall, the multivariate general linear models indicate a considerable main effect of advanced age in promoting twinning, particularly DZ twinning, but also MZ and higher-order maternities. Given the presumed high pathogen load in ancestral settings one could infer higher fitness advantages of DZ twinning because their genetic differences could confer disease resistance. This could explain the higher rates of DZ twins among older women, although the higher rates of MZ twins would require other explanations. The great confluence of results from both large samples showing the importance of advanced maternal age for twinning supports the hypothesis that twinning represents, among other possibilities, a specific type of evolved reproductive strategy focused on making use of the last years of women's reproductive carrier.

Differential mortality of reproductive females by family network composition - Are interpopulational differences in kin effects explained by differences in population dynamics?

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Motivated by the cooperative breeding hypothesis, we investigate the effect of having kin on the mortality of reproductive women based on family reconstitutions for the St. Lawrence Valley in Quebec (New France, 1670-1799) and for the Krummhörn region (East Frisia, 1720-1874). The environmental contexts differed substantially between the populations. Whereas the French settlers faced almost no land limitations, families in the Krummhörn region had almost no expansion possibilities. As a consequence, families were large in the North-American frontier society and small in demographically saturated Krummhörn. We rely on a combination of Cox clustered hazard models and hazard models stratified at the family level. In order to study behavior-related effects, we run a series of models in which only kin that lived in the same parish are considered. To investigate structural, non-behavior-related effects, we run a different model series that include all living kin, regardless their spatial proximity. We find major differences with regard to kin effects which we interpret as a reflection of the population-specific socio-economic context. There are also some remarkable similarities especially with regard to effects of kin belonging to the natal core family and to the in-law family. We find in both populations that women of reproductive age whose mother lived in the same parish had reduced mortality, whereas sisters were associated with increased mortality as a consequence of sibling competition. Surprisingly, in both populations mothers-in-law were associated with reduced mortality. This may be attributed to two mechanisms. Whereas consanguinity was increased among the farmers in the Krummhörn region, the practice of exchange marriages was widespread among the French settlers. In sum, our findings do not support the assumption that a woman's natal kin represented a source of unconditional support and that her in-law kin represented a source of unconditional competition.

So many (wo)men, so little time? The role of sex ratio and personality in sexually coercive strategies

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Operational sex ratio can influence sexual strategies, including the likelihood of sexually coercion. We were interested in investigating how individuals who already endorse coercive strategies react to a prime manipulating abundance/scarcity of mates. In an on-line experiment, we measured the socially aversive Dark Triad traits (i.e., Machiavellianism, narcissism, and psychopathy) of 338 (71 men) participants, and asked them to read and evaluate a fake magazine article manipulating availability of mates after a romantic break-up. After the prime, we asked participants to rate the acceptability of several sexually coercive tactics. All the three Dark Triad traits had an association with a higher endorsement of sexual coercion. In resource scarce prime condition, women who were high on psychopathy had a higher agreement with sexually coercive strategies, and in the resource abundant condition, women high on Machiavellianism were more accepting of coercion. For men, narcissism had a positive association with sexually coercive strategies, but only in the mate abundance prime condition. Our results highlight the importance of individual differences and operational sex ratio in influencing sexually coercive strategies

VII. Communication and Social Interaction

Chair: Amanda Hahn

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1. Sethu Karthikeyan
Could iconic pitch manipulations have facilitated the origin of (proto)words? Some thoughts.

 2. Janeeka Patel, Colin Hendrie
Facial expressions following a hammer blow to a false hand in the false hand illusion

 3. Robin E Morrison, Magdalena Bermejo, Jacob C Dunn, Peter D Walsh
Multi-level Gorilla Society (SFA, LMA)

 4. Isabel Behncke,
From play in wild bonobos to festivals in both Neolithic and contemporary humans

 5. Kraig Shattuck, Glenn Weisfeld
Proximity, touching, and testosterone: Observational research on mate guarding in humans (SFA)

 6. Hermann Prossinger, Susanne Schmehl Elisabeth Oberzaucher
Statistical analysis of gesture encoding: How consistently can ethologists encode what they observe?

Could iconic pitch manipulations have facilitated the origin of (proto) words? Some thoughts.

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A distinguishing feature of human language is that it is made up of arbitrary units - words. In English, for example, other than a few onomatopoeic words, it seems difficult to infer the meaning of a word based on sound sequences. While superficially this characterization of all languages might seem reasonable, cross-linguistic research, which extends beyond the western hemisphere, reveals relatively high degree of iconicity/systematicity (sound-sequences conveying clues to the meaning of words) in the links between linguistic forms and their referents. Even though languages primarily consist of words composed of arbitrary sounds, sound symbolism or iconicity (i.e., sound sequences in a word providing clues to its meaning) has been shown to promote children's vocabulary acquisition in the lab, and most of the early-acquired vocabulary comprises words demonstrating systematicity (i.e., statistical regularities in the association between sounds and meaning even after excluding words with shared etymological origin). Tracing the roots of "meaningful" communication (in a parsimonious way) leads us to ancestral kin-based groups -the environment of evolutionary adaptedness - where honest information dissemination must have facilitated the survival of genetically related individuals such as mobile and vulnerable children. Here, it is important to consider that the vocal modality retains another form of iconicity - prosodic. Given that we share aspects of affective prosody (pitch-based) with features of innate calls of other primates, prosody seems to be the more fundamental aspect that may have been exploited for imparting basic information. Considering the ubiquity of prosodic exaggeration in child-directed speech and arbitrariness in extensive vocabularies, the tendency to quickly resort to prosodic iconicity (as opposed to sound symbolism) to communicate meaning needs to be examined, which will help to contribute to our understanding of the mechanism that eventually facilitated the disentanglement of sound segments from the accompanying pitch.

Facial expressions following a hammer blow to a false hand in the false hand illusion

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Whilst much is known about the recognition of facial expressions in humans, less is known about the stimuli that produce them. The present study was conducted in order to examine the facial postures produced by a hammer blow to a false hand whilst participants were experiencing the 'false hand illusion'. The false hand illusion involves participants placing both hands on a flat surface with one hand being placed on the far side of a screen so that it could not be seen. A false hand was placed on the participant's side of the screen so that it could be seen. The real hand and the false hand were then both simultaneously stroked with a soft brush in identical fashion until the participants reported that they perceived the false hand to be their own. At this point the false hand was hit with a hammer. This procedure was filmed for subsequent analysis and repeated three times, with a distractor task being completed between each trial. 30 participants took part in this study (10 male, 20 female) and no sex differences were noted. Behavioural analysis began when the hammer was picked up by the experimenter and ended when the participants laughed or spoke. The following descriptions are elements from our own ethogram and their approximations to the FACS. Responses on Trial 1 typically involved elements of fear (eyes narrowed - 4; lips tightened - 24) prior to the hammer blow and surprise (eyebrows raised - 1; jaw-drop - 26) followed by joy (6+12+25+26) in the period immediately afterwards. Responses in subsequent trials were more muted, although interestingly the latency for participants to report they were experiencing the illusion reduced. These data show that a hammer blow reliably produces facial expressions consistent with participants being under the illusion that a false hand is their own.

Multi-level Gorilla Society (SFA, LMA)

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Modern human societies have a complex, hierarchical structure in which lower order units like nuclear families are nested inside ever larger units up to the level of nations and multi-national alliances. It has been argued that this multi-level structure evolved independently and after the chimpanzee-human split due to greater recognition of, and bonding between, dispersed kin. We used network analysis and hierarchical clustering to quantify community structure within western lowland gorilla populations visiting two forest clearings in Republic of Congo. In both populations, we detected previously unquantified grades of post-dispersal association amongst gorilla groups and solitary males. In one population, these grades of social association were well predicted by genetic relatedness. Using gorilla movement patterns, reconstructed from camera trap data, we then investigated this social structure across gorilla ranges, assessing its potential effect on territoriality and cooperation, and its possible consequences for disease transmission. Our results indicate that the multi-level social organization observed in humans is likely to have evolved far earlier than previously asserted and highlight the importance of gorillas as a model system for human evolution.

From play in wild bonobos to festivals in both Neolithic and contemporary humans

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I focus on the rarest form of play: play in mature individuals. Why would individuals who have finished their development engage in this wasteful behavior? I pursued this question by studying the play behaviour of bonobos (*Pan paniscus*), which are not only one of the most playful species alive but also our closest living relative. I collected observational behavioural and ecological data in a community of 30 wild, habituated bonobos at Wamba, DR Congo (> 2,000 h of observation over 3 years of fieldwork). Play in wild bonobos was pervasive and clearly an intrinsic part of their daily lives. Of all bonobo activities, play appeared to be the most sensitive to context. Increases in time and energy availability were concomitant with more exuberant play: frequency, adult participation, laughter, intensity of motor actions, and polyadic play went up in high fruit season. Bonobos had polyadic, demographically heterogeneous dedicated 'play parties' sessions which (like evening socialising in humans) had a defined time and a place. It appeared that exuberant play has a cost, but it incentivized more engagement and continuation of social interaction: the presence of laughter and high-energy motor actions increased the duration and size of play bouts. Times of plenty call for festive sociality in both bonobos and humans. Bonobo behavior and play both have important implications for our understanding of human evolution, in particular the role of salient positive emotion in creativity and social connection – such as is experienced during feasts and festivals in humans. I bridge this to end with a discussion on the role of festivals in modern and Neolithic times in humans.

Proximity, touching, and testosterone: Observational research on mate guarding in humans (SFA)

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Mate guarding behaviors are strongly selected for in species that suffer from infidelity and cuckoldry. Two forms of mate guarding behaviors that have been found in self-report studies on humans are proximity and touching. Proximity actively prevents infidelity through the physical act of being present. Touching indirectly prevents infidelity by signaling to any potential rivals that their partner is taken, as well as signaling to the partner that they are being watched. More observational research of mate guarding behaviors is needed though. Testosterone is a hormone implicated in competition and aggression. When in the presence of a potential rival, testosterone levels tend to increase. This increase should be related to mate guarding behaviors. With this in mind, we hypothesize that proximity and touching will be used as forms of mate guarding when in the presence of a potential romantic rival. Further, rise in testosterone should moderate these mate guarding behaviors. Couples participating in the study interacted with an attractive confederate and their proximity and touching behaviors were recorded. Results show that proximity and touching behaviors increased while in the presence of the confederate. When an attractive confederate was present, couples sat closer to and touched each other more often than they did when they were alone, showing that humans engage in these forms of mate guarding.

Statistical analysis of gesture encoding: How consistently can ethologists encode what they observe?

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Many field ethologists observe, categorize, and classify gestures — be they motions of hands, heads, feet, etc. and then encode them, using inventories such as the “Gesture Action Coding System” (GACS). In addition, facial expressions and other modes of communicating (the bread-and-butter parts of any actor’s profession) can likewise be — and are — encoded. In order to classify a gesture, several categories are set up by the observing ethologist and category loadings are encoded. A gesture in its most general form is therefore a string of category loadings, which can be considered a generalized word. All possible loadings constitute a dictionary and the observed words are a subset of the dictionary. If several ethologists encode the same gesture, we can (and need to) pursue the question of whether the gesture words assigned by different ethologists differ or — more stringently — whether they are close enough to be in agreement in some statistical sense. Obviously, field observation quality depends on how encoding schemes can be considered to work reliably. We use a set of videos of patients; in each a patient is describing his/her localized pain using a gesture. In order to analyze these videos, several ethologists have encoded this set of gestures — each ethologist in effect constructing one (generalized) word to describe one gesture. One statistical measure of consistency of different gesture words for the same gesture is to construct a misclassification matrix and estimate the misclassification probabilities using the maximum likelihood parameters of Dirichlet distributions. We present the outcomes of such analyses and derive insights and warnings that can be used by ethologists who analyze human behavior facets via their own statistical analysis of encoded gestures.

VIII. *Personality and Sociality*

Chair: Dan Kruger

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1. Wanderson da Silva Costa, Gabriela de Souza Nascimento
Nonverbal in clinical context: a contribution from an evolutionary perspective to psychology practice (SFA)
-
2. Coltan Scrivner, Kyoung whan Choe, Wanitchaya Poonpatanapricha Dario Maestripieri, Marc Berman
Visual Attention Biases in Viewing Violence (SFA, LMA)
-
3. Gayle Brewer, Minna Lyons, Alexandra Perry
Dark Triad Traits and Perceptions of Sexual Harassment
-
4. Christopher D Watkins Amanda Leitch
If the shoe fits? Using sexual selection theories to examine potential between-women and within-women variation in their responses to high heels
-
5. Caroline Allen, Daniel Nettle
Impulsivity, hunger, and early life deprivation

Nonverbal in clinical context: a contribution from an evolutionary perspective to psychology practice (SFA)

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Nonverbal language as facial expression and body postures are evolutionary selected communication forms, which interact with basic emotions shared with other species and socially conveyed in human case. Those basic emotions are sadness, anger, disgust, joy surprise, fear and contempt. Nonverbal is a part of all human interaction, and presents itself as another way to observe emotional data about the individual, which facilitates intervention process for clinical therapists/psychologists. The present work investigated use and knowledge of innate nonverbal behavior by psychologists at a clinical setup. We interviewed four clinical psychologists (2 males and 2 females) with at least three years of practice ($M= 7$; $SD= 2,77$); with a mean age of 41,75 ($SD= 4,36$). We used a semi-structured interview to access patient nonverbal communication, based on the Facial Actions Coding System (FACS) by Paul Ekman. The four psychologists identified most of the facial expressions like sadness, anger, disgust, joy and surprise; being fear and contempt the least difficult. It was hard to the participants to identify gestures that indicated estates of excitement and spontaneous emotions. Participants valued nonverbal content manifested by their patients; and they were more ready to observe facial movements than body postures. We could hypothesize that this confirms human predisposal to recognize facial expressions, while body posture might be, in most cases, cultural determined.

Visual Attention Biases in Viewing Violence (SFA, LMA)

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From a functional perspective, humans should have evolved psychological predispositions when viewing violence since information important to social interactions and survival can be gleaned from viewing violence. For example, one might learn who or what to avoid if they pay attention to a violent encounter. Thus, humans should exhibit certain attentional biases to violence. Indeed, visual biases to threat are well documented, and violent media and entertainment are incredibly successful businesses. The fact that people both instinctively and sometimes willingly choose to view violence is an interesting behavioral phenomenon. However, empirical research on the specifics of human attention to violence is surprisingly scant. In this preliminary study, we characterize visual attention biases in scenes of violence in both passive viewing and viewing while describing the social interaction in the scene. In both conditions, participants had their eyes tracked while they viewed images of either friendly, ambiguous, or violent interactions between either two white males, two black males, or a police officer and a citizen (9 categories of images, 8 - 12 images per category) and rated each image for violence on a 7-point scale. Participants allocated attention much more equally to the aggressor and victim while describing and viewing the scene than when simply viewing the scene. Moreover, the presence of an authority figure directed attention heavily towards the person interacting with that figure. We also report how individual characteristics such as trait aggression, empathetic concern, and personality affect gaze biases when viewing scenes of violence. Theoretical implications and planned follow-up studies will be discussed alongside results from this study.

Dark Triad Traits and Perceptions of Sexual Harassment

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Those high on Dark Triad traits (narcissism, Machiavellianism, psychopathy) are more likely to engage in sexual harassment and less likely to empathise with others (e.g., Zeigler-Hill, Besser, Morag, & Campbell, 2016). Few studies have, however, considered the impact of Dark Triad traits on perceptions of sexually aggressive behaviour performed by others. The present study investigated the relationship between Dark Triad traits and perceptions of sexual harassment. Heterosexual women ($N = 152$) aged 18-60 years ($M = 22.63$, $SD = 9.12$) completed the NPI-16 (Ames, Rose, & Anderson, 2006), Mach IV (Christie & Geis, 1970), Levenson Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995) and Sexual Harassment Attitudes Questionnaire (Malovich & Stake, 1990). Standard multiple regressions were conducted to investigate the extent to which Dark Triad traits (narcissism, Machiavellianism, (primary and secondary) psychopathy) predicted acceptance of sexual harassment, victim and perpetrator blame, and attitudes towards responses to sexual harassment. The overall model predicted acceptance of sexual harassment, victim and perpetrator blaming, and attitudes towards responses to sexual harassment. Primary psychopathy was the only significant individual predictor such that women with higher levels of primary psychopathy were more accepting of sexual harassment, more likely to blame the victim, less likely to blame the perpetrator, more likely to endorse victim compliance, and less likely to support confrontation.

If the shoe fits? Using sexual selection theories to examine potential between-women and within-women variation in their responses to high heels

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High heels are cultural symbols of female sexuality and are ‘costly signals’ if the risks of wearing them are offset by improving women’s attractiveness to men. From a functionalist perspective, the costs versus benefits of wearing heels may vary according to personal and contextual factors, such as her effectiveness at same-sex competition for mates or trait- or state-level factors that predict the intensity of mating competition, such as when mating motivations are stronger. We conducted a series of studies to examine potential between-women variation (self-rated attractiveness, dyadic versus solitary sexual desire, chronological age, and competitive attitudes toward other women) and within-women variation (priming mating and competitive motives) in their responses to high heels. Here, attractive women were more oriented toward heeled shoes than their less-attractive peers were. When examining women’s responses to two shoes at the extremes of attractiveness (one higher-heel, one lower-heel) dyadic sexual desire, but not solitary sexual desire, predicted their inclination to buy the higher-heeled shoe. On average, young women chose high heels when primed with the scenario that they were free to buy any designer shoe (Study three: 95%CI[53.02mm, 67.37mm]), and preferred a heel 22mm (0.87”) higher than older women. Contrary to predictions, priming mating or competitive motives did not alter women’s preference toward a higher heel. Our studies suggest that attractive women augment their physical appeal via heels. High heels may be a subtle indicator of dyadic sexual desire, and preferences for heels are stronger at times in the lifespan when mating competition is relatively intense.

Impulsivity, hunger, and early life deprivation

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Impulsivity refers to the valuation of future rewards relative to immediate ones, and has been implicated in a range of societal issues such as drug use, crime, educational attainment, and obesity. From an evolutionary perspective, we should expect impulsivity to be sensitive to the current state of the organism (for example, hunger), and also its long-term developmental history. There is some evidence that both current hunger and early life experiences are individually associated with impulsivity, and we conducted three studies which aimed to investigate whether these two factors had an interactive or additive effect on impulsivity. In study 1 (n=95) and study 2 (n=93) participants' hunger was manipulated by having them skip breakfast or have breakfast as usual. They then completed an impulsivity task and measures of early life deprivation. Study 1 incorporated a novel experiential discounting task to measure impulsivity (participants actually receive rewards and have to wait for them) and study 2 utilised the traditional hypothetical delay discounting task as a measure of impulsivity. Study 3 built upon the first two by recruiting participants with a broader range of childhood deprivation. We conducted a survey (n=330) in which participants reported their current hunger, completed two measures of early life deprivation, and completed a hypothetical monetary discounting task. The findings from our three studies provided mixed evidence as to whether hunger and early life deprivation have an interactive effect on impulsivity, and so we meta-analysed our data, finding evidence for main effects of hunger and early life deprivation individually, but not for an interaction. These findings have important implications for informing potential interventions aimed at improving societal issues such as drug use and crime.

POSTERS

1. Characterization of the early interaction in dyads belonging to the San Ignacio district of the Biobío Region – Chile (SFA)

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One of the most important experiences during the first three years of an infant's life is the bond of attachment with their caregivers (Bolwby, 1969, 1973, 1980). Sensitivity has been associated with environmental and contextual factors, such as family socioeconomic status and parental educational level (Santelices et al, 2015). The percentage of rural population in Chile corresponds to 42% (OECD), which makes it important to know the situation of early interaction in this population, as it could influence the strategic planning of resources to reduce the gap and opportunity for access to quality health services existing in our country. The purpose of this exploratory research was to consider the protective and risk factors, studying the characteristics and the early interaction of 46 caregiver and child dyads, from 6 to 15 months of age belonging from the rural and vulnerable locality San Ignacio district, in the Biobío Region. For this, the CARE-Index © maternal sensitivity evaluation instrument (Crittenden 2005) was used, using a cross-sectional experimental design with a mixed methodology divided into two phases: qualitative observational and quantitative descriptive. The most important results of the categorical analysis about the type of early interaction show that the sum of the inept and at-risk interaction categories corresponds to 51% of the sample. When analyzing the sensitivity of the interaction using the total average of the ESD (<7 points), there is little sensitivity in the interaction during the game, which coincides with other Chilean studies conducted in urban population. It was also observed that there is no relationship between the schooling of the caregiver and the sensitivity in the interaction, it is concluded that the early detection of bond difficulties should continue to be a priority when establishing public policies aimed at child mental health.

2. Ethological analysis of the aggressive behavior of school students in the central zone of Chile

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From an ethological view, it is postulated that aggressive behavior is associated as normal competition and negotiation inside the social groups and not necessarily as an antisocial instinct. Aggressive behavior, according to several scientists from this area, has a role in biological adaptation. Therefore it is a product of evolution. The stationary changes in geographical regions where there is a mediterranean weather imply important abiotic changes. There are evident changes in the environmental temperature. Social psychologists postulate a stationary effect in human aggressive behavior. In this sense, the hypothesis of warmth – aggression - explains the increase of the aggressive behavior in the population of the USA in warm periods. According to this proposal, the more temperature, there is more aggressive behavior. However, there is little to nothing known about this phenomenon outside the northern hemisphere. In this research, it was investigated if the students (mostly kids), from a sample of the central zone of Chile, present stationary changes in their aggressive behavior and if it responded to the environmental temperature, according to the model of warmth – aggression. To carry out this investigation an observational methodology was developed, using systems of sampling and continuous registry. Agonistic behavior of students in the yards of various schools was observed, without interfering their behavior, the temperature was also registered. The behavioral repertoire was identified in threats and attacks. Finally, it was analyzed quantitatively the intensity of each aggressive interaction, calculating the index of aggression. The obtained results in Santiago of Chile evidence an increase in the station of spring of the aggression rate, the intensity in the start of each conflict and the index of aggression. It was also observed a positive correlation between the intensity of the conflicts (index of aggression) and the environmental temperature. In the fifth region (Algarrobo) it was also noticed a higher index of aggression in spring and a positive association between the index and the temperature. These results were analyzed from an ethological view. Thanks to: Project DIUMCE FIBAS 14/05 and Project MYS 11/68/06.

3. I don't like what you just did! Third-party-punishing behavior in a cooperative scenario is differently influenced by biological features in men and women (SFA)

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Third-party punishment (3PP) is a costly behavior aimed at penalizing individuals who have not directly interacted with the punisher. It is considered to be prosocial as it is usually employed to punish unfair behaviors and has been proposed as a mechanism enforcing non-kin cooperation in humans. 3PP shows sexual dimorphism, with men engaging in it more often than women. We wanted to study whether sexually dimorphic features related to levels of sexual hormones during development influence the tendency to engage in 3PP. These features are facial dimorphism (an indicator of testosterone levels during puberty) and the second-to-fourth digit ratio (a proxy to fetal testosterone). We also controlled for facial fluctuating asymmetry and self-perceived attractiveness, as these variables have been shown to influence other prosocial behaviors. 511 women and 328 men participated in a Prisoner's Dilemma game (PD). After playing it, participants had to decide whether to penalize the defection of another player who exploited the cooperation of her/his partner. In line with the literature, we find that men are more prone to engage in 3PP than women, even though no differences in cooperation rates were found between sexes. In addition, we find that cooperative men, but not women, are more likely to punish others. We also find that facial dimorphism has a negative effect on 3PP in men, with more masculine men being less likely to punish others. None of the measured individual features influenced 3PP in women.

4. A genetic association study of the Dark Triad of personality (SFA)

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The Dark Triad of personality is a cluster of three aversive personality traits: narcissism, Machiavellianism, and sub-clinical psychopathy (Paulhus & Williams, 2002). To date, Dark Triad research has focused on elucidating its association with empathic impairments and their positive correlations (Jones & Paulhus, 2011a; Wai & Tiliopoulos, 2012), whereas research on its possible biological origin linked to specific gene variants remains scarce. In our project, we shall focus on single nucleotide polymorphisms and microsatellites of hormonal receptor genes which play an important role in the modulation of social behaviors by regulating the availability of the neurotransmitters in the brain (Feng et al., 2015). Specific genetic variants in hormone-related genes have been associated with individual differences in empathic responses and altruistic behaviors (Reuter et al., 2011; Ru et al., 2017), the degree of parental sensitivity in non-pathological populations (Bakermans-Kranenburg & IJzendoorn, 2008), but also with psychiatric disorders including autism and psychopathy (Cuartas & López, 2013). Furthermore, recent models have shown that epigenetic changes could be the molecular mechanism underlying the increased risk of callousness associated with an exposure to early life adversity and quality of parenting (Gouin et al., 2017), which are considered significant predictors of emotional impairments (Frick & White, 2008). We present the experimental design of the first study testing the implication of the genotype-phenotype and epigenetic changes interaction in the development of Dark Triad traits, as mechanisms to understand the integration of different variables with a direct impact on behavior. Consistent with prior research, we pretend to discuss in the evolutionary context, since these traits could have been adaptive as they seem to facilitate an individual achieve positions of leadership through an exploitative social strategy (Furnham, 2010).

5. A Taxonomy of Evolutionary Ideas Among William James' Principles of Psychology (SFA)

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William James is considered a pioneer in bringing evolutionary thinking together with psychological science. He argues that consciousness must have evolved by performing a function upon the behaviour of complex animals. Although vastly influenced by Darwinian ideas, William James paid tribute to the relevance of Herbert Spencer's "Principles of Psychology" to the organization of psychology as a scientific discipline. Spencer's ideas influenced the work of leading experimental psychologists of the late nineteenth century, such as Edward L. Thorndike and his law of effect, and incorporated selective thinking into the causal logic of psychological explanation. We established a taxonomy of evolutionary ideas within James book's "Principles of Psychology". We found that James used the concept of consciousness as 1) a product of the evolutionary process in animals; 2) a cause of psychological phenomena as it selects the best action to perform in a certain context or under a certain environmental challenge. The influence of evolutionary thinking on James cannot be attributed exclusively to his reading of Charles Darwin. James had access to the debate about evolution from multiple thinkers. The works of Herbert Spencer, Thomas Henry Huxley and Ernst Haeckel were important upon the development of jamesian system. The diversity of the matrix of evolutionary influences on James is important to understand the continuity of comparative studies in psychology between the late nineteenth and the first decades of the twentieth century since his book was used as a textbook in most of the introductory courses in psychology in the USA for more than half a century.

6. Aggressive behaviors do not help win conflict interactions in romantic couples (SFA)

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When two individuals are involved in long-term relationship they adjust their behaviors to their partner. This may occur in a friendly and understanding way, but also through aggression in a verbal or physical form. In our study, we focused on the second part, employing a novel interactional method. Relationship Drama Method is based on reenactment of a couple's specific and most typical conflictual situation, allowing partners to express their natural variety of behaviors in a safe laboratory setting. Sixty Czech couples ($MageF = 25.2 \pm 5.7$; $MageM = 24.8 \pm 4.6$ years) participated in our study. Mean duration of their relationship was 2.91 ± 2.16 years, ranging from 7 months to 14 years. Open codes were used to code verbal and nonverbal aggressive behavior (e.g., swearing, blackmailing / throwing objects, grabbing). Two standardized measures, Control and Decision-making Scale (CDS) and Dyadic Adjustment Scale (DAS) were used. Sub-scales of Consensus, Satisfaction, Cohesion, and Affectional Expression were also used. For Regression analyses, we used adjusted scores of the difference within couples. None of the aggressive behavioral displays had a significant impact on situational dominance - winning or losing. In men, the largest difference between partners on the sub-scale Relationship Satisfaction (DAS) was positively related to the number of physical threats to the female partner. In women, the largest difference on the Consensus sub-scale (DAS) between partners positively related to displays of verbal aggression. From a methodological point of view, many of the non-verbal communications are problematic to research since they are unique to communication dyads (couples), and researchers may not spot them or interpret them in meaningful ways. In future studies, it would be beneficial to test couples soon after they started dating, following them longitudinally, and including kind and hostile behaviors that complement the aggressive ones.

7. Assortative mating and relationship satisfaction in a sample of young Chilean couples

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Assortative mating in humans is known to occur for several traits that are related to fitness, including physical attractiveness, adiposity, or desirability as a partner. However, the mechanism that leads to the assortative mating for these traits is not clear. Some studies suggest that individuals prefer to mate others with similar traits as an adaptive response to avoid the costs associated to infidelity and/or decreased parental investment. On the other hand, a number of studies show that regardless of their own attractiveness, individuals prefer most attractive partners to mate. However, assortative mating would occur as a consequence of individuals accepting mates higher but not lower than them in attractiveness. In this preliminary study, we investigated whether 101 heterosexual pairs showed assortative mating in relation to their percentage of body fat mass, self-perceived physical attractiveness and self-perceived desirability as a partner. In addition, we investigated how differences in these traits between the members of the pair affected their relationship satisfaction in order to discriminate the possible mechanism of assortative mating. Our results showed that percentage of body fat mass, self-perceived physical attractiveness and self-perceived desirability as a partner were correlated between members of a couple showing assortative mating for these traits. However, only differences in percentage of body fat mass between members of the couple, corrected for sex-difference in body fat mass, was significant and linearly related to satisfaction in men. This linearity suggests that, at least for men, assortative mating was not caused by a preference for similarity on this trait and highlight the importance of physical attractiveness for men. However, as most results were null, future studies are needed to disentangle between mechanisms leading assortative mating.

8. Building Bridges Between Behavior Analysis and Evolutionary Biology Through Experimentation (SFA)

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Evolutionary studies depend more and more on the shreds of evidence about animal behavior in order to have experimental models to test hypothesis and expand our understanding of the non-Darwinian processes underneath evolution. We developed three operant-based tasks to investigate different aspects of the evolution of organisms and their behavior. First, we evaluated the Motor Performance as a Measure of behavior flexibility and Migration Potential in Frogs. Secondly, we developed an operant task to evaluate gustative discrimination and dietary preferences in Marmoset monkeys (*Callithrix* sp.). Finally, a recombinative test to evaluate Creative Problem-Solving and behavior flexibility in Birds were conducted to measure the learned basis of creativity. In this work, we present the tasks and discuss the aims, measures, and comparisons proposed in an integrative manner. The use of behavioral experiments can improve Experimental Planning, Ecological Validity and Quantitative Data Analysis on Developmental and Evolutionary Biology. Recent theoretical studies discuss the impact of evolutionary ideas on psychology and behavior analysis, but less has been explored in terms of empirical research. These first experiments are part of a larger initiative that intends to integrate behavioral experiments planning to experimental biology and evolution.

9. Can sexting behavior predict promiscuity? (SFA)

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Humans tend to display a wide array of promiscuous sexual behaviors. Promiscuous individuals tend to engage in frequent and indiscriminate sexual behavior. In our research, we wanted to examine whether sexting can serve as an indirect indicator of sexual promiscuity. Sexting is an exchange of sexual or provocative content, such as text messages, photos, and videos. This form of communication is easily accessible through smartphones, the Internet, or social networks. Recent research has revealed a connection between sexting and risky, as well as aggressive behaviors. It has been linked to impulsivity, sensation seeking, and problematic alcohol and drug use. The aim of this study was to verify whether sexting behavior might be considered as an indicator of promiscuous behavior. We examined 1000 Polish people aged 16-49. Respondents completed the Sexting Behaviors Questionnaire, which aimed to assess their sexting behaviors. We also asked the participants about their age and gender. To estimate their promiscuity, we asked the respondents about the age of their sexual initiation and the duration of their last relationship. Previous research points to the fact that promiscuous people tend to initiate their sexual life at a younger age and form relationships of short duration. Our results demonstrate that women received significantly more sexting content than men. However, we did not find sexual differences in both sending and publishing sexting content. We found that the people whose previous relationships were shorter, sent, received and published significantly more sexting content. Moreover, people who had earlier sexual initiation sent and received, but not published, more sexting content. Altogether, our results demonstrate that sexting behavior may serve as an indirect indicator of human promiscuity.

10. Convergent validity of everyday sadism: the link of the CAST with the Dark Triad and Empathy (SFA)

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The concept of everyday Sadism arose from the fact that nowadays people live with elements like violent movies, brutal sports and video games with violent or bloody content, developing a great affinity for the material that indirectly provokes the pleasure of inflicting physical or psychological damage to others. The literature suggests the relevance of everyday sadism is that people with this trait would have decreased levels of empathy, so this could be a predictor of antisocial behaviors. We present a preliminary study aimed to evaluate the convergent validity of the CAST instrument which contemplates three aspects of everyday Sadism: direct physical Sadism, direct verbal Sadism and vicarious Sadism. A correlational analysis between everyday Sadism, Dark Triad, and Empathy was assessed with 35 students belonging to different careers. The results showed everyday Sadism correlated significantly with Machiavellianism ($r = .68$ $p = .000$) and psychopathy ($r = .54$ $p = .002$). In relation to the empathy scale (IRI), everyday Sadism obtained moderate and negative correlations with Empathic Concern ($r = -.42$ $p = .018$) and Perspective Taking ($r = -.40$ $p = .027$), and the CAST items were also positively correlated with Machiavellianism and Psychopathy ($r = .35$ $p = .055$) ($r = .35$ $p = .057$). We discuss the validity of the instrument to predict increasing levels of daily sadism in the present context were increasing levels of technologically based violence which is consistent with the literature. * This project by funded by Fondecyt Regular # 1170513 "Study of aggressive and cooperative tendencies in male humans linked to testosterone levels: A new approach to provide experimental evidence under an intergroup competition scenario"

11. Correlates of homophobia in men observed in Facebook profiles

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Studies using questionnaires indicate that homophobia correlates with heteronormativity, transphobia, sexism, racism and religious intolerance. In this study, it was investigated whether similar correlates can also be observed in the profiles of social media users in Poland. For this purpose, Facebook profiles of 200 men posting homophobic comments were compared with profiles of 200 men in a similar age bracket who added rainbow frames to their profile pictures. The homophobic comments were found under two photographs of male same-sex couples, which were posted in a popular Facebook event named “Photographic contest: my and my other half” and became viral. Men with rainbow profile picture frames were found among people giving positive Facebook reactions (likes, hearts, pride reactions) to news about marriage equality laws being introduced in other countries, as well as ones about Polish same-sex couples being married abroad, posted by the profiles of popular Polish newspapers and TV stations. Out of these, men who did not disclose that they were gay in their Facebook profiles were chosen. Authors of homophobic comments were more likely to post pictures of cars and motorcycles, to declare that they are soccer fans, to post pictures of women presented as sexual objects, to use hooligan slogans and patriotic symbols, to post homophobic, transphobic, xenophobic, racist, anti-refugee and anti-Muslim content. Men with rainbow frames were more likely to protest against stricter anti-abortion laws, against violence towards women, against logging trees in the Białowieża Forest and against anti-democratic laws. Both groups were just as likely to post about donating to the Great Orchestra of Christmas Charity, an annual fundraiser which raises money to buy medical equipment for treating children. Given how Facebook advertisements are personalized, the divergent interests of the compared groups might make it hard for internet public service campaigns to reach people who discriminate against sexual minorities.

12. Dark Triad Personality and Mate Retention Strategies (SFA)

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The Dark Triad (DT) of Personality is a psychological construct conformed by Machiavellianism, Narcicism and Psychopathy. With time it has been gaining more attention from those who study individual differences, because the aversive characteristics that the DT present, allows associating it with aggressive results in interpersonal relationships, especially those concerning mating. From an evolutionary approach, the aggressive features that underlie these personalities are the result of a set of naturally selected mechanisms that allowed men to solve problems of survival and reproduction. In this sense, the present study evaluates the adjustment of an explanatory model of the mate retention and coercion strategies that men use to guard their romantic long-term partners, beginning by identifying the life strategy that they develop, and considering individual differences in terms of impulsivity which are associated in different ways to each personality that makes up the DT. Through a path analyses with observable variables, derived from the associative strategy in research, it was found that Psychopathy, with characteristics of dysfunctional impulsiveness, are the stronger predictors of using more aggressive strategies of mate retention, even leading to the use of sexual coercion. In second place, Machiavellianism leads to mate retention strategies that although uses aggressive strategies, does not lead to sexual coercion, possibly due to the absence of impulsiveness associated with Machiavelism in any of its manifestations. Finally, Narcissism is the one trait that has the weakest association to aggressive behaviors in mating, linked to the use of non-violent retention tactics. The results are discussed and their theoretical and practical implications.

13. Dark Triad Traits and Perceived Quality of Alternatives

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Those high on Dark Triad traits (narcissism, Machiavellianism, psychopathy) report insecure attachment to relationship partners, greater susceptibility to infidelity, and poor quality romantic relationship (e.g., Brewer et al. 2018). In part, these relationship behaviours may reflect greater attraction to alternative mates. The present study investigated the relationship between Dark Triad traits and perceived quality of alternative partners. Heterosexual women (N = 379) aged 17-63 years (M = 26.93, SD = 10.78) completed the NPI-16 (Ames, Rose, & Anderson, 2006), Mach IV (Christie & Geis, 1970), Levenson Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995) and Quality of Alternatives Scale (Rusbult, Martz, & Agnew, 1998). A standard multiple regression was conducted to investigate the extent to which Dark Triad traits (narcissism, Machiavellianism, (primary and secondary) psychopathy) predicted perceived quality of alternatives. The overall model was significant. Narcissism and Machiavellianism were the only significant individual predictors, such that those high on narcissism or Machiavellianism were more likely to acknowledge the availability of attractive alternative relationships. Subsequent analyses revealed that controlling for participant age and length of current relationship did not alter the pattern of results. Future research should consider the extent to which perceived quality of alternatives influence the infidelity and reluctance to engage in positive relationship maintenance behaviour displayed by those high on Dark Triad traits.

14. Do national health and wealth predict attitudes toward, and use of mouth-to-mouth kissing in romantic relationships?

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Although romantic mouth-to-mouth kissing (i.e. ‘French kissing’) is observed in a wide variety of cultures, there is cultural variation in attitudes toward this courtship custom. Recent work suggests that kissing functions both to assess putative mate ‘quality’ (the mate assessment hypothesis) and for long-term couples to monitor and maintain the quality of their relationship (the pair bonding hypothesis). Cues to health and/or investment should be prioritized in a romantic partner in environments where these traits are at a premium. Here, we test the mate assessment and pair bonding hypotheses by examining whether use and attitudes toward kissing in romantic relationships varies according to established measures of national health (historical incidence of pathogen prevalence) and wealth (poverty and income inequality) respectively, examining data from thirteen countries and six continents (N=2380, Pre- registered at <https://osf.io/pbqwm/>). This poster will present general analyses of kissing behaviour and romantic expression across our full sample (N=2983), examining potential stability across cultures in responses to our items (attitudes toward, frequency of and satisfaction with: kissing, hugging, sexual intercourse). We also present data testing our pre-registered hypotheses for cultural variation in response to our items and the components of a ‘good kiss’ in light of national health and wealth, offering suggestions about the extent to which each hypothesis has explanatory power for studying cultural variation in this courtship custom.

15. Duchenne smile is perceived as more attractive, healthy, and sex typical and preferred for long- and short-term relationships than Non-Duchenne smiles (SFA)

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Smile can evoke sexual response of a potential sexual partner. Individuals with Duchenne-smile are perceived as prosocial, healthy, feminine, and more attractive and affective than neutral faces and non-Duchenne-smiles. Social-smile is not interpreted as sexual or affective and, consequently, preferred less than Duchenne-smile. Cheek-Puffer-Smile has not been studied in sexual preferences yet but studies report it as aversive. We tested which smile is perceived as more feminine/masculine, healthy, attractive and preferred for short-term and long-term relationships. We expected Duchenne-smile to be rated as more attractive, healthy, feminine and preferred for long-term relationships than other smiles and NE. On 10 point likert scales, 563 heterosexual observers rated 91 opposite-sex facial stimuli (15 with Duchenne-smile, Social-smile, Cheek-Puffer-smile, and neutral) regarding attractiveness, health, masculinity-femininity, and preference for a short- or long-term relationship. Men did not show any difference between Duchenne-smile and Social-smile regarding attractiveness, femininity and preference for long- and short-term relationship. However, Duchenne-smile was perceived as the most healthy, followed by Social-smile, neutral and Cheek-Puffer-smile. Women rated Duchenne-smile as the most attractive, healthy, masculine, and preferred for both relationships. Nonetheless, neutral was rated as the second most attractive and masculine, and also preferred for short-term relationships than Social-smile. Social-smile was the second favorite for long-term relationship. In both sexes, Cheek-Puffer-smile was the least attractive, healthy and preferred for any relationship. Men rated women with Cheek-Puffer-smile as more masculine, and vice versa. Men did not distinguish between Duchenne-smile and Social-smile, thus evaluating both smiles as a signal of prosociability, which might increase their reproductive opportunities. Women distinguish between smiles probably because they search for different characteristics in short-term and long-term relationships. Cheek-Puffer-smile was aversive for both sexes. Thus, different smiles have distinct evolutionary roots and are interpreted in a distinct manner.

16. Empirical validity of everyday sadism with videos and games available on the Web (SFA)

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Everyday Sadism is characterized by an increased affinity for violence, sarcasm and cruelty that characterized some of the social interactions on the web that most people are routinely exposed to. In this research we sought to evaluate the empirical validity of the CAST instrument which contemplates three aspects of everyday Sadism: direct physical Sadism, direct verbal Sadism and vicarious Sadism. In order to test the CAST we selected game material, videos, and images freely available on the Web, to assess the correlation of the material with the average assessment of everyday Sadism. We present a preliminary study to evaluate empirically the validity of the CAST instrument of everyday Sadism (direct physical Sadism, direct verbal Sadism and vicarious Sadism) to predict game, video and image liking. We test our hypotheses in a pilot sample of 35 students belonging to different careers. We obtained moderate and significant correlations of the Web material and everyday Sadism ($r = .52$ $p = .003$). We discuss the uses this measure may have to assess everyday Sadism combined with different ecological conditions. *This project by funded by Fondecyt Regular # 1170513 “Study of aggressive and cooperative tendencies in male humans linked to testosterone levels: A new approach to provide experimental evidence under an intergroup competition scenario”.

17. Endogenous preferences for economics niches influence others' effort valuation in an investment task (SFA)

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Altruism and reciprocity are critical to understand human behavior. Consequentially, contextual and neurobiological variables that explain the diversity of altruistic and reciprocal behavioral phenotypes are central issues in understanding human sociality. In this line, the institutional context (the set of explicit and implicit incentives under which subjects behave) influences human social behavior. However, little is known about how endogenous preferences for certain economics institutions, or institutional “niches”, interact with individual phenotypes and niche-specific characteristics to modulate human sociality. In this work, we presented to individuals two alternative social niches: in one of them, their payoff does not depend on the effort invested by their confederates; in the other, their payoff depends on the joint effort of themselves and their confederate. We will measure the effect of playing in the (preferred and not-preferred) niche on subjects' social preferences and neurobiological activity. Our data initially support that some subjects consistently prefer to invest under some particular niches, and that their investment behavior is influenced by both the characteristics of the niche and their endogenous preference over the different niches. In addition, at the neurobiological level, we hypothesise that activity in subjects' medial prefrontal cortex correlate with how subjects value not only self, but also other's effort. Furthermore, this activity differs between niches and individuals, allowing us to predict subjects' social preferences using neurobiological variables, which give us information not accessible when using exclusively a revealed-preferences approach.

18. Female Sexual Response and Foreplay: A Study With Women From Different Sexual Orientations (SFA)

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The human species, throughout the evolutionary process, developed behavioral and physiological features that allow sexual intercourses to occur independent from female hormonal cycles. Thus, sexual activity is not limited to their reproduction ends, enabling other behaviors in which erogenous zones are stimulated to promote pleasure for women. These behaviors would be so important to female sexual quality that would be present in both heterosexual and homosexual relations, whereas the last one is unlinked from reproduction. Therefore, this study investigated the foreplay frequency and its relation with sexual quality in women from different sexual orientations. 172 women participated in the study, divided in three groups: women who self-declare exclusively heterosexual (HE, n=54), exclusively homosexual (HO, n=51) and women who declare themselves not exclusive (NE, n=67). The participants also answered the Female Sexual Function Index (FSFI) questionnaire which measures female sexual quality. The NE e HO groups reported greater foreplay frequency (to give and to receive oral sex and masturbation) than the HE group, although this difference was significant only for "receive oral sex" and "masturbate partner" between HE and NE groups (respectively, $p=0,05$ and $p<0,05$). The FSFI score had significant difference between the groups ($p=0,007$). The NE group had greater score than HE group ($p=0,007$). The data indicate that the practice of foreplay may be related with a greater sexual function in women. The greater foreplay frequency in women who have sex with women may be interpreted by the familiarity with the sexual physiology shared by the partners. Furthermore, evolutionary changes in human physiology facilitated unbinding between sexual activities and heterosexual copulation, thus sexual behaviors that guarantee pleasure such as oral sex and masturbation would have arisen and be maintained in the species.

19. First Dates: food-sharing in an intimate setting is highly predictive of a second

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Food sharing in an intimate setting, ‘courtship feeding’, has been found to increase perceptions of how closely couples are involved, particularly where the same utensils are used by both (Alley, 2012; Alley et al, 2013). Motivation to share food remains unclear however, although one possibility is that this may signal sexual interest and attraction. In order to examine this possibility, 792 dinner dates were observed in a total of 143 episodes of ‘First Dates’ (Twenty Twenty TV, UK Channel 4), a restaurant-based TV reality show where couples are filmed meeting for the first time and eating a meal together. At the end of the date, couples are interviewed and asked whether they would like to see each other again. 59 feeding bouts were observed. Females in these couples were aged $26.21 + 0.58$, males were aged $28.75 + 0.86$; range for both 21 – 52. The same number of non-food-sharers were included as matched controls. Females most frequently fed males (39/59, 66.1%). Dessert was the most commonly shared course (42/59, 71.2%), with chocolate being the most common component (22/59, 37.3%). With respect to outcome of the date, 92.5% (54/59) of food-sharers said they would like to go on a second date, whilst only 40.7% (24/59) of non-food-sharers said the same. The programme’s narration further reported that 87.0% (47/54) of food-sharers and 79.2% (19/24) of non-food-sharers had continued seeing each other. Within the limitations of this highly artificial dating situation (42 cameras, 70 plus crew members on set during filming) and the lack of editorial control over the footage available, it is cautiously concluded that these data add further weight to the proposal that food-sharing in an intimate setting is indeed ‘courtship feeding’.

20. Gender and love style are linked to emotional versus sexual jealousy (SFA)

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Introduction: Jealousy can be classified as sexual or emotional. According to evolutionary psychology, sexual jealousy arises when one partner engages sexually with a third person. Emotional jealousy arises in the face of suspicion or the formation of an affectionate bond with another person. We hypothesized that gender, attachment and love style influence the type of jealousy (sexual or emotional). Objective: To test possible effect of attachment and love style, and psychiatric disorders on emotional versus sexual jealousy in a sample of Brazilian men and women. Methodology: A cross-sectional quantitative study was performed with 88 participants with pathological jealousy, divided into a group with higher sexual than emotional jealousy ($n = 23$) and a group with higher emotional than sexual jealousy ($n = 65$). We performed an univariate analysis and a logistic regression model. Results: Men formed the majority of the group classified as having higher sexual jealousy, while women comprised the majority of the emotionally jealous group. The Eros love style exerted a positive influence on the occurrence of emotional jealousy. However, it was not found influence by the attachment styles. Both groups presented a high incidence of depressive disorders, suicidal ideas, and symptoms of anxiety. The group with emotional jealousy showed a higher incidence of anxiety. Conclusion: The study confirms the hypotheses that gender and love style influence the occurrence of jealousy types, but there was no link to attachment style. Regarding Eros, it seems that the self-perception, even if partial, of an inability in the erotic game, could increase the fear of being replaced for a more competent rival.

21. Human assortative preferences for height

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Human height varies widely both between and within cultures, and influences both intrasexual and intersexual mating and competitive outcomes. Here, we examined the degree to which individual differences in actual height explain cross-cultural or interindividual variation in preferences for own and mate height. Five-hundred and thirty participants from Canada (n=147), Cuba (n=195), Norway (n=104) and the United States (n=84) were presented with graphic representations of men and women of varying absolute heights and asked to indicate their preferences for: (a) their own height, (b) the height of a potential short-term mate, and (c) the height of a potential long-term mate. Our results show that preferences for one's own height mapped closely onto height preferences expressed by the opposite-sex, such that both sexes showed a 'male-taller' norm. However, the actual height of participants explained up to 36% of the variance in their preferences for own height, and up to 20% of the variance in their preferences for the height of potential mates. There were no significant differences in participants' height preferences for short-term versus long-term mates, and no cross-cultural differences in any preference measures, indicating cross-cultural continuity in positive assortative mate preferences for height. These results add to a growing body of research implicating individual difference measures as key predictors of the variation in human mate preferences.

22. I don't like what you just did! Third-party-punishing behavior in a cooperative scenario is differently influenced by biological features in men and women (SFA)

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Third-party punishment (3PP) is a costly behavior aimed at penalizing individuals who have not directly interacted with the punisher. It is considered to be prosocial as it is usually employed to punish unfair behaviors and has been proposed as a mechanism enforcing non-kin cooperation in humans. 3PP shows sexual dimorphism, with men engaging in it more often than women. We wanted to study whether sexually dimorphic features related to levels of sexual hormones during development influence the tendency to engage in 3PP. These features are facial dimorphism (an indicator of testosterone levels during puberty) and the second-to-fourth digit ratio (a proxy to fetal testosterone). We also controlled for facial fluctuating asymmetry and self-perceived attractiveness, as these variables have been shown to influence other prosocial behaviors. 511 women and 328 men participated in a Prisoner's Dilemma game (PD). After playing it, participants had to decide whether to penalize the defection of another player who exploited the cooperation of her/his partner. In line with the literature, we find that men are more prone to engage in 3PP than women, even though no differences in cooperation rates were found between sexes. In addition, we find that cooperative men, but not women, are more likely to punish others. We also find that facial dimorphism has a negative effect on 3PP in men, with more masculine men being less likely to punish others. None of the measured individual features influenced 3PP in women.

23. Identifying, Assisting and Observing Possible Dyslexic L2 Readers

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Observing the behaviour of dyslexic students with regard to their utilization of learning strategies for reading is an opportunity to gain further insight into developing methods to assist them with this at times daunting task. Despite the existence of a rather large body of literature advising how to teach dyslexic learners, the general assumption is that we know which of our learners are dyslexic. It is important to consider what happens if we not only do not know who is dyslexic, but actually have no idea who amongst our learners may possibly be dyslexic. With experience it should be possible to develop a knack for identifying those who might be. However, there may not always be enough time to make this determination based on observation prior to the start of the reading course. Nonetheless, as educators we still want to make an effort to support them, and also gain knowledge and experience which may be applied to future situations. The author endeavoured to formulate a basic test - to be administered early in an extensive reading (ER) course - that might provide clues as to which students may be presenting traits of dyslexia in their second language (L2). Students who appear to present such traits may then be offered various interventions to facilitate L2 reading. Their reactions to and utilization of these interventions may then be observed.

24. Impact of Non-verbal Behavior on the Perception of Female Sexual Desirability (SFA)

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In the present study we extended our previous finding relating to the specificity of Sexual Desirability with respect to Physical Attractiveness. In Study 1 (S1) we asked 50 men and 50 women to rate 90 casually dressed women whom had applied to become adult movie entertainers. This sample was used since media was available for each female appearing clothed, naked, and containing sexual intercourse. Based on ratings from S1, three groups of females were selected based on their physical attractiveness (low, medium, high). For each female actress, we created three videos: (a) actress is interviewed by female counterpart (b) actress is undressing and posing, (c) actress engages in sexual intercourse with male actor. All videos were coded for nonverbal displays that have been previously linked to courtship (N=23, divided to four categories based on the respective area of the body involved). Videos were rated for sexual desirability by naive participants (50 Mage = 22,58 ± 3,33; 50 Wage = 22,70 ± 3,84). Due to explorative character of the study, data were analyzed using GLM with backwards stepwise selection. Our findings appear to be in contrast with previous research; non-verbal displays had little impact on sexual desirability. However, non-verbal behaviors did significantly predict ratings of physical attractiveness. To our knowledge, this is the first instance of research focusing on ratings across every representative stage of sexual behavior. However, the fact that stimuli are non-interactive could explain why non-verbal behaviours were poor predictors of sexual desirability; perhaps such displays are only be important where previous interaction has occurred with the target individual.

25. Integrating Evolutionary and Positive Psychologies: challenges and prospects

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The mainstream approaches in psychology have been mostly focused on proximal explanations and pathological cases. As a reaction, in the last three decades Evolutionary and Positive Psychologies emerged as two important research areas. While the first added a distal explanation to psychology, the second changed the focus of psychology from pathology to the study of wellbeing and human potentials. At the same time that positive psychologists have not drawn on insights from evolutionary point of view, evolutionary psychologists have not accumulated the empirical knowledge on human potentials as positive psychologists have made. Until now these two approaches remain mostly disconnected. Here we present some commonalities in order to build some theoretical bridges between them. Both Evolutionary and Positive Psychologies are fast-growing and criticized fields that have an empirical quantitative approach focused on investigating individual and cultural variations to describe human psychological functioning. There is some research evidence showing that the match between novel and ancestral-like situations (e.g., lower population density, higher social ties) is found to proximally increase happiness and wellbeing, and distally enhance inclusive fitness. However, this is still an open question which could benefit from an integrated view between Evolutionary and Positive Psychologies since they could elucidate the evolved nature of wellbeing and suggest new routes for intervention.

26. Intrasexual Competition among Males: The Influence of Conspicuous Consumption on the Attractiveness of Men (SFA)

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Conspicuous consumption seems to play an important role in both inter-sexual selection and intra-sexual selection. According to sexual selection theory, males and females developed mechanisms to attract and monopolize the opposite sex. For example, women seem to find men with higher social status more attractive, which in industrialized societies tend to be exhibited by purchasing power, as showing off luxury products. Besides signaling their social status to the opposite sex as a way to obtain reproductive success, men would also have mechanisms to monopolize access to women. As a consequence of intra-sexual competition, men would tend to depreciate other potential rivals in the pursuit of female attraction. This study aimed to verify if the type of displayed consumption (popular or luxury car) would influence attractiveness of men. The participants were 190 heterosexual men, mean age 29.4 years ($SD = 9.19$). Participants were randomly assigned to one of two types of questionnaires. One questionnaire showed a photo with a man in front of a popular car, and then the participants were asked to judge the attractiveness of the man in the picture. The other questionnaire was identical, except that the photo had a luxury car. Our results showed that the man in front of the luxury car was considered less attractive, compared to the man next to the popular car ($d = -0.42$). This result reinforces the idea that men considered rivals in the competition for the opposite sex (e.g. men with high purchasing power) would engage in behaviors that would depreciate the rival's advantageous attributes.

27. Intrasexual competition between women throughout the menstrual cycle: intraindividual changes in the perception of the attractiveness of female voices (SFA)

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Competitor derogation is an intrasexual competition strategy frequently used by women, that consists in trying to devalue potential competitor's attributes such as attractiveness. It is exerted more intensely toward opponents with more attractive traits, and it is stronger during the ovulatory phase of the menstrual cycle, when the probability of conception is higher. This change in derogation intensity has been shown with women scoring lower other women's attractiveness during ovulation. We carried out a longitudinal online study to test variations in the intensity of derogation through the assessment of the attractiveness of 8 voices (4 high-pitched and 4 low-pitched). We also evaluated the influence of the discourse content by recording the participants saying vowels and different sentences. Ovulation time was estimated with the prospective method and then checked using the more reliable retrospective one. Data from those participants whose answers had not coincided with menstrual or ovulatory phase was discarded. Given that men prefer high-pitched voices, it was expected that participants would assess them as less attractive since they would be perceived as more dangerous rivals. Although our results revealed that in general high-pitched voices were considered more attractive, there was a tendency to lowering their scores during ovulation which was in accordance with our initial hypothesis.

28. Is odour memory level related to quality of early memories in elders? (SFA)

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Researches indicate an important role of odour memory in the context of autobiographical reminiscence. Nevertheless, all studies by now have focused specifically on the relation between odours and odour-evoked autobiographical memories. In the current research, we decided to examine the direct relation between odour memory level and quality of reported early memories, without using an odour trigger. We investigated presumed association on a sample of 109 elderly people, linking the level of odour memory, measured with TOM odour memory test, and dimensions of quality of early memories, measured with Linguistic Inquiry and Word Count program. Our results indicate that in elders a link between odour memory level and quality of early memories appears to exist and differ for both sexes. While for women higher level of odour memory was related to rather positive phenomena, such as increase in insight and personalizing reported memories, for men the tendency seems to be rather related with less specificity of reported memories and avoiding positive aspects. What is worth emphasizing, the obtained characteristics did not appear as convergent with odour-evoked memories' traits. We hope that the obtained results might add to our knowledge about the role of odour memory in autobiographical reminiscence.

29. It is not fair! Sexual differences and influence of morphometric measures in egalitarianism in an Ultimatum Game (SFA)

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Ultimatum Game (UG) is frequently used in human behavioral research to measure prosocial tendencies. In this game, a player (proposer) receives a certain number of points or earnings, which can be shared (or not) with a second player (responder). However, if the responder finds the decision of the proposer unfair, it can refuse it and none of the players get anything. Our aim was to determine, in this context, the difference in egalitarian tendencies between men and women, and how some variables related to development and sexual hormones affect them, given that some of these variables have been previously shown to influence prosociality in humans. 509 women and 374 men played an UG in both the proposer and the responder roles, and morphometric measures related to hormones and developmental instability were taken afterwards. Women tended to make higher offers than men, and also asked for a smaller share in the role of the respondent. In addition, women more frequently asked for a lower share than they had previously given. We studied the influence of biological variables, and we found that men with a lower hand-grip strength tended to offer a higher share, whereas more symmetric women tended to make higher offers. This partially goes against initial predictions based on individuals' fitness and prosociality.

30. Jamesian Consciousness is evolutionist but not exclusive Darwinist (SFA)

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William James' role as a disseminator of evolutionary ideas among American psychology was important in stimulating comparative studies on the behavior of nonhuman animals and encouraging the construction of systems and basic theories comparative and evolutionary understanding of psychological phenomena. This essay aims to analyse the relationship between James' ideas of evolution and his central concept of consciousness, as well as to analyse the epistemological characteristics of his evolutionary ideas in terms of their material basis and the mechanics of consciousness on his theory of psychophysical causality. We identified some general aspects of evolutionary ideas in William James' Psychology principles, namely: a) evolutionary ideas are markedly marked by the work of Charles Darwin and Herbert Spencer; b) James assimilates these influences in an original way, reconciling the generality of evolution as a natural phenomenon (inspired by Spencer-Lamarck) with the probabilistic and selective principles of Darwinian evolution; c) James departs from the problematic about intentionality and mental causality to propose a natural theory for the origin of thought as a source of variability and conscience as a selection agent and efficient cause of habits formation during the ontogenesis of organisms; d) James defines two processes for psychogenesis (random variation and adaptation), whose origins are phylogenetic and ontogenetic, respectively; and e) It proposes a material basis (nervous system) and a causal principle (i.e. consciousness forming habits from the selection of reflex instincts and actions) to deal with the evolutionary and mechanical origin of consciousness as a biological function. James's Principles are extensive in content so it would be desirable to organize a taxonomy about the evolutionary ideas presented in James's psychological texts.

31. Male hierarchy of women Secondary Sex Characteristics for mate choice (SFA)

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Attractiveness is an adaptive function, which provides information that reflects health, genetic quality and reproductive capacity, signaling a good handicap and increasing the probability of obtain offspring with better genes. We consider that presence of a big number of SSC in human females arise because competition between females and males sexual selection, implying that males and females are capable of identify and qualify this SSC as humans have evolved with the capacity of judge attractiveness of potential partners with desirable characteristics, increasing reproductive success compared to what would be obtained with random copulations, so most attractive females obtain more copulations and access to males of better quality. Females express visual, auditory and olfactory SSC which are honest signals that men can identify and qualify. Due to the large amount of SSC present in women, it is possible that men have the ability to choose between different characters and rank them depending on the trait that is signalling each character to improve their ability to choose potential partners. To prove that healthier women are more attractive than unhealthy women and also than males rank female SSC, we take odour samples, pictures and voice audio from women college students divided in three categories: women who do high performance exercise, women who do medium level exercise and women who do not exercise. Those samples will were shown to 100 college male students, and will where asked to ranking CSS from more to less attractive. Each student will rank the SSC of one woman of each category and select between the three of them who was the more attractive one. The information obtained will be analysed whit a Path Analysis to now the interactions between the selection of different SSC and determinate which traits are more attractive.

32. Menopause, what comes after? Women's subjective experience of orgasm post-menopause (SFA)

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Many theories exist on the evolutionary basis of female orgasm (ex. by-product, pair-bonding, uterine up suck, mate-choice). Female orgasm lacks obvious reproductive function however, these theories attempt to describe why this trait ability continues to be selected for. If female orgasm plays a direct role in reproduction (e.g., uterine up suck), or an indirect role (pair-bonding), it is interesting that female orgasm appears to be maintained after menopause. Post-menopausal women, on average, continue to have the capacity to orgasm. Unknown however, is whether subjective experience of orgasm (i.e., intensity, cognitive-affective, sensory dimensions) change throughout this transition and whether evolutionary theory may account for this. This exploratory study aims to identify changes to orgasmic experience as women age. Since evolutionary accounts for female orgasm are closely linked with reproduction, it is hypothesized that once women are unable to reproduce there will be subjective changes to their orgasmic experience. The Orgasm Rating Scale (Mah & Binik, 2002), was used with a preliminary sample of 182 female participants aged 18 to 71 years old (151 pre-menopausal; 31 post-menopausal). They were asked to rate sensory (i.e., building, throbbing), cognitive-affective (i.e., emotional intimacy, pleasurable satisfaction), and intensity items describing their most recent orgasm. Items were rated on a 5-point Likert scale as to how well it described their experience. Preliminary results, using Pearson's correlations, indicate significant negative correlations between age and shooting sensations ($r = -0.168$, $n = 141$, $p \leq 0.05$), relaxation ($r = -0.215$, $n = 143$, $p \leq 0.05$), and the sensory dimension ($r = -0.187$, $n = 139$, $p \leq 0.05$). Early results suggest, as women age, perceptions of physiological events decline while cognitive-affective dimensions and intensity remain similar to younger women. This supports female orgasm's role in reproductive fitness. When reproduction is no longer possible, physiological sensations of the experience decline. Further data collection with post-menopausal aged women is ongoing.

33. Morality and social bonds

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The moral capacities seem to have emerged in human species to promote a behavior in society that favors in some way the cohesion of the groups. From this point of view, moral attitudes would serve to encourage a social approach between people who do not know each other or who have not maintained previous interactions. Such a promotion of morality on social bonds could materialize in higher levels of trust, cooperation and social interconnection with these people. In this study, we analyze whether there is a direct relationship between moral attitudes and levels of cooperation, trust and social cohesion. To do this, we measure the moral levels of a sample of participants using moral questionnaires and contrast these data with participants' general attitudes of trust and cooperation in front of certain decisions taken in a series of economic games. However, we wonder if such moral attitudes transcend relationships between strangers and affect personal networks too. Accordingly, we also analyze the personal networks of such participants to evidence the real extent that moral attitude may have in social bonds. Our results suggest that there is an indirect relationship between moral levels and general cooperative attitudes, although they do not show a relationship between moral and trust levels nor between moral attitudes and the extension and cohesion of personal networks. These results support our idea that moral attitudes emerged to favor cooperation among strangers but it is not the most important mechanism that acts to favor bonds between close people.

34. More Bro's, More Woes? A Look at the Prevalence of Male Coalitions in Crimes of Robbery (SFA)

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The crime of robbery is an act of procuring resources, which usually involves the threat or usage of violence. Robbery by coalitions may be particularly successful, given that alliances with other individuals confers considerable advantages in procuring and protecting relevant resources (Kenrick, Li, & Butner, 2003; van Vugt, 2009). There may also be a sex difference in the offender of robberies, given that the 'Male Warrior Hypothesis' predicts men are more willing to initiate, plan and participate in acts of inter-group aggression (van Vugt, 2009). Under section 343 of the Criminal Code of Canada, all four points of the definition of robbery include the offender's willingness to use threats or violence as means of committing the act (R.S.C., 1985). Given the propensity for violence during the crimes of robbery, we hypothesize that the majority of robbery offenders would be male, and further, primarily performed by males in coalitions. A sample of guilty convictions from the province of Nova Scotia, adjudicated from the years 1996 to 2016, were examined to test the predicted sex and coalition status (i.e., solo, dyad, or group) differences. Results show the robbery offender is predominantly male, acting in groups (or at least in dyads) more commonly than as solo acts.

35. Motivations for physical activity practice: an evolutionary approach (SFA)

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Research has shown contrast between evidence regarding the importance of physical activities (PAs) and the high prevalence of sedentarism. We aimed to analyze motivations for different PAs practice and its relationships with sex and age. We expected that motivations for physical activity linked to appearance would be stronger in women and younger participants, while motivations linked to sociability would prevail in men and fitness/health motivations would increase with age. We collected data from 2,652 Brazilians who responded an online battery of questionnaires, including Motivation for Physical Activities Measure Revised with subscales interest/enjoyment, competence, appearance, fitness/health and sociability. We used multivariate ANOVA to investigate effect of type of activity (individual sport, collective sport, exercise and body practice), sex and age on motivations for practice. In accordance to previous studies, we found main effects of type of activity in all motivation's subscales, and also effects of sex (in interest/enjoyment) and age. The findings can be explained, for example, by Life History theory: younger participants who invest more into mating than parenting reported higher appearance motivation to PAs, while older participants were more preoccupied with fitness/health. However, we did not support our hypothesis regarding sex. More evolutionary based research on PAs is needed.

36. Muscularity and strength affects individual variations in self-perception of fighting ability

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Evidence demonstrates that competitive conflicts probably are the main form of intrasexual competition in men. The capability to recognize visual cues of fighting ability in competitors is thought to be an important characteristic that allows men to avoid costs of contest competition, especially when there exists a clear asymmetry between contestants. But, in order to assess this asymmetry, individuals need to compare fighting ability of the competitor with their own fighting ability. In this study, we assessed the relationship between a visual cue of fighting ability; muscularity (measured with a bioimpedance device), the real capacity to inflict cost to a rival; strength (with a hand grip dynamometer) and self-perceived fighting ability (with a questionnaire) in a population of 364 men with ages between 18 and 38 years old ($M \pm SD = 22.27 \pm 3.99$). Our results confirmed the expected positive relationship between upper-body muscularity and strength controlling for BMI. However, muscularity only explained around the 30.2% of the variance in strength. In addition, muscularity was related to self-perception of fighting ability in our sample being its effect partially mediated by strength. This result suggests that more muscular men have a higher self-perception of their fighting ability not only because they are stronger (at least in the HGS task). Our results indicate a possible overvaluation of the robustness in the relationship between strength and muscularity, the relevance of muscularity as a trait to compete in intergroup scenarios, and the need of increase the number of traits that influences the self-perception in fighting ability.

37. My life as a paparazzo: An evolutionary approach to the visual collection of celebrity gossip to increase believability

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Celebrity gossip is known for using photographs to boost the believability of the content. We have previously proposed a theory that these photographs translate an eye-witness perception into an I-witness emotional response. Visual representations of reality as captured by others creates a false belief in the viewer that makes them believe they have actually witnessed the situation themselves. In other words, these representations become second-hand “gossip” (i.e., information about an absent third party acquired via a gossiper). The viewer erroneously turns the images into self-observed, first-hand, information about the situation, which enhances the believability of that information. If this theory is correct, then those who collect visual information (via photographs) about celebrities (i.e., the paparazzi) should focus mainly on information that, first of all, is high in gossip value, and second, is information that is hard to prove, and consequently, would benefit from a believability boost. Here we collect and code data from actual paparazzi about what they focus on when taking photographs and what is considered to be the most valued images. We use our earlier frameworks that were developed to rank information as being higher or lower in gossip value, and control for the potential believability of the information.

38. Possible effect of Dark Triad on Appearance Modification in Women (SFA)

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Changes in appearance (e.g. clothing, haircut, body painting) have been documented across human cultures and deep into the human species. Appearance modifications remain one of the most common practices to date, and although heavily culturally influenced, they can exercise an evolutionary advantage by increasing the individual social, sexual and reproductive success. Appearance modifications, and in particular cosmetic use, enhance self-perception as well as social perceptions by others about the user. In this study, we will focus on a specific and frequent appearance modification present in various human populations - the use of makeup among women. When compared to women without makeup, those who use cosmetics are systematically evaluated as more attractive, competent and dominant. By improving own appearance and increasing self-esteem, individuals can manipulate behavior of others, especially in the context of intrasexual competition and intersexual partner selection. Competitiveness and manipulation are characteristics tightly related to the concept of Dark Triad of Personality that comprises of Machiavellianism, psychopathy and narcissism. The purpose of this project is to identify a possible association between these traits and the use of makeup as a specific manipulative tactic among women. We propose that the personality traits of the Dark Triad would be positively linked to frequent use of cosmetic products, especially on occasions of high intrasexual competitiveness and among women with higher self-esteem. In this study, women will respond a battery of questionnaires about makeup usage, self-esteem, intrasexual competitiveness and the Dark Triad. It is expected that women with higher scores on the Dark Triad, due to the need for attention and control, will report higher use of makeup. At the moment, the data are being collected, and we will present the results of the study at ISHE meeting.

39. Relationship between automatic imitation and individual differences of personality and empathy (SFA)

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Automatic imitation has been described as the non-conscious copying of behaviors. In spite of its common incidence in social interactions and bond formations, little is known about how personality features influence this behavior. We analyzed the relationship between automatic imitation and individual differences in behavior related to the five factors of personality (Big Five model) as well as empathy. A correlational study was performed with a population sample of university students. In order to assess automatic imitation, subjects were invited to participate in a session of description of images through interaction between pairs. In order to measure the number of times they imitated their interlocutor automatically, in these sessions target subjects were submitted to stimuli in the form of movements, not previously declared, by the person in front of them (about which the subjects were told that they were also part of the image description activity). We found a significant positive correlation between the dimension openness and the quantity of automatic imitation displayed by individuals, as well as we found differences between the sexes, with females being more imitative than males. We found no relationship between levels of empathy and the automatic imitation behavior in males and in general group. Finally, for women, we found a significant positive correlation between perspective taking and the quantity of automatic imitation displayed.

40. Response times during decision making in a social dilemma: testing the social heuristic and the Homo economicus hypothesis in same-sex interactions with different degrees of counterpart information

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Cooperation is a key feature in human societies that can be easily undermined by free-riders. In recent years, scholars have begun to study cooperation within the framework of the dual process model of decision-making by employing social dilemmas. Two contrasting models about the relationship between intuition and cooperation have emerged. On the one hand, the classic economy approach describes humans as an intuitively selfish while cooperation emerges only through a reflective thinking. Alternatively, the social heuristic hypothesis (SHH) argues that humans are intuitively cooperative and the selfishness appears mainly through reflection. In this study, we aimed to test between these two hypotheses in a one-shot prisoner's dilemma game (PDG) played with same-sex anonymous individuals. In doing so, we measured response times as a proxy of the process underlying the decision. In a second game (non-anonymous PDG), we introduced a facial picture of the counterpart to investigate the effect of this variable in response times. In addition, we considered other factors that may influence response time as the conflict between choices. The sample was composed by 176 men and 193 women, mainly college students from Spain. The results from the anonymous PDG showed that cooperative responses were overall faster than defective responses but only in men. The presence of the counterpart's picture increased response times and cooperation in both sexes. No effect of neither cooperation nor choices' conflict were found in the non-anonymous game for both men and women. Our results gave partial support to the SHH since cooperation was faster anonymous interactions in men. However, the inclusion of the picture removed this effect suggesting that information about

the counterpart may induce more reflexive decisions leading to both cooperative and non-cooperative choices. We argued that null results in women may be indicating sex-differences in the social heuristic in response to different selective pressures on cooperation within same-sex individuals among men and women

41. Self-perceived mate value influences intrasexual competitiveness attitudes in young people of both sexes

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Individuals vary in their intrasexual competitiveness attitude, i.e., an important variable reflecting the potential threat or the extent to which one perceives other individuals of the same sex as social or mating rivals. In this study, we investigated the relationship between self-perceived mate value, a construct usually linked to intersexual selection, and intrasexual competitiveness attitude. We postulated that those psychological traits that increase mate value will be related to psychological traits underlying intrasexual competitiveness attitude. The results, obtained from a sample of 711 young participants of both sexes ($M = 16.93$ years \pm $SD = .86$), indicated that mate value was positively related to intrasexual competitiveness attitude. Specifically, the subscales of fear of failure, wealth, and looks were positive predictors of intrasexual competitiveness attitude. Moreover, the looks subscale was more relevant in determining intrasexual competitiveness attitude in women than in men. These three subscales were part of the same factorial structure that appears to be indicative of a self-promoting strategy based on the ostentation of traits through attitudes. As a conclusion, we argue that individual differences in intrasexual competitiveness attitudes are partially explained by differences in psychological features usually associated to intersexual selection.

42. Is higher education a determinant factor in decision making and behavior to future practitioners? (SFA)

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Several factors such as age, social environment, economic and educational level, influence the behavior and orientation of individuals towards protecting the environment. However, the behavior could be not linked with the degree of understanding of complex concepts such as global warming, climate change, and sustainable development. Independent of how citizens understand these concepts, they have been included and adopted in social discussion beyond educational level and population's background. To understand the green behavior in the Chilean population in 2011, we develop the first national survey about Belief and Attitude on Climate Change. Since 2015, the survey was applied by the Government of Chile to map the environmental behavior and attitudes of Chileans. Results show a high commitment, concern, and awareness throughout the population. However, the actions and green behaviors related to energy, water consumption, and recycling are more frequent in the older population than the young below 30 years. Despite the involvement of young people in activism or social and green movements, their lack of commitment to green behavior is an apparent contradiction. Therefore, the main objective of this study was to explore and describe the meanings of sustainable development and environment in undergraduate students in the Metropolitan area. Undergraduates from different universities, programs, and backgrounds were recruited. Five focus groups were done and the information compiled was coded following strategic parameters. The results show young people understand the concepts of environment and sustainable development, appraise their complexity as described in the literature. However, they doubt the possibility of generating changes with significant impacts from the personal to the environmental scale. According to our results, we inferred that education would not appear as a determinant factor of pro-environmental changes. Contextual characteristics, such as infrastructure or legislation are highlighted as drivers of behavioral change. Finally, undergraduate students from scientific careers feel more capable than changing the world than students from social sciences.

43. Slow and Happy or Fast and Sad? Relationships between K-factor and Subjective Well-being (SFA)

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Individuals may present different responses to environmental pressures depending on their life history strategy. These strategies have developed throughout evolution, enabling organisms to achieve reproductive success in different ecologies. For example, individuals in unpredictable ecologies tend to show a high growth rate life history strategy (r-faster strategy), in contrast to those in stable environments that show a K-life history strategy (slower strategy). There are some studies showing that individuals who develop a faster life history strategy tend to be less socially adjusted (e.g. a higher risk of developing drug abuse, short life expectancy). Some adjustment problems could generate several social problems; consequently, one could expect that people with those problems had lower subjective well-being (SWB). In this study, we test the relationship between life history strategy and SWB. For that, 154 adults from Rio de Janeiro, 67.5% women, answered a questionnaire with scales to assess life history strategy (K-factor), life satisfaction, positive and negative affect. We found positive correlations between K-factor and life satisfaction ($r = .46$); between K-factor and positive affect ($r = .45$); and negative correlations between K-factor and negative affect ($r = -.32$). Our results showed that slower life history strategy, higher levels of subjective well-being. We suggest that the same environmental and contextual situations that lead people to develop faster life history strategy also lead people to make poor evaluation of their lives.

44. Systematic Review of sexual function in heterosexual and homosexual men (SFA)

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Male sexual response is understood as a sequence of sexual behaviors, such as sexual desire, erection, ejaculation, orgasm, and refractory period. It is considered an away to allow men to inseminate female partners and produce offspring. However, it is questioned whether this response is similar in homosexual men, who neither have a female partner, nor have offspring from their homosexual relationships. A systematic review of empirical studies published between 2012-2017 was conducted to investigate similarities and differences of sexual function in self-declared heterosexual and homosexual men. The review consisted of a search of the terms "Sexual Function", "Homosexual and heterosexual man", "Gay" and "Anodyspareunia" on databases Google Scholar, PubMed and Scientific Electronic Library Online. From 65 published scientific articles, 58 were excluded because they did not meet the eligibility evaluation criteria, such as healthy participants (nonclinical). Seven articles met the eligibility for this review, and among these, only three articles had investigated occurrence of anal pain in homosexuals. No comprehensive instrument has been found to analyze sexual response of men of different sexual orientations. Results also indicated that erectile dysfunction and premature ejaculation were the most common dysfunctions found in heterosexual and homosexual men. In homosexuals there is a greater frequency of erectile dysfunction, however, studies did not categorize the participants according to their performance in anal sex, as insertive, versatile and receptive. This is important to consider, since receptive people probably did not need to have an erection to enjoy sexual intercourse. As for ejaculation, from an evolutionary perspective, rapid ejaculation may be considered a normal and to some extent adaptive variation, since it allows insemination without risk of predation. Male sexual response in all its range is still poorly studied, especially in nonclinical and non-heterosexual populations, leaving the homosexual population partially unknown, specifically in relation to anal sex.

45. Testing the ability of the benefit-provisioning and cost-inflicting mate retention tactics framework to predict relationship dissolution

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Mate retention has received much less research attention compared to mate choice and attraction. Even the research that has been done on mate retention often only aims to identify what constitutes mate retention tactics. In the current study, the effectiveness of mate retention tactics is explored by measuring relationship outcomes of tactics unlike previous research that measures effectiveness through perceptions of relationship satisfaction. Individuals who have experienced a nonmarital breakup reported on their own and their ex-partners' mate retention tactics before the breakup to see which ones predicted the outcome of relationship dissolution. Tests for moderation by participant sex and male mate value were also included. Results revealed that, in accord with the theoretical framework put forth by Miner et al., (2009), tactics that inflict costs upon an individual that are performed by participants' ex-partners increase the odds of dissolution. Moderation by sex was also observed such that women were more likely to dissolve relationships with men who engage in frequent benefit-provisioning tactics. Discussion addresses both supporting and conflicting evidence for the effectiveness of the benefit-provisioning and cost-inflicting framework of mate retention.

46. Testosterone-related traits and status-seeking behaviors: the role of 2D:4D and facial width-to-height ratio

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Testosterone levels, both activational and developmental, are postulated to promote behaviors related to obtaining and maintaining social status in humans and other primates, especially in males. Accordingly, traits denoting testosterone levels during prenatal and pubertal development should be related to status-seeking behaviors. However, mixed results were found in previous studies. The aim of this study is to contribute to clarify the role of testosterone-related traits in two contexts in which social status can be threatened. Specifically, we tested whether 2D:4D and facial width-to-height ratio (fWHR) were related to dominant behavior during competitive interactions and to retaliatory behavior as a response to provocation. For this purpose, we measured both variables in a sample of 213 Chilean young men ($M = 22.48$, $SD = 4.45$ years old). Participants played two economic games, the hawk-dove game (HDG) and the ultimatum game (UG) as responders, to assess dominance and response to provocation respectively. Following previous studies, we considered that unfair UG offers can be contemplated as a provocation. The HDG was played one-shot against a same-sex anonymous player whereas UG was played three times and participants were asked whether they accepted or rejected a 15, 30 and 50 out of 100 points offer. Results showed that individuals with higher fWHR were more likely to play the hawk (dominant) role but, in turn, to accept unfair offers of 15 and 30 points. On the other hand, 2D:4D was not a significant predictor in either game. In sum, according to our expectations individuals with more masculine faces showed more dominant behavior. However, they seemed to maximize their benefits accepting low offers suggesting that they were not perceiving unfair offers as a threat to their status. Our results on 2D:4D were in line with previous studies reporting nil relationships between this trait and status-seeking behaviors.

47. The Coolidge Effect and Online Dating: Primed choice of both potential dates and resources directly reduces the attractiveness of familiar faces (SFA)

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Theories from social and cognitive psychology suggest that online dating sites may undermine our willingness to commit to potential partners given that choice of potential partners is greater and users can browse through (and compare) potential options quickly. Moreover, theories from evolutionary biology suggest that males, in general, are attracted to novelty in potential partners (The ‘Coolidge Effect’) with recent research suggesting that this may be reflected in men’s (reduced) preference for familiar faces when they rate the attractiveness of women on second viewing. Here, we tested whether the experience of using an online dating site directly reduced the attractiveness of familiar opposite-sex faces. Participants rated a set of faces for attractiveness before and after we primed choice either by browsing through a slideshow of potential dates (experimental condition) or browsing through a slideshow of potential desserts (control condition), with desserts matched to dates in rated attractiveness. After the slideshows, participants rated both familiar and novel faces for attractiveness, with both face sets matched in rated attractiveness. Contrary to our hypotheses, our experimental priming techniques did not reduce the attractiveness of familiar opposite-sex faces relative to our control condition. However, when examining whether responses to faces changed as a result of our priming techniques, participants, in general, were less attracted to familiar faces post- versus pre-priming and were less attracted to our familiar face set relative to our novel face set, even though these two face sets equally attractive. These data suggest that having attractive options (dates or food), in general, directly reduces our attraction to familiar individuals. This suggests that context (having choice) may moderate the well-established effect in social psychology where ‘familiarity breeds liking’.

48. The Five Finger Fitness: Shoplifting as a Reproductive Strategy for Increasing Mate Value (SFA)

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Shoplifting can be defined as: the act of taking an item from a store without the act of paying for said item. With the popularity of social media platforms, trends involving the self-promotion of one's adeptness at shoplifting have gained notoriety. There is a sub-community within the social media website called Tumblr in which users post photographs of content that they claim to have stolen. Shoplifters aesthetically arrange their stolen items for display, and sometimes include the retail value of each item, and post the picture tagged as either "lifting haul" or "shoplifting haul." A researcher blind to the study hypothesis coded the stolen items within each photograph. The coded items were then categorized into themes for analysis. We hypothesize that the stolen items featured within the 'lifting haul' photographs are items relevant to increasing one's reproductive fitness by superficially or temporarily increasing one's mate value and ability to attract potential mates. We predict that items related to increasing the appearance of oneself which gives the illusion of higher mate value (such as makeup, skin care, lingerie, and perfume) will be stolen more frequently than items that are not directly related to increasing one's mate value (such as electronics, pet toys, home décor and school supplies).

49. The Influence of the Number of Sexual Partners on Women's Attractiveness (SFA)

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The uncertainty of paternity has been an adaptive problem that male humans have faced throughout their evolutionary history. Therefore it would be expected that men have developed mechanisms to reduce the uncertainty about paternity. We hypothesize that men would consider the number of sexual partners a woman has had as a clue of future infidelity and that will make that woman less desirable. Thus we carry out an experimental study that aimed to test whether the number of sexual partners women have had throughout life would influence their attractiveness, and how much men would be willing to engage in compromised relationships with them. Participants were 150 heterosexual men, mean age 24.0 (SD = 4.54). They were randomly allocated in one of five questionnaires that presented photos of women beside some personal descriptions. All questionnaires were equal except for the description of the number of sexual partners of women in the photos. For attractiveness we found no differences among women of different sexual experiences. However, we found that women with 50 to 70 sexual partners were lower evaluated for a long-term relationship than women with four to 10 sexual partners. Our results show that information on the sexual past of women affects their desirability as potential partners for a relationship. These findings shed light on an important mate selection criteria to men.

50. The role of pubertal testosterone in cooperative behavior between group members in an intergroup competitive scenario (SFA)

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Humans beings are a highly social species. This pattern of behavior has shaped the evolution of the human mind favoring several behavioral strategies that benefit group formation and cohesion. Forming groups concedes enormous benefits as protection against predators, but also creates a scenario of competition among groups. According to the male warrior hypothesis intergroup conflict was an important selection pressure, specially for male ancestors, favoring cooperation among group members and aggression towards outgroup individuals. Testosterone is a hormone that has been associated mainly to aggression and dominance, however, in a context of intergroup competition and according to the theoretical framework of the male warrior hypothesis, testosterone should be related to both aggressive and cooperative behaviors. In our study, we analysed how the effects of pubertal testosterone (measured by facial masculinization and musculature) affected cooperative decision making in a public good game (PGG) played in different competitive scenarios. We measured facial width-to-height ratio (fWHR) and skeletal muscle mass (SMM) in 152 Chilean young men ($M = 21.87$, $SD = 3.37$). Individuals were organized in teams of six members that played a PGG in an intragroup or intergroup competitive scenario. Our results showed that overall individuals behaved more cooperatively in a context of intergroup compared to intragroup scenario. In addition, we found an interaction effect between fWHR, SMM and scenario of competition on levels of cooperation. On one hand, muscularity was negatively related to cooperation in the intragroup scenario being this effect enhanced in individuals with more masculine faces. On the other, muscularity was positively related to cooperation in the intergroup scenario except for those individuals with less masculine faces. In sum, our result support the hypothesis that testosterone levels lead to cooperation in an intergroup competition scenario but showing that the interplay between different testosterone related traits play a role.

51. The Usefulness of Eye-Tracking in Identifying Sexual Preferences: A Study On Sexual Offenders (SFA)

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Sexually preferred stimuli attract our attention significantly more than sexually non-preferred stimuli. Because attention guides the gaze, eye movements measured through first fixations and fixations duration on the stimuli and their relevant sexual regions allow access to underlying cognitive processes and are indicators of human sexual interest. For example, it has been shown that we focus on characteristics of emotional stimuli that contain relevant cues for survival and reproduction. Results with sexual stimuli have shown that there are gender differences in the patterns of attention to preferred sexual stimuli. Men present physiological responses and specific attentional biases towards sexually preferred stimuli compared to non-preferred stimuli, contrary to women, who show nonspecific responses. Based on this, we investigated atypical sexual preferences present in some child sex offenders. Using an experimental paradigm of free visualization on simultaneous stimuli that varied according to developmental age (men vs. boy, woman vs girl). We recorded eye movements of convicted child sex offenders, rapists, non-sexual offenders and non-offenders, and measured early and late attention on the whole body, as well as specific erotic (chest, pelvis) and non-erotic (face) areas of semi-naked stimuli. Male child sex offenders tended to fixate more first times on children than adults, compared with the other three groups, and looked longer and more frequently the chest of child stimuli compared with the other two groups of offenders. These results show that eye tracking is useful in identifying non-conscious cognitive biases associated with sexual preferences, and avoids the known limitations of self-reported information.

52. The value of children: The impact of sibling alloparental help in Samoa (SFA)

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Samoa, formerly known as Western Samoa, is a small developing island nation located approximately halfway between Hawai'i and New Zealand in the Polynesian region of the South Pacific. Data from the 2011 Samoan census and the most recent census of 2016 indicate that Samoa's fertility rate has slightly increased over the last fifteen years despite the ongoing transition from classification as a non-developed nation to a developed nation. Traditional fertility correlates such as education and wealth, do not appear to explain the preservation of high fertility rates in Samoa. Using a mixed methods approach, the current study investigated the role of alloparental help by siblings with respect to fertility. Focusing on the role of children as alloparents, the current study found a strong effect of reported help from children on the length of interbirth interval (Hazard ratio of 1.69, $p = 0.01$). Women who report receiving help from their children have an increased risk of terminating an interbirth interval (having another birth) by 1.69. In other words, women who report receiving help experience significantly shorter interbirth intervals. There was also strong evidence for a relationship between reported help from children and overall fertility: women who reported receiving help from their children had a larger number of surviving offspring than women who did not ($p = 0.001$, $\eta^2 = 0.09$). The addition of an ethnographic approach can provide a richer understanding and behavioural insights that surveys alone cannot. Here, in addition to reporting our findings with respect to survey data, we also present results, that support the survey data findings, collected from observations of helping behaviour by children in Samoan households. The current study stresses the importance of a mixed methods approach and emphasizes the need for culturally appropriate measurement tools.

53. True Love and Other Options, Sociosexuality and attachment in Sex and The City (SFA)

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One of the most significant milestones for most individuals is the search, selection and retention of a mating partner, which presents biologically differentiated challenges for each sex. These differences are at the basis of the phylogenetic history in large mammals, in terms of survival and fitness. It is highly likely that the central place of mate search in all known storytelling traditions reflects this biological importance since stories provide opportunities for vicarious experience and testing of potential scenarios. This research sought to analyze real people's reactions and preferences for the various mating strategies based on the characters from the TV show Sex and the City. We provided short descriptions of the four main female characters and hypothesized that participants of both sexes would recognize mating strategies and behaviors that denote affective availability and that participants' preferences for different characters in turn would correlate with their own sociosexuality and life history related variable (attachment). A sample of 656 Spanish university students (30% men) participated in the research. They answered a series of questions regarding their preferences for interaction with the characters of the series, and completed the Sociosexual Orientation scale and the Attachment Scale of Bartholomeaw & Horowitz. Preliminary results indicate that both sexes correctly identify Miranda and Samantha as oriented toward short-term relationships; they see them most compatible with having casual sex and for potential mates for attending a party. Meanwhile Carrie and Miranda are identified as relationship-oriented for the long term, as best mothers of a hypothetical child and for marrying, which correlates with the applied SOI scores. In addition, an inverse correlation was found between sociosexual openness and fearful as well as avoidant attachment, which supports the hypothesis that life history mediates

mating orientation and decisions, and that in this context allows us to speculate that early experiences affect the mating strategies deployed in adulthood.

54. Twins in Space: Review and Perspectives

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In twin research, monozygotic (MZ) twins subjected to different environmental exposures offer an informative, naturally occurring co-twin control design. Given their genetic identity, differences in physical, medical and behavioral outcomes between them can be associated with their experiential differences. This scientific advantage helps identify factors that either exacerbate or mitigate cognitive performance, mental health, disease risk and other human abilities (Segal, 2012). These findings are important for upgrading the adaptive model to new environmental and human conditions such as social and familial isolation, combined with an unusual physical environment. In space research, a wide range of ethological studies has been conducted on the effects of microgravity on sensori-motor activity during orbital flights. Observations were also made in a large panel of isolated and confined environments (Polar bases, Mars Desert Research Station, Mars-500 experiment) on social group behavior. Analyses revealed time effects and individual differences on crew behavior beyond a one-year mission (Tafforin, 2013). With respect to these behavioral domains, investigating the MZ twin astronauts, namely Scott Kelly who spent one-year aboard the International Space Station (ISS) and his brother Mark Kelly who stayed on Earth, is a unique opportunity to collect multidisciplinary outcomes. We will present a review of what was discovered regarding factors that affect the astronaut's global health and the extent to which a space mission modifies different adaptive systems from the chemical modifications to the cognitive functions. We discuss perspectives of what could be impacted by epigenetic effects over a long-term process and upon changing environments, in space or on earth. Subsequent research will offer important new insights as scientists look toward a long-term mission to Mars. Segal, N.L. (2012). *Born Together - Reared Apart*. Cambridge, MA: Harvard University Press. Tafforin C. (2013). Time effects and individual differences during Mars-500 experiment. *Aviation, Space, Environmental Medicine*, 41, 1-5.

55. Urbanization and reproductive behavior in modern Russia: Comparative analysis of five ethnic groups (SFA)

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Introduction. Industrialization and the following urbanization are associated with significant change in reproductive behavior. The demographic transition is often seen as the fundamental challenge to the evolutionary approach. Many researchers consider a decrease in the birth rate in the face of sufficient and surplus resources paradoxical. Numerous studies have investigated the impact of factors that could influence human reproductive behavior in modern societies: 1) structural (primarily economic) changes and 2) cultural factors. These two types of explanation for this transition to a new type of fertility are often presented as competing hypotheses. Methods. In this work we used data from HSE (RLMS-HSE). This data was collected via an interview of Russian citizens conducted in 1994-2016. The sample size is $N = 7645$ respondents. We examined how the effect of "population density" (or "urbanization") in a place of residence influenced the birth rate in five distinct ethnic groups: Russians ($N = 6797$), Armenians ($N = 74$), Tatars ($N = 202$), Chuvash people ($N = 113$), Kabardians ($N = 459$). Results. The results show that a decrease in the birth rate in the presence of growing urbanization is a universal phenomenon for all studied groups. Individuals have significantly fewer children in more populated areas. Discussions. Individual's reproductive behavior in the 5 different ethnic groups shows general sensitiveness to the factor of population density and according to the linear regression model we would expect a decline in birth rate in more urbanized areas. But the process of demographic transition demonstrates an inconsistency in timing across various ethnic groups. This inconsistency could be explained as indirect evidence of cultural diffusion of patterns of reproductive behavior or as a temporal local (geographical or cultural) resistance to the process of demographic transition.

56. On the evolution of European modern art: A biological method for the quantitative characterization of the transition and its underlying social dynamics (SFA)

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We quantitatively characterize the transition in motives and content of modern European painting art during 1848 and 1938 using structural topic modeling on 167 artist biographies and image content analysis on 501 paintings produced by these artists. Consistent with the account of art historians of this period, we identify a transition in early 1900's involving a reduction of mimetic forms that led up to more abstract concepts in art. Using transitions in biological systems as modeling framework, we test the hypothesis that the transition is preceded by an increase in both individual and collective variation. For this purpose, we calculated i) the Hirschman-Simpson-Herfindahl index to capture individual exploration; and, ii) the inverse Simpson diversity index to estimate a measure of collective exploration along the same period. The results are consistent with the hypothesis: a peak in individual and collective exploration is observed when the transition took place. Our results inform the discussion about transitions in culture of a given community together with the underlying changes in the social organization of the members of such community.

57. Modafinil effects on social play behavior in juvenile rats (SFA)

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Modafinil (MOD) is a stimulant used to enhance wakefulness and vigilance. In the last years this drug has been used by healthy people as a neuro enhancer for higher focus and attention, without medical prescriptions. In addition, some clinical trials are testing this drug for attentional deficit disorder (ADD). The mechanism of action of modafinil has not been completely elucidated but a blockage of dopamine and norepinephrine transporters has been observed. Furthermore, there is a lack of researches studying the effects of MOD treatment in healthy individuals, being especially important in children and adolescents, due many children are incorrectly diagnosed with ADD. Regarding MOD, the effects on social behaviour and their consequences are poorly understood. Social play behaviour is fundamental to establish social and cognitive development especially in highly social animals like rats and humans. There is a big amount of evidence about drugs like cocaine and amphetamine (stimulants) and their consequences on social behaviour; unfortunately, this is not the case for MOD. In this project, we pretend to evaluate the effects of chronic MOD treatment during early life on social play behaviour and dopamine neurotransmission in juvenile rats. Two groups of juvenile male rats were used. A daily injection of MOD was administered for 14 days in one group. Locomotor and social play behaviour was tested 24 after de last injection and after isolation. There are little differences in locomotor activity between groups, in dopamine extracellular content and also in social behaviour in the main parameters like pouncing latency and pinning. These preliminary results showed the effects of MOD treatment on juvenile rats on one type of young social behaviour. More studies should research the effects of stimulants specially on young population over important social skills like playing, interactions and memory.

58. Sexual Orientation of Twins: An exploratory study in northern Brazil (SFA)

Flávia Inêz Barbosa Brandão, Nelson Corrêa Medrado, Nicole Barros Torres, Hellen Vivianni Veloso Corrêa, Regina Célia Sousa Brito

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The twins' method can provide an effective way to estimate the effect of phylogenetic and ontogenetic factors on behavior. Therefore, the combination of twins' studies and Evolutionary Psychology can be a valuable tool to test evolutionary hypotheses by exploring the genetic and environmental influences on human development. In this context, sexual orientation is one of the most distinctive behavioral traits between men and women, and the homosexuality, as a human-stable and substantially hereditary phenotype, reduces individual fertility, but may have offered an evolutionary advantage to heterosexuals, increasing the reproductive success of these individuals. However, when reviewing the literature, no study was found on any aspect of twin sexuality in Brazil. Thus, in this exploratory study, was investigated the sexual orientation of twins in a sample in the northern region of the country. The twins responded to an inventory of zygosity, a socioeconomic questionnaire and Klein's sexual orientation grid. A total of 120 adult twins (age 18 -37) participated in this study. 42 pairs of twins were classified as monozygotic and 18 pairs as dizygotic. Regarding sexual orientation, 64.3% of monozygotic individuals identified themselves as heterosexual only, 8.3% as gay only, and 27.4% as non-exclusive. While 69.3% of the dizygotic identified themselves as heterosexual only, 5.6% as gay only, and 25.1% as non-exclusive. The pairs of monozygotic twins presented significant intraclass correlation values ($p = 0.012$), showing a concordance rate of 34% for sexual orientation. However, among the dizygotic twin pairs there was no correlation. The results indicated that sexual orientation may have genetic influence, but they have not been yet sufficient to make such a claim. To continue trying to explain the evolution and permanence of homosexuality in the human species, in future studies, a larger sample is needed.

59. An analysis of incentives and barriers to the promotion of cultural diversity in psychology: Brazil as a case study

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There have been increasing criticisms to the sampling bias in psychological science, mostly directed but not restricted to evolutionary, developmental and cross-cultural approaches. Reviews on the subject have showed that the majority of samples used in these studies come from the middle-class populations of a few developed countries. This is problematic because psychologists use this data to support a general theory of human behaviour, but their evidence comes from very limited and homogeneous samples. I summarise the problems with the traditional approaches and the solutions proposed by a variety of authors. However, I contend that these proposed solutions are doomed to fail if not followed by a critical reassessment by researchers from developed and high-income countries on how they make and promote their research, and the research done by others outside these countries. I present an analysis of incentives and barriers to scientists from higher and lower income countries to support my argument, by showing how they are at different places in academic hierarchy and culture. I use Brazil as a case study of a middle-income country that is often under-represented in psychological research, although its scientists have increased their contribution to psychological literature. I briefly discuss whether this problem is particular to psychology or common to other fields in science. Finally, I offer suggestions and examples that might help circumvent these problems and truthfully promote cultural diversity in the psychological science.

60. Early mother-infant interaction after delivery: A naturalistic study (SFA)

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Our aim was to investigate early mother-infant interaction in the delivery room at a University Hospital in São Paulo, Brazil, as a function of infant's sex and mother's psychosocial characteristics. Mother-infant (N = 60) interaction was filmed by nurses immediately after delivery when the newborns were placed naked on their mother's chest in skin-to-skin contact (N=36) or without (N=24). Behaviors were coded every ten seconds using Interact (version 9) and for this study we focused on mother's caress and infant's cry, and calming down. The frequency of each behavior was divided into percentiles (25, 50, 75, 100) and compared using Multiple Ordinal Regressions considering: infant's sex, mother's age and years of schooling. Male newborn infants cried more ($p=0,001$) and were slower to calm down ($p=0,04$) in comparison with female newborn infants; Mothers caressed their sons more than their daughters ($p=0,016$). Skin-to-skin contact ($p=0,01$) and years of schooling ($p=0,05$) were positively associated with mother's caress. Furthermore, taking into account risk of postpartum depression evaluated one month after delivery by Edinburgh Postnatal Scale (score >11 were considered risk of depression) we found that infants whose mothers showed signs of postpartum depression cried more than newborns whose mothers did not show risk for depression. This suggests that they were already different at the immediate post-partum. The results of our study revealed that mother-infant interaction is influenced by mother's psychological and social characteristics, by infant characteristics, and by nursing procedures used in the delivery room. They were discussed with the nursing team of the University Hospital, interested in becoming a baby-friendly hospital.

Social Program

Bus Tour: stop number 1 (Thursday 09-06-2018)

Historical Old Downtown and University of Santiago



The University of Santiago de Chile is one of the oldest public universities in Chile. The institution was born as Escuela de Artes y Oficios (Spanish School of Arts and Crafts) in 1849, under the government of Manuel Bulnes. It became Universidad Técnica del Estado (Spanish Technical University of the State) in 1947, with various campuses throughout the country. In 1981, as a consequence of a reform on higher education under the dictatorship of Augusto Pinochet, it became what is now known as Universidad de Santiago de Chile, with all activities centered in a single 340,000 m² campus in the capital Santiago (source: wikipedia).

Bus Tour: stop number 2 (Thursday 09-06-2018)

Museum of Memory and Human Rights



The Museum of Memory and Human Rights (in Spanish: Museo de la Memoria y los Derechos Humanos) is a Chilean museum located in Santiago, dedicated to commemorate the victims of human rights violations during the civic-military regime led by Augusto Pinochet between 1973 and 1990. It was inaugurated by former President Michelle Bachelet on January 11, 2010, which formed part of government works celebrating the bicentennial of Chile.

Banquet at Quitral (Friday 09-07-2018)

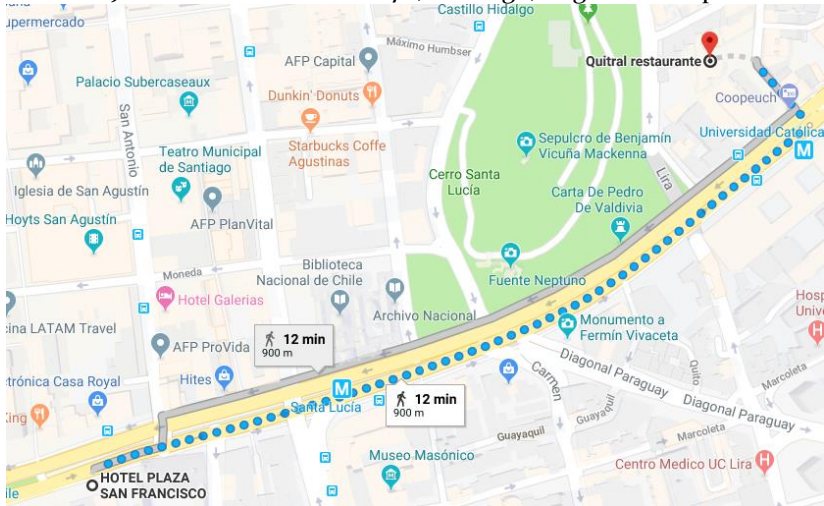


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