

Note: Business Meeting + Meet Editors Lunch in Backcourt

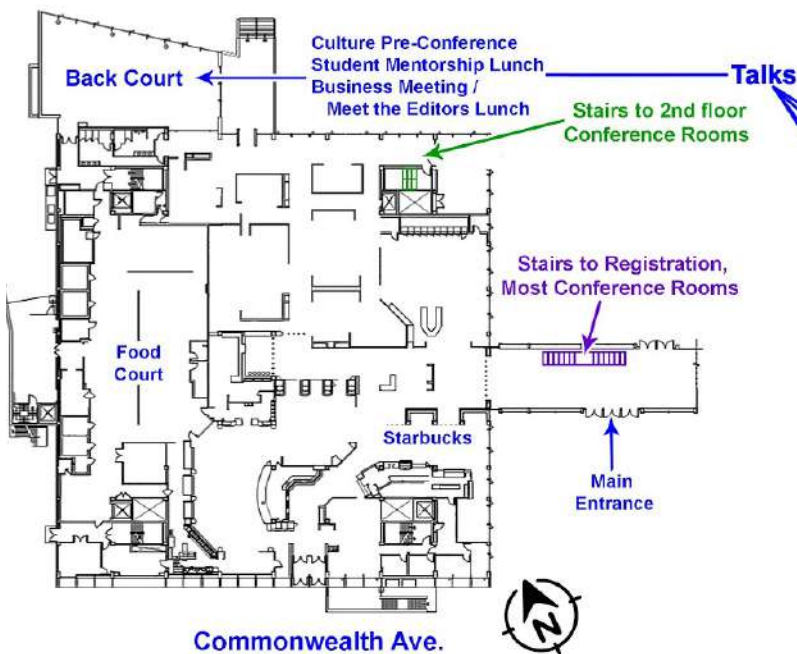
HBES 2019 ~ Program Updates and Corrections to Printed Program

Last Updated: Friday 5/30 11am

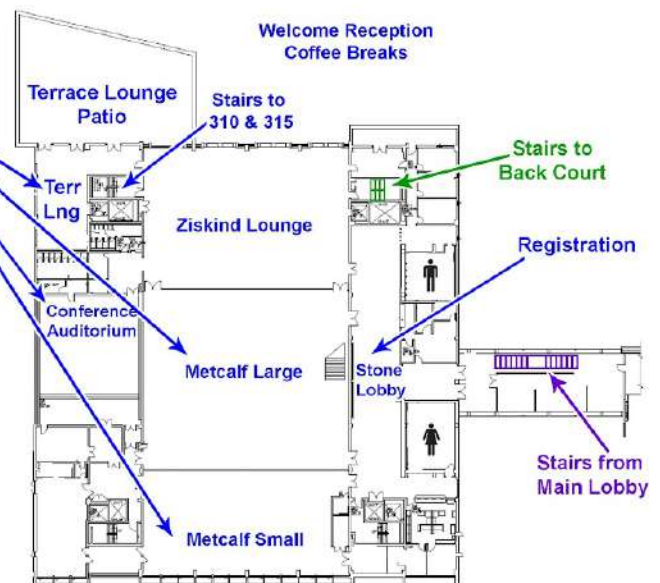
These and any additional updates will be reflected on the online program: <http://tiny.cc/aa1w6y>

- Moved:
 - p. 14. Thursday, May 30: Left handed fighters... Thomas Richardson (Session 6: Conflict & Aggression) MOVED TO Friday May 31st session 8: Status hierarchy... in place of John Patton
- Cancelled:
 - p. 13. Thursday, May 30: Battle of the sex ratios.... Jordann Brandner et al.
 - p. 16. Friday, May 31: Status, leadership and power.... John Patton (Session 8: Status hierarchy...)
 - p. 17. Friday, May 31: Erik Ringen, Datablitz 2
 - p. 22. Poster 5: The gossip face.... Bronagh Mairéad Allison, et al.
 - p. 22. Poster 10: What drives friendship jealousy?... Kelsie Patience Ballew, et al.
 - p. 24. Poster 62: Morality as a predictor....Kevin Kenney, et al.
 - p. 25. Poster 91: Individual differences in mate retention strategies.... Christine Patricia Pelican
 - p. 26. Poster 103: Prevalence of HIV and disease predict legal.... Katarina M. Schexnayder, et al.
 - p. 26. Poster 113: Measuring mental state talk across languages. Andrew Marcus Smith, et al.
 - p. 26. Poster 118. Defeat, victory, and acceptance.... Edward D. Sturman, et al.
- Other notes:
 - WiFi Network: HBES 2019 / Password: HumanBehavior19
 - The GSU food court will be closed on Saturday
 - GSU 1st & 2nd floor are mislabeled in the printed program. Here is a corrected map, with some additional information:

George Sherman Union
First Floor

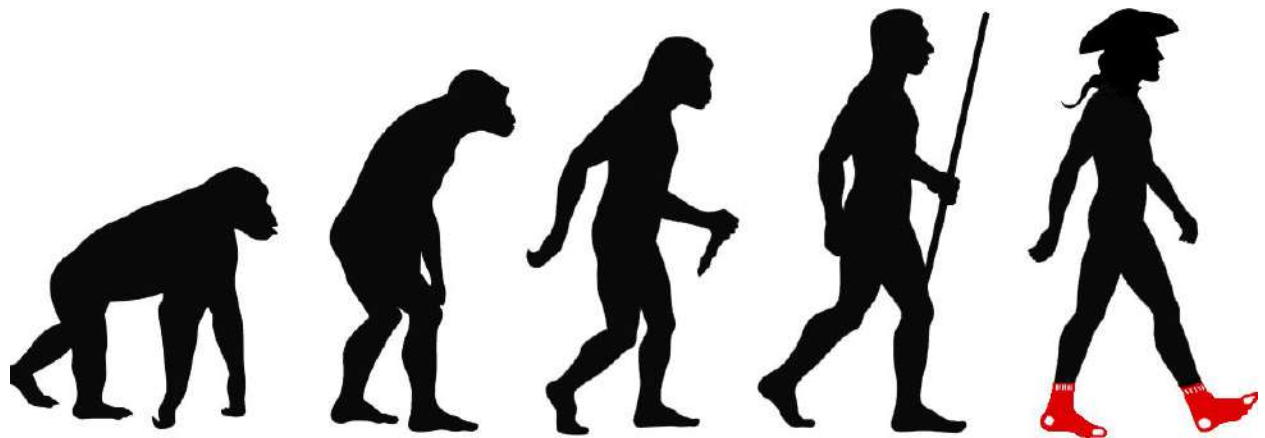


George Sherman Union
Second Floor



**HUMAN BEHAVIOR
&
EVOLUTION SOCIETY**

31ST ANNUAL MEETING



HBES BOSTON 2019

Welcome to HBES 2019!

As the host committee for the 31st annual meeting of Human Behavior and Evolution Society, we are pleased to welcome you to Boston. Boston and the local neighborhood features prominently not only for US history but also the history of our society with seminal work and founding members coming out of Harvard (or more specifically, Irv DeVore's living room), MIT, UMass Amherst, Brandeis, Tufts, etc. This year's keynote speaker, David Buss, graced the Harvard Psychology department for a time, before he left for the other hub of evolution and behavior, U. of Michigan. The evolutionary social and life sciences are thriving these days in the many universities and colleges in New England, and we are excited to share HBES with this extended community of researchers and share their work with the society.

This year we are trying out a few innovations for HBES. First, the new 'datablitz' 5-minute talk format allows speakers to highlight new data or theoretical insights that might not otherwise fit into a session of longer conference talks. Datablitzes will be organized this year ~7 to a session to give plenty of time for questions and discussions after crisp presentations of the work. Second, with generous support from the society, we are offering subsidized onsite childcare for attendees with children. Humans are mammals, and parental investment is thing after all!

The conference program this year holds the usual main events. Wednesday evening we invite you join us in Ziskind Lounge for a catered reception to welcome you to Boston. Students were invited to register for a mentorship lunch on Thursday, and Thursday evening we will gather in Metcalf Large for the poster session and perhaps share a drink. Friday in the lunch hour the society will hold its open Business Meeting in Back Court, and following its conclusion the editors of E&HB will be available for a 'meet the editors' lunch (lunch provided by Elsevier). Friday evening we will take a short walk to the "BU Beach" for the BBQ. Saturday the Women of HBES group will be hosting a networking event in Back Court where women/femme scientists can meet, network, and obtain support from other members (lunch available for purchase). Saturday evening we return to Metcalf Large for the banquet and keynote address.

We are grateful for support from the society for generous subsidy of student registration and housing, Harvard's Division of Social Science and Department of Psychology (Mahzarin Banaji, Chair) for funding, and to Elsevier for sponsoring a 'meet the editors' lunch.

Please let us or any of our student volunteers know if you have any questions about the conference or Boston. You'll know us by our red-border name tags. We are happy to help!

Carolyn Hodges-Simeon, Max Krasnow, and Danielle Truxaw
HBES 2019 Host Committee

Acknowledgements

Host Committee: Carolyn Hodges-Simeon, Max Krasnow, Danielle Truxaw

Program Committee: Coren Apicella, Dan Conroy-Beam, Aaron Lukaszewski, Katherine McAuliffe, Elizabeth Pillsworth, Chris von Rueden

Poster Award Committee: To be announced at the award ceremony

New Investigator Award Committee: To be announced at the award ceremony

Post-Doctoral Research Award Committee: To be announced at the award ceremony

Student Mentor Lunch Organizer: Nicole Barbaro

Statistics and Methods Workshop: Nicole Barbaro, Julia Stern, Lars Penke

Social Neuroendocrinology Pre-Conference: Amanda Hahn and Jaime Palmer-Hague

Integrated Approaches to Research on Culture Pre-Conference: Peter Blake, Katherine McAuliffe, Felix Warneken

Grievance committee: Bobbi Low, Pete Richerson, Catherine Salmon, David Schmitt, Nicole Barbaro, Jaimie Krems, & Karthik Panchanathan

WoHBES (Women of HBES) organizers: Gretchen Perry, Kristin Snopkowski, Dorsa Amir, Jordann Brandner, Marjorie Prokosch, Renée Hagen

Institutional Support: Harvard Department of Psychology, Harvard Division of Social Science

HBES Support: Elizabeth Cashden (President), Catherine Salmon (Treasurer)

And all of our student volunteers from Harvard & BU!

HBES Officers

Acting/Past President	Elizabeth Cashdan
President Elect	Doug Kenrick
Treasurer	Catherine Salmon
Secretary / Archivist	Todd Shackelford
Communication Officer	Debra Lieberman
Student Representative	Nicole Barbaro
Council Member at Large (2019)	Steve Gaulin
Council Member at Large (2019)	Nancy Segal
Council Member at Large (2021)	Bernhard Fink
Council Member at Large (2021)	Maryanne Fisher
Council Member at Large (2023)	Pat Barclay
Council Member at Large (2023)	David Puts

HBES Meetings

- Publication Committee Meeting (closed): Wednesday May 29, 8:30 - 10:55 am [GSU 310]
Grievance Committee Meeting (closed): Wednesday May 29, 8:30 - 10:55 am [GSU 315]
Executive Council Meeting (closed): Wednesday May 29, 10:55 am - 1:20 pm [GSU 310]
Business Meeting (open to all): Friday May 31, 11:30 am - 12:30 pm [Back Court]
Meet the Editors Lunch (open to all): Friday May 31, 12:30 am - 1:30 pm [Back Court]

Important Information

Check-in & Onsite Registration: Conference check-in and onsite registration will occur daily from 8:30 am to 5:00 pm in the Stone Lobby, 2nd floor of the GSU. A limited number of banquet and BBQ tickets will be available for purchase while supplies last.

WiFi: Access is provided by the BU Guest network. Connect to “BU Guest (unencrypted)”. Once connected, open up a web browser and you should be redirected to: <https://safeconnect.bu.edu:9443>. Click “New Guest”, enter your information in the required fields and click “Continue”. (Note: International visitors may enter ten 0s for a phone number if you have access to email.) A message stating your request has been approved will appear on the screen. Your new login information will be sent to you in both a text message and an email. Click the “Continue” button to be returned to the sign-in page, then use the login and password that have been sent to you in the steps above to gain access.

Poster Set-up: The Poster Session is 7:00 - 9:00 pm on Thursday May 30. Presenters should plan to put up their posters in Metcalf Large between 6:00 and 7:00 pm that day. Posters will need to be removed after the Poster Session, no later than 9:30 pm. Posters that have not been recovered by that time will be removed by conference staff.

Datablitz Presentations: All datablitz presentations will be 5 minutes in length with 5 minutes for questions and transition to the next speaker. During the break before the session all presenters should gather in the session room and coordinate putting slide decks on one laptop to present from. A conference volunteer will be available to help coordinate and keep the session on time.

Oral Presentation Sessions: All oral presentations will be 15 minutes in length with an additional 5 minutes allocated for questions and a transition to the next speaker. A conference volunteer will be assigned to each session and will help facilitate loading talks in the break before the session, starting the session on time and keeping speakers to the schedule.

Transportation: The easiest way to get from the dorms/hotels/GSU to downtown Boston is via the Green Line, which is above ground in the center of Commonwealth Avenue (see maps on the following page).

Parking: Both overnight and commuter parking is available on a pay-for-entry basis (see <https://www.bu.edu/parking/lots-locations/family-guests-and-visitor-parking/>).

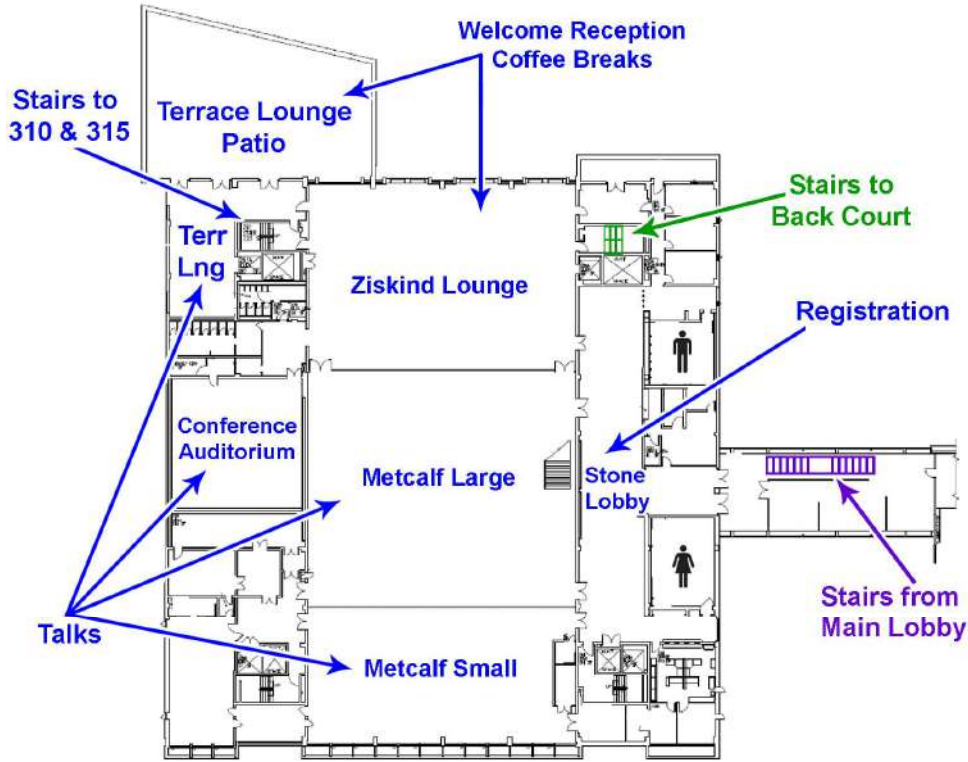
HBES Code of Conduct

Attendees at HBES events must agree to the following as a condition of registration:

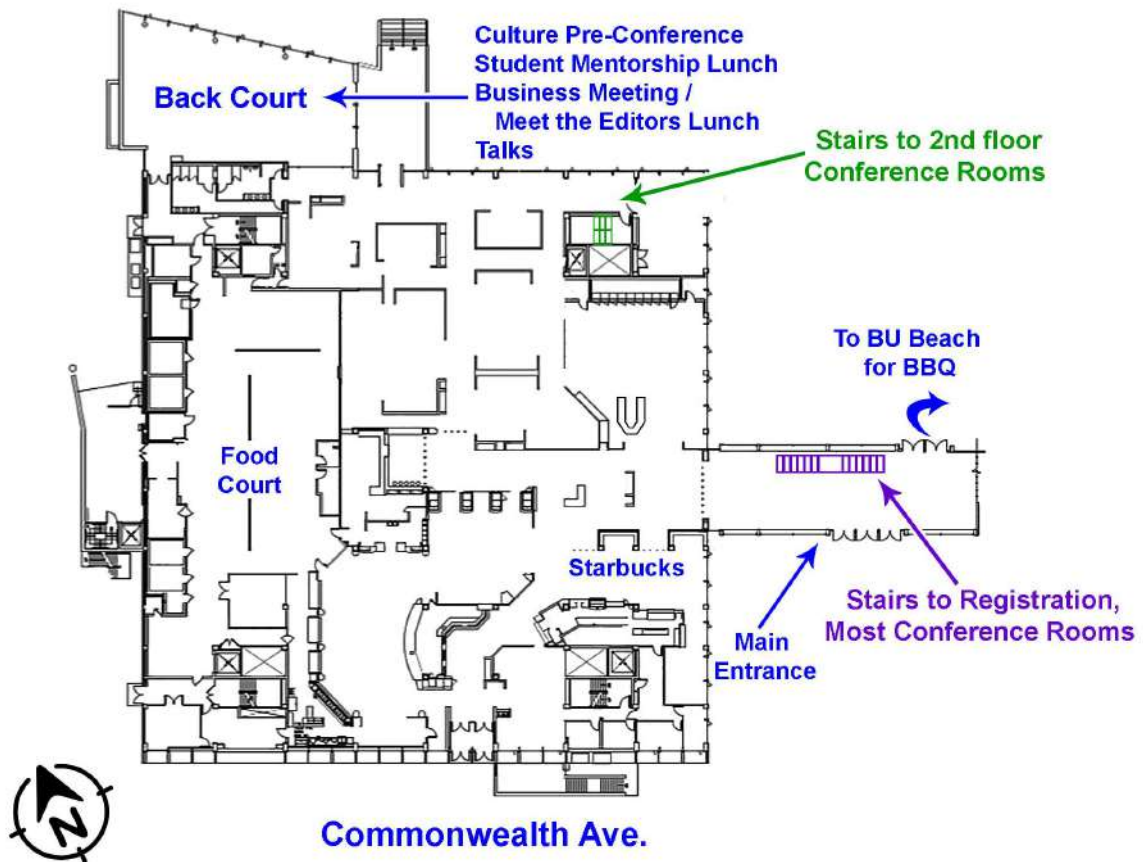
- Treat all participants, HBES staff, and vendors with courtesy and consideration.
- Be respectful and collaborative, critiquing ideas rather than individuals.
- Abuse, intimidation, discrimination, and sexual harassment are unacceptable. Sexual advances, requests for sexual favors, or sexually directed remarks constitute sexual harassment when such conduct (1) persists despite rejection, (2) is grossly inappropriate, or (3) is made to a subordinate who might reasonably fear that their position would be jeopardized if those advances were rejected. More information on what constitutes sexual harassment can be found in the full policy description: <https://tinyurl.com/HBESCOC>
- Be mindful of your surroundings and of your fellow participants, and alert a member of the HBES grievance committee if you need assistance or notice a dangerous situation or someone in distress. Members of the grievance committee can be identified by their green-bordered name badges. The current members of the grievance committee are: Bobbi Low, Pete Richerson, Catherine Salmon, David Schmitt, Nicole Barbaro, Jaimie Krems, and Karthik Panchanathan. You may also contact the grievance committee through the main HBES website (<https://www.hbes.com/grievance/>). The grievance committee may offer advice and may attempt to mediate disputes, and will report formal complaints to the Executive Council. The Council may, at its discretion, issue warnings, ask violators to leave the HBES meeting, or, for serious or repeated violations, revoke membership in the society. The investigative procedure is described in the full policy description: <https://tinyurl.com/HBESCOC>
- Respect the rules and policies of the meeting venue, hotels, and any HBES-contracted facility.

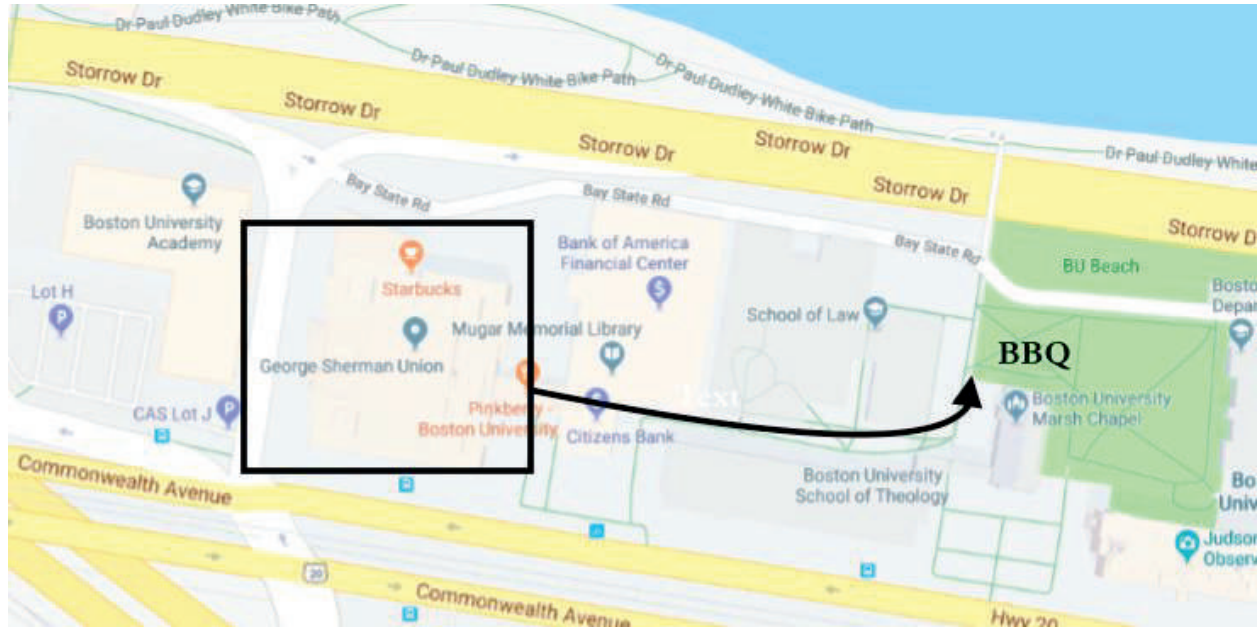
Please see the full statement of the HBES Code of Conduct and related policies at: <https://www.hbes.com/conference>

George Sherman Union Second Floor



George Sherman Union First Floor





Important Locations

Conference address: George Sherman Union (GSU), Boston University, 775 Commonwealth Avenue

Lodging: 10 Buick Street (dormitories), Hotel Commonwealth, Residence Inn by Marriott

Accessible Green Line train stops (see T map subsection below): St. Paul Street, Boston University West, Boston University Central (all on B Line)

Dorms



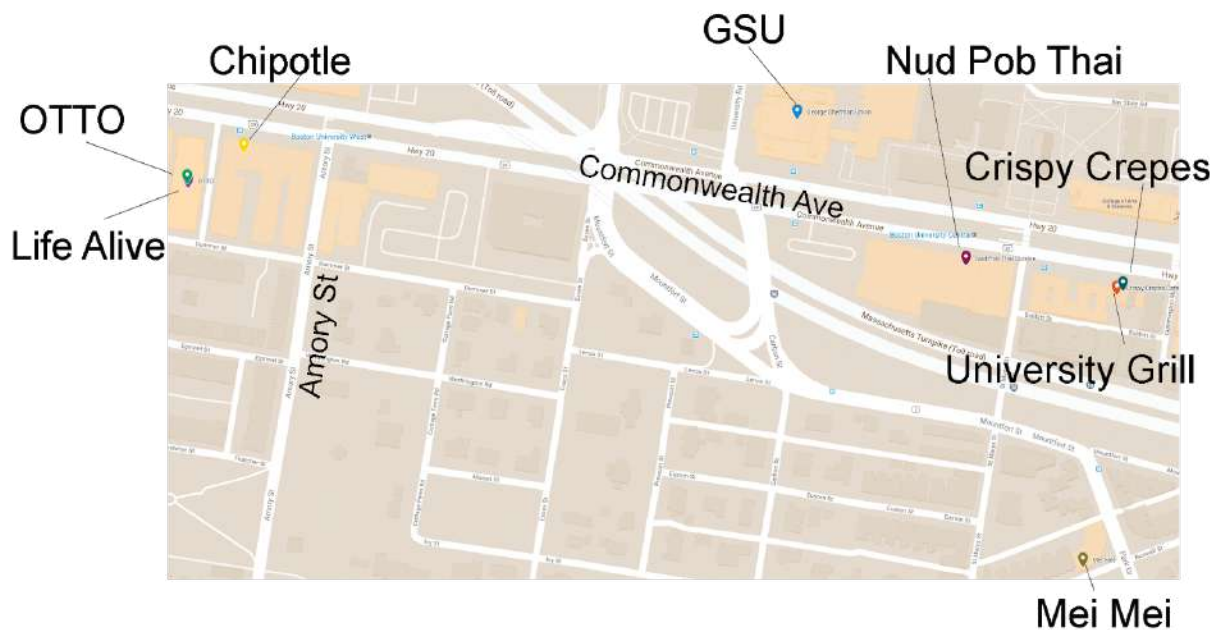
Lunch Options

In the GSU (1st Floor)

- Basho Sushi
- BU Cheeseology
- Charles River Bread Co.
- Copper Kettle Soups
- Cranberry Farms
- Loose Leafs Salads
- Panda Express
- Takin it to the Streets
- Rhett's Diner
- Starbucks
- Pinkberry

Please note: The GSU food court will be closed on Saturday, June 1!

Within 10 minutes of the GSU



Schedule Overview

Wednesday May 29th, 2019

8:30 – 10:55	Grievance Committee Meeting (Closed Meeting) 315			
8:30 – 10:55	Publication Committee Meeting (Closed Meeting) 310			
10:55 – 1:20	Executive Committee Meeting (Closed Meeting) 310			
9:00 - 12:00	<p>Preconference</p> <p>Statistics and Methods Workshop Series: How to do Open Science</p> <p>Organizers: Julia Stern & Lars Penke</p> <p>Location: Metcalf Small</p>	<p>Preconference</p> <p>Connecting Minds in Social Neuroendocrinology and Evolution</p> <p>Organizers: Amanda Hahn & Jaime- Palmer-Hague</p> <p>Location: Conference Auditorium</p>	<p>Preconference</p> <p>Integrated Approaches to Research on Culture: Professional and Practical Considerations</p> <p>Organizers: Peter R. Blake, Katherine McAuliffe & Felix Warneken</p> <p>Location: Back Court</p>	
12:00 – 1:20	Lunch Break			
1:20 – 1:40	Opening Remarks – Metcalf Large			
1:40 – 3:00	Plenary Speaker (Metcalf Large) Hopi Hoekstra: The evolution and genetics of parental care (in mice)			
3:00 – 3:20	Coffee Break – Ziskind Lounge			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 1	Comparative & developmental cognition	Adaptationist models of the social emotions	Mate choice	Survival risk, perception, and decision making
3:20 – 3:40	The structure of dominance: Preverbal infants map pyramidal position to social dominance Lotte Thomsen et al.	Functional invariances in the architecture of shame Daniel Sznycer	“You are not quite what I expected...”: A bayesian analysis on personality perception in online dating Maximilian T. P. von Andrian-Werburg et al.	Falling for evolved navigation theory Russell E. Jackson
3:40 – 4:00	Play in wild bonobos and the role of social joy in human evolution Isabel Behncke	Pride and shame: Key components of a culturally universal status management system Patrick Durkee et al.	Comparing computational models of mate choice Daniel Conroy-Beam	The auditory looming bias: Converging evidence for an evolutionary bias in perceiving looming sounds John G. Neuhoff

4:00 – 4:20	Who needs abstract thoughts?: Non-representational factors in (the emergence of) human-unique abstract relational reasoning Ivan Kroupin	The adaptive function and reputational consequences of gratitude Eric J. Pedersen et al.	Evolutionary theories and men’s preferences for women’s WHR: Which hypotheses remain? Jeanne Catherine Bovet	Death awareness: Terror management or cognitive adaptation to time management? X.T. Wang, Peng Wang
4:20 – 4:40	Children hold intuitive economic theories that align with formal economic principles Richard E. Ahl et al.	Anger is the mechanistic core of the folk-lexical construct “agreeableness” Aaron Lukaszewski et al.	Using conjoint analysis to assess men’s relationship interest in women with and without children Viviana Weekes-Shackelford et al.	Look before you leap: The effect of cuing positive and threat-related future scenarios on impulsivity in delay discounting and risk-taking tasks Adam Bulley et al.
4:40 – 4:50	Quick Break			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 2	Theoretical & empirical status of cycle phase effects	Reputation and punishment	Developmental environment and reproductive maturation	Cognition under environmental harshness
4:50 – 5:10	Probing ovulatory cycle shifts in women’s make-up and clothing style Julia Stern, Stephanie Rudolph, Lars Penke	Direct and indirect punishment in daily life: Situational, relational, and emotional antecedents Catherine Molho et al.	Developmental factors and first sex: Comparing evolutionary hypotheses using the National Longitudinal Survey of Children and Youth Kristin Snopkowski, John P. Ziker	Impulsivity in harsh and unpredictable environment; A model of information impulsivity Jesse Fenneman, Willem Frankenhuis
5:10 – 5:30	Cycle phase shifts in women’s sexual motivation: Implications for dual sexuality James R. Roney	A naturalistic study of norm conformity, punishment, and the veneration of the dead Michael Alvard, Katherine Daiy, Jessica Raterman	Are reproductive behaviors sensitive to priming? A Bayesian multi-level meta-analysis Mary K. Shenk et al.	Environmental harshness and unpredictability, life history, and social and academic behavior of adolescents in nine countries Lei Chang
5:30 – 5:50	Ovulation cycle effects: Nothing there? Taking stock of shifts in women’s desires in the wake of the “replication crisis” Martie Haselton, David Pinsof	The developmental foundations of third party punishment Katherine McAuliffe	Assessing effects of life history antecedents on age at menarche and sexual debut using a genetically sensitive design Nicole Barbaro et al.	Coevolution of ecological patchiness and cognitive strategies Mahi Luthra, Peter M. Todd

5:50 – 6:10	On moderation of hormonal associations with mate preferences by relationship status Steven W. Gangestad, Tran Dinh	Cooperate to be chosen, punish to control: Ecological rationality of reputation management behaviors Sakura Arai, Leda Cosmides, John Tooby	Variation of infant testosterone during "mini puberty" not predicted by parental care Randy Corpuz, Daphne Bugental	Hidden talents in harsh conditions? A preregistered study of memory and reasoning about social dominance Willem Frankenhuis et al.
6:10 – 8:30	Welcome Reception – Ziskind Lounge			

Thursday May 30th, 2019

8:00 – 8:30	Coffee Break – Ziskind Lounge			
8:30 – 9:50	Plenary Speaker (Metcalf Large) Polly Wiessner: Retributive or Restorative Justice? Implications for Cooperation			
9:50 – 10:10	Coffee Break – Ziskind Lounge			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 3	Risk sensitive decision-making	Kinship recognition and incest avoidance	Mating market dynamics	Social & sexual competition
10:10–10:30	Sex differences in harm avoidance among hunter-gatherers and forager-horticulturalists Elizabeth Cashdan et al.	Contribution of shape and texture cues to kinship detection in 3D images Vanessa Fasolt et al.	Gifted at gift giving- An evolutionary perspective on preference accuracy Diana Fleischman, Sophie Berryman	Why Do (Some) Women Wear Chokers? Laith Al-Shawaf, Heather Williquette
10:30–10:50	Risk sensitive decision-making in groups Andrew W. Delton, Talbot M. Andrews, Reuben Kline	Kinship signaling in the human voice Kieran John O'Shea et al.	Does female choice or men's mating effort explain the relationship between sex ratio and men's aggression? Evidence from Micronesia Emily A. Stone	Sex differences in jealousy evoked by allocating to or receiving money from the opposite sex Ana Maria Fernandez et al.
10:50–11:10	Embodied capital and risk: Evidence for an ability-based and need-based pathway to risk Nabhan Refaie, Sandeep Mishra	The Westermarck effect: Measuring incest aversion by pupil dilation Rick O'Gorman, Gerulf Rieger, Katherine McCulloch, Lydia Whitaker	East meets West in mate preferences, except when it doesn't: An international budget-allocation study Andrew G. Thomas et al.	Resource accessibility and intrasexual competition: Does a lack of direct access to resources drive covert strategies? Nicole Hudson et al.
11:10–11:20	Quick Break			

Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 4	Kinship dynamics	Kinship and culture change	Moral judgment	Evolutionary perspectives on literature
11:20–11:40	Social closeness revisited in MZ and DZ twin families: Aunt/uncle-niece/nephews relations Nancy Lee Segal et al.	Global psychological variation, intensive kinship and the Church Jonathan F. Schulz et al.	When mental states don't matter: Kinship intensity and intentionality in moral judgement Cameron M. Curtin, Joseph Henrich	Literature and the current model of imagination in empirical psychology Joseph Carroll
11:40–12:00	Gender and temperament: Who do 14 month olds expect will take care of an infant? Rhea Howard et al.	The expendable male hypothesis Siobhan Mary Mattison, Robert J. Quinlan, Darragh Hare	Sexual morality around the world: A survey of 37 countries. Kelly Asao et al.	Viking and farmer: Alternative life histories in Swedish romantic poetry Daniel J. Kruger et al.
12:00–12:20	Traditional postpartum care: Alloparenting from an evolutionary perspective Sangkwon Woo et al.	Empirical evidence for networks effects of urbanisation and fertility transition Tamas David-Barrett et al.	Observation and moral ambiguity matter: A meta-analysis on moral licensing Amanda Rotella et al.	Edna St. Vincent Millay: A poet exploring benefits of female short-term sexual strategies Judith P. Saunders
12:20 – 1:30	Lunch Break			
12:20 – 1:30	Student Mentorship Lunch (Location: Back Court)			
Room	Metcalf Small	Conference Auditorium	Terrace Lounge	Back Court
Session 5	Social partner choice	Health and hormonal effects on attractiveness	Sex ratio and sex differences	Advances in methods and reproducibility
1:30 – 1:50	Social taste buds: Same-sex friend preferences match the demands of ancestral cooperation Adar Eisenbruch, James R. Roney, Rachel L. Grillot	Do vocal and facial masculinization signal underlying male immunocompetence? Steven Arnocky, Carolyn Hodges-Simeon	Do men and women know what they want? Sex differences in online daters' educational preferences Stephen Whyte et al.	
1:50 – 2:10	The intent-based development of partner choice Justin Martin, Kyleigh Leddy, Liane Young, Katherine McAuliffe	The genetic relationship between physical attractiveness and health Morgan Jean Sidari et al.	Battle of the sex ratios: Is cognitive tracking tuned to overall sex ratio, adult sex ratio, or operational sex ratio? Jordann L. Brandner, Gary L. Brase [cancelled]	A collection of replication attempts in Japan: Mating, family, survival, and social exchange. Kai Hiraishi et al.

2:10 – 2:30	The selection of social partners based on the moral actions of the group vs. the individual Brandon M. Woo, Jason Paul Mitchell	Hormones and hoarseness predict women's vocal attractiveness: Evidence from Germany and the U.S. Kevin A. Rosenfield et al.	Have gender differences in desire for casual sex disappeared? Methods and moderators matter. David Frederick et al.	Stake size effects in Ultimatum Game & Dictator Game offers: a meta-analysis Pat Barclay, Andrea Larney, Amanda Rotella
2:30 – 2:50	Return the favour: Preverbal infants represent direct reciprocity Joakim Haugane Zahl, Erik Kjos Fonn, Oda Eidjar, Lotte Thomsen	Body odor attractiveness and ovarian hormones in women Mei Mei, James Roney	Can sex ratio explain the variance in sex differences in mate preferences across 45 countries? Kathryn V. Walter, Daniel Conroy-Beam	Development of a behavioural laboratory measure for human perseverance and persistence Ilmari Määttänen
2:50 – 3:10	Coffee Break – Ziskind Lounge			
Room	Metcalf Small	Conference Auditorium	Terrace Lounge	Back Court
Session 6	Conflict & aggression	Pathogen avoidance and interpersonal contact	Interpersonal dynamics	Mate attraction strategies
3:10 – 3:30	Left handed fighters are overrepresented and more successful in combat sports The Giff Moved to Session 8 on Friday	Disgust sensitivity and opposition to immigration: Does contact avoidance or resistance to foreign norms explain the relationship? Annika Kastehelmi Karinen et al.	The dual roles of intent and remorse in the development of forgiveness Dorsa Amir, W. Shelby Parsons, Katherine McAuliffe	Captain Dorito and the Bombshell: Supernormal stimuli in comics and film Rebecca L. Burch, Laura Johnsen
3:30 – 3:50	Women's strategic defenses against same-sex aggression: Evidence from sartorial behavior Jaimie Arona Krems et al.	The infectiousness of crowds: Crowding experiences are amplified by pathogen threats Iris M. Wang, Joshua M. Ackerman	The communicative function of emotional tearing Lawrence Ian Reed, Yanal Matori, Molly Wu, Revathi Janaswamy	Sex differences in humor production ability - a meta-analysis Gil Greengross, Paul J. Silvia, Emily C. Nusbaum
3:50 – 4:10	Fixating on violence: Visual assessment of violent social interactions Coltan W. Scrivner et al.	More valued relationship partners engender less pathogen avoidance Joshua Tybur	Convergent thinking and socially effective responding Samuel Glen Pearson, William von Hippel	Perceived effectiveness of flirtation tactics: The effects of sex and mating context Leif Edward Ottesen Kennair et al.
4:10 – 4:30	Murdering and murderable minds: Experiments in the psychology of moral status Jonathan LaTourelle, Michael Barlev	Pathogen avoidance and conformity: Does salient infectious disease turn people into sheeple? Florian van Leeuwen, Michael Bang Petersen	The effects of fathers on daughters' expectations for men Danielle J. DelPriore et al.	Functionally calibrating life satisfaction: The case of mating motives and self-perceived mate value Ahra Ko et al.

4:30 – 4:40	Quick Break			
Room	Metcalf Small	Conference Auditorium	Terrace Lounge	Back Court
Session 7	New frontiers in pathogen avoidance	Coalitional psychology	Ecological rationality of developmental plasticity	Proximate mechanisms of social development and behavior
4:40 – 5:00	Sex, smells, and disgust: The relationship between smell acuity, disgust, and mating Zachary Airington, Marjorie L. Prokosch, Damian R. Murray	The roots of intergroup aggression lie in the logic of bargaining: From microaggressions to hate crime to terrorism Miriam Lindner, Max Krasnow	Fat storage in a social ecological framework Michael Barlev, Steven Neuberg	Testosterone, cortisol, and risky behaviors in adolescence Sarah Helen Donaldson, Pranjal Mehta, Jennifer Pfeifer
5:00 – 5:20	The bi-directional relationship between social status and disgust sensitivity in person perception and impression formation processes Hannah K. Bradshaw, Jeff Gassen, Sarah E. Hill	The origins of sex, age, and ecology stereotypes: social perceivers as lay adaptationists Oliver Sng, Keelah Williams, Steven Neuberg	Phenotypic plasticity across the lifespan: a model of sensitive periods when the reliability of information varies Nicole Walasek, Willem Frankenhuis	The effect of sublingual testosterone on ischemic pain sensitivity Chance Ryan Strenth, Jacob M. Vigil
5:20 – 5:40	Attention priority to pathogen cues: An event-related potential approach Nicholas Michael Michalak, Cristina E. Salvador, Joshua M. Ackerman	Is the cultural boundary also the moral boundary? An empirical test of cultural group selection among pastoral populations in Kenya Sarah Mathew, Carla Handley	Developmental plasticity and seasonal resource variation in Timor-Leste Debra S. Judge, Phoebe R. Spencer	Older paternal and grandpaternal ages at conception predict longer telomeres in human descendants and is consistent with sperm telomere length increasing with age Dan T.A. Eisenberg et al.
5:40 – 6:00	Hot and not bothered: High testosterone is associated with lower pathogen disgust sensitivity Tori Short, Sarah E. Hill	Early developing coalitional preferences: Infants' and children's preferences towards members of larger groups Erik Kjos Fonn et al.	Experimental evidence for adaptive reproductive suppression following social exclusion Tran Dinh et al.	Men's aging and testosterone profiles in three subsistence populations Louis Calisto Alvarado et al.
6:00 – 7:00	Dinner Break			
7:00 – 9:00	Poster Session (Location: Metcalf Large + Ziskind Lounge) (List: pp 22-27)			

Friday May 31st, 2019

8:00 – 8:30	Coffee Break – Ziskind Lounge			
8:30 – 9:50	Plenary Speaker (Metcalf Large) Steven J. C. Gaulin & William Lassek: Women's reproductive biology logically precedes men's mating preferences			
9:50 – 10:10	Coffee Break – Ziskind Lounge			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 8	Status hierarchy, cooperation & competition	Reproduction and health	Datablitz 1	Detecting defectors: Evolved moral perception
10:10–10:30	Context-contingent effects of head-tilt on leadership perceptions Jaimie Stephen Torrance et al.	Testing the gender inequality and fetal protection model of low female smoking using cross-national, representative, individual-level data from the Demographic and Health Survey Program Tiffany Alexandra Alvarez, Edward H. Hagen	Ashley J Thomas Gorana Gonzalez Severi Luoto Cristina Moya Adam Bear Courtney L. Crosby Aaron Daniel Lenihan	Does women's sensitivity to friendship transgressions grant social benefits? Tania Arline Reynolds, Jaime Palmer-Hague
10:30–10:50	Cooperation, conflict, and status in an Amazonian community Chris von Rueden, Daniel Redhead	Health and reproductive responses to market integration among the matrilineal Mosuo Darragh Hare et al.		Inequity aversion and revenge motivate punishment Paul Deutchman, Mark Bračić, Nichola Raihani, Katherine McAuliffe
10:50–11:10	Left-handed fighters are overrepresented and more successful in combat sports Thomas Richardson John Patton	An Energetic Explanation of Menstrual Taboos Cheryl D. Knott, Andrea Blackburn, Amy M Scott		Moralization of obesity: Social error management concerns about self-control and cooperation Heather M. Maranges, Sarah E. Ainsworth
11:10–11:30	How gossip and reputation shape high-stakes cooperative decisions among Turkana warriors Liam Gleason, Sarah Mathew	Costs of reproduction in women: high parity is related to poor health in post-reproductive age Grazyna Jasienska, Michal Jasienski		What we owe to family: The impact of special obligations on moral judgment Ryan M. McManus, Liane Young
11:30 – 1:30	Lunch Break			
11:30 – 1:30	Business Meeting + Meet the Editors			

1:30 – 2:50	Plenary Speaker (Metcalf Large) Ed Hagen: Recreational substance use: the evolutionary significance of drug toxicity over reward			
2:50 -3:10	Coffee Break – Ziskind Lounge			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 9	Social neuroendocrinology	Psychology of the supernatural	Datablitz 2	Partner preferences
3:10 – 3:30	Sociality and the adaptive design of the oxytocin system Nicholas M. Grebe et al.	Third-party punishment, vigilante justice, or karma? A comparison of reactions to interpersonal and cosmic justice Cindel J. M. White et al.	George B Richardson Jinguang Zhang Miriam Lindner Rhea M Howard Carlota Batres Erik J Ringen Francesca Romana Luberti	Impact of relatedness, dominance rank, and reproductive state on female-male association in wild, white-faced capuchin monkeys Irene Godoy et al.
3:30 – 3:50	Testosterone reactivity and perceptions of challenge from romantic partner during conflict Anastasia Makhanova et al.	An epistemic vigilance framework for the representation and transmission of counterintuitive concepts Spencer Mermelstein et al.		Social risks as costly trait signals Ruth Eleanor Sarafin, Geoffrey Miller
3:50 – 4:10	The importance of biosocial trade-offs in understanding female sociality Jennifer Byrd-Craven, Ashley Rankin	Inferring patterns in ambiguous events predicts reported history of anomalous experiences Jack Strellich, Michael Barlev, Tamsin German		Same-sex friendships among hunter-gatherers Thomas Flint
4:10 – 4:30	Human reproductive behavior, life history, and the challenge hypothesis: A 30-year review, retrospective and future directions Peter Gray et al.	Shuar hunting magic as a technology of the self H. Clark Barrett		Experimenting with makeup: how cosmetic application affects women’s agency and competitiveness, as well as others’ perceptions Dax Joseph Kellie et al.
4:30 – 4:50	Coffee Break – Ziskind Lounge			
4:50 – 5:50	<u>New Investigator Award Talks (Metcalf Large)</u>			
	Severi Luoto: A Life History Approach to the Female Sexual Orientation Spectrum Kristopher Smith: Partner choice in human evolution: The role of character, hunting ability, and reciprocity in Hadza campmate selection Nicholas Kerry: Politics and Parental Care: Experimental and Mediation Tests of the Causal Link between Parenting Motivation and Social Conservatism			

5:50 – 6:00	Quick Break
6:00 – 7:00	<p align="center"><u>Postdoctoral Award Talks (Metcalf Large)</u></p> <p>Helen Davis: Spatial cognition, navigation, and mobility among children in a forager-horticulturalist population, the Tsimané of Bolivia</p> <p>Jillian Jordan: Signaling when no one is watching: A reputation heuristics account of outrage and punishment in one-shot anonymous interactions</p> <p>Indrajeet Patil: Reputational and cooperative benefits of third-party compensation</p>
7:00 – 9:00	BBQ (Location: BU Beach)

Saturday June 1, 2019

8:00 – 8:30	Coffee Break – Ziskind Lounge			
8:30 – 9:50	<p align="center">Plenary Speaker (Metcalf Large)</p> <p align="center">Michele Gelfand: Interdisciplinary Perspectives on the Strength of Social Norms</p>			
9:50 – 10:10	Coffee Break – Ziskind Lounge			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 10	Cultural transmission	Political attitudes	Intersexual and intergenerational conflict in mating	Interdependence and evolution of cooperation
10:10–10:30	Do cooperative relationships promote culture learning? A test in elementary schools Carlos Rodriguez-Sickert et al.	Support for populist candidates in the 2008 and 2016 presidential elections predicted by declining social capital and an increase in suicides. Robert Lynch	Does sexual harassment come in multiple varieties? Anna Gabrielle Borgida Sedlacek, David M. Buss	Fitness interdependence and cultural traditions Kyle J Clark
10:30–10:50	Storytelling and survival: Looking at fiction as a human adaptation using a new database (StORI) Eleanor Fleming	Why so angry? Understanding hostility in online political discussions Alexander Bor, Michael Bang Petersen	Who suppresses female sexuality? An examination of support for Islamic veiling in a secular Muslim democracy as a function of sex and offspring sex Khandis Blake, Rob C. Brooks	Need-based transfer systems are more vulnerable to cheating when resources are hidden Athena Aktipis et al.

10:50–11:10	The role of etiological animal tales in TEK transmission Michelle Scalise Sugiyama	Gendered fitness interests: Using inclusive fitness theory to understand variation in socio-political attitudes and behaviours Robert C. Brooks, Khandis R. Blake	Support for female honor norms as a mate-guarding tactic Tom R. Kupfer, Pelin Gul	“A solidarity-type world”: Mutual aid among ranchers in the American Southwest Lee Cronk, Diego Guevara Beltran, Athena Aktipis, Denise Mercado
11:10–11:30	Causal understanding and the cultural evolution of technology Kevin Hong	Social dominance orientation has both genetic and unique environmental influences, but only genetic pleiotropy accounts for its correlation with political attitudes Thomas Haarklau Kleppestø et al.	Attitudes towards parental control of mate choice, opposition to out-group mating and ethnic identification in Surinam Abraham Buunk, Glenn Leckie, Dahirah Pollack	Risk pooling in the context of rapid cultural change: Analyzing strategic defection, interdependence, and need-based transfers among Maasai pastoralists Aaron D. Lightner, Edward H. Hagen
11:30 – 1:00	Lunch Break			
Room	Metcalf Large	Metcalf Small	Conference Auditorium	Terrace Lounge
Session 11	Social valuation	Resolving collective action problems	Music and other nonverbal communication	Life history strategies
1:00 – 1:20	Human social valuation inference is statistically optimal Tadeg Quillien, John Tooby, Leda Cosmides	Collective action problem in heterogeneous groups with punishment and foresight Logan Scot Perry et al.	Hear me roar: The communicative function of human nonverbal vocalizations Katarzyna Pisanski, Jordan Raine, Julia Simner, David Reby	Where’s the fitness? Facultative “life history” variations in personality and attachment differentially linked to reproductive success across ecological contexts David P. Schmitt
1:20 – 1:40	Mechanisms that permit renewed cooperation following competition between valuable allies Joyce F. Benenson et al.	Evolving institutions for collective action by selective imitation and self-interested design Sergey Gavrillets, Mahendra Duwal Shrestha	The cultural evolution of music Greg Bryant	The general factor of personality as a life history indicator: Do other-reports concur with self-reports? Joseph H. Manson et al.
1:40 – 2:00	Reputation redux: Why observation is obsolete Anne M. McGuire	Leadership and followership create a marketplace that solves the problem of meta-coordination David Pietraszewski	A natural history of song Samuel A. Mehr et al.	A critique of life history approaches to human trait covariation Brendan P. Zietsch, Morgan J. Sidari

2:00 – 2:20	Infants prefer those who 'bow out' of zero-sum conflicts Ashley J. Thomas, Barbara W. Sarnecka	Finger amputation rituals among the classic Maya Brea Miranda McCauley, David Maxwell, Mark Collard	Synchronized musical performance and social bonding Nathan Oesch, Jessica Grahn	Life history correlates of human ejaculate quality Todd K. Shackelford et al.
2:20 – 2:40	Coffee Break – Ziskind Lounge			
Room	Metcalf Small	Conference Auditorium	Terrace Lounge	Back Court
Session 12	Political psychology	Datablitz 3	Descartes be damned: Evolutionary links between health and decision making	Mechanisms supporting cooperation
2:40 – 3:00	Evidence games: A functional account of motivated reasoning Moshe Hoffman, Erez Yoeli, Christian Hilbe	Andrew C Gallup James B Moran Melanie MacEacheron Nina N Rodriguez Dorothea Cosima Adler Liana Senneth Elliott Hone	Why the activities of the immune system matter for human social behavior (and not only for those who study health) Sarah E. Hill, Jeffrey Gassen	Anonymous cooperation reflects habituation to incentives from everyday life William McAuliffe et al.
3:00 – 3:20	Infants can form a negative stereotype of a novel group based on antisocial actions by a single member of the group Melody Buyukozer Dawkins, Olivia Pence, Peipei Setoh, Renee Baillargeon		Are cravings, aversions and nausea/vomiting associated with pregnancy complications? Investigating the role of maternal-fetal conflict in maternal eating behavior and pregnancy complications Jessica D. Ayers et al.	Decoupling conditional cooperation from payoff-based learning in the public-goods game Maxwell N. Burton-Chellew, Luis Santos-Pinto, Laurent Lehmann
3:20 – 3:40	Towards a standard model for the cognitive science of nationalistic behavior Michal Fux		More than just a pretty face: The relationship between facial attractiveness and three key measures of immunocompetence Summer Mengelkoch et al.	Disgust, anger, and contempt in response to harm and incompetence Kate McCulloch, Rick O'Gorman
3:40 – 4:00	Equality for all, or for my allies? Testing the alliance theory against alternative approaches David Pinsof, Martie Haselton, David Sears		Health, inflammation, and investment in present versus future outcomes Jeffrey Gassen, Summer Mengelkoch, Sarah E. Hill	Selection pressures against domain-specific modules in human brains Juan Perote-Peña
4:00 – 4:10	Quick Break			

Room	Metcalf Small	Conference Auditorium	Terrace Lounge	Back Court
Session 13	Adaptations for managing food-related risks	Datablitz 4	Evolutionary perspectives on real world problems	Datablitz 5
4:10 – 4:30	Hungry for emotions: The effect of food deprivation on disgust and food neophobia. Paola Perone et al.	Amanda Wuth Connor Wood Phil Kavanagh Jarrold Bock Josh Ackerman Hongyi Wang Theodore Samore	How to avoid going extinct: The evolutionary psychology of effective altruism and existential risk Geoffrey Miller	Jung Yul Kwon Marjorie L. Prokosch Matthew Cashman Nikolai Haahjem Eftedal Soheil Shapouri T Joel Wade
4:30 – 4:50	Investigating infants' avoidance behavior toward plant-based foods Camille Rioux, Annie E. Wertz		Attitudes towards #MeToo and perception of sexual harassment – The effect of prototypical #MeToo features Andrea M. Kessler et al.	
4:50 – 5:10	Five non-human primate species' behavioral responses to plants Linda S. Oña et al.		Tableaux, camera angles and outrage lock: the political cognition and cultural epidemiology of group-relevant events John Tooby	
5:10 – 5:30	Plant avoidance behaviors in Shuar infants and toddlers Annie E. Wertz et al.		Cognitive-evolutionary therapy for depression - results of a randomized clinical trial Cezar Giosan et al.	
6:00 – 7:30	Banquet (Location: Metcalf Large)			
7:30 – 9:00	Keynote Address (Metcalf Large) David Buss: Sexual Conflict			

Poster Session
7:00-9:00PM Metcalf Large
Drinks & Snacks in Ziskind Lounge

1. **Women's trust and cooperation with Sex and the City characters** *Cristina Acedo-Carmona, Ania Grant, Maryanne Fisher, Ana María Fernández, Oriana Figueroa, Patricia MacEachern-Fee, Lucie Kocum*
2. **Phenotypic and motivational predictors of cost-benefit tradeoffs in the pursuit of status** *Cristian M. Acevedo, Aaron W. Lukaszewski*
3. **Would you like a side with your main course? Differential motivations for engaging in extra-pair affairs** *Lora E. Adair, Brett Andersen, Katie Dick*
4. **Observers can accurately assess self-reported male health from facial photographs** *Graham O. Albert, Jessica K. Hlay, Zeynep Senveli, Brian M. Bird, Steven A. Arnocky, David A. Puts, Carolyn R. Hodges-Simeon*
5. ~~**The gossip face: how facial responses to gossip regulate behaviour**~~ *Bronagh Mairéad Allison, Gary McKeown*
6. **Pathogen disgust predicts discriminatory punishments against Black immigrants -- but only for purity violations** *Brett P. Andersen, Lora Adair*
7. **Female social networks more extensive than male networks among matrilineal Mosuo of Southwest China** *Gabrielle Dawn Baca, Adam Z. Reynolds, Meng Zhang, Chun-Yi Sum, Siobhán M. Mattison*
8. **PsychTable.org: The taxonomy of human evolved psychological adaptations** *Niruban Balachandran, Daniel J. Glass, Olivia Jewell, Yzar Webbe*
9. **Can't or won't? Do good intentions mitigate violations of reciprocal altruism agreements?** *Nora Balboa, Gary Brase*
10. ~~**What drives friendship jealousy? Comparing evolutionary and self-evaluation maintenance accounts**~~ *Kelsie Patience Ballew, Jaimie Arona Krems, Jarrod Bock, Ashley M. Rankin*
11. **Opposite-sex peer forced sexual contact in a community sample of high school students: Factors associated with men's perpetration and women's victimization** *Mons Bendixen, Mons Bendixen, Leif Edward Ottesen Kennair*
12. **Accurate cue-based estimates of residual reproductive value regulate assessments of women's bodily attractiveness** *April Bleske-Rechek, Aaron Lukaszewski, Daniel Conroy-Beam, Steven Gaulin*
13. **Do sex ratio changes impact experimental economic decision making by males?** *Martin Rhys Brumpton, Uwe Dulleck, Stephen Whyte*
14. **The rough stuff: Understanding aggressive consensual sex.** *Rebecca L. Burch, Catherine Salmon*
15. **When one is not enough: Sex differences in extra-pair copulations.** *Rebecca L. Burch, Gordon G. Gallup, Jr.*
16. **Transparent liars; Sex, psychopathy and the ability to deceive.** *Angela Carolei, Laura K. Dane, Peter K. Jonason*
17. **What do people think diseases look, smell, sound, taste, and feel like?** *Josh Ackerman, Wilson Merrell, Soyeon Choi*
18. **Sex-specific effects of harsh childhood environment on psychometrically assessed life history strategy: No mediation through developmental timing or embodied capital** *Kristine J. Chua, Aaron W. Lukaszewski, Joseph H. Manson*
19. **Is food learning shaped by unconditioned stimulus valence or content?** *Cagla Cinar, Joshua M. Tybur*

20. **Paternal biobehavioral influence on the family: Preliminary data from the D.A.D.I.O. Project** *Nikki J Clauss, Erin Harrington, Jennifer Byrd-Craven*
21. **Effects of cash in hand and cognitive cue inputs to a computational opportunity cost mechanism** *Mark D. Cloud, Ashlee M. Power, Jaime M. Cloud*
22. **Gossipers who punish social norm violators are evaluated positively** *Mark D. Cloud, Melinda M. Funk, Jaime M. Cloud*
23. **The role of oxytocin in social support during pregnancy** *Citlally Contreras, Elizabeth Pillsworth*
24. **A test of the kin selection hypothesis among same-sex attracted and transgender individuals in Thailand** *Lindsay Alexandra Coome, Lindsay A. Coome, Doug P. VanderLaan*
25. **Validity of the mate guarding scale in women** *Alita J. Cousins, Lauren E. Beverage, Madeleine A. Fugere*
26. **Masculinity and dating confidence** *Ro Cunningham, Cassidy Best, Yasmin Akbari, David Frederick*
27. **Keep calm and lie on? Hormonal correlates of deception ability** *Laura K. Dane, Samantha Todd, Peter K. Jonason*
28. **Infants' conflicting expectations and attitudes toward the wealthy** *Melody Buyukozer Dawkins, Renee Baillargeon*
29. **Disagreeable men produce higher-quality ejaculates** *Tara Lynn DeLecce, Guilberme S. Lopes, Virgil Zeigler-Hill, Todd K. Shackelford*
30. **Do high mate-value males adopt a less restricted sociosexual orientation? A meta-analysis** *Jessica E. Desrochers, Ashley Locke, Graham Albert, Ben Kelly, Steven Arnocky*
31. **Friend or foe: How familiarity of the competition affects female intrasexual competition** *Ella R. Doss, Emily Sophia Olson, Carin Perilloux*
32. **Do likes really attract? Sexual strategies in human mate choice** *Madeline Elizabeth Dunn, Darragh Hare, Peter M. Buston, Siobhán M. Mattison*
33. **The association of auditory threatening stimuli and neutral images: Involuntary adaptive memory** *Irem Ergen, Caglar Akcay, Sami Gulgoz*
34. **Are all threats equal? Effect of distinct threats on attention** *Arin Korkmaz, Irem Ergen, Sami Gulgoz*
35. **Cross cultural intuitions on ownership** *Ulises J Espinoza*
36. **Context-specific effects of facial dominance and trustworthiness on hypothetical leadership decisions** *Hannah S. Ferguson, Anya Owen, Amanda C. Hahn, Jaimie Torrance, Lisa M. DeBruine, Benedict C. Jones*
37. **A temporal analysis of cover art on Harlequin romance novels** *Maryanne L. Fisher, Tami M. Meredith*
38. **Recalibrating the hormonal contraceptive congruency hypothesis: Longitudinal changes in hormonal contraceptive congruency status predicts women's sexual satisfaction** *Juliana E. French, Andrea L. Meltzer*
39. **Female leadership in an egalitarian society** *Zachary H. Garfield, Edward H. Hagen*
40. **The curious link between politics, religion, and bullying behavior** *Kilian James Garvey*
41. **Fertility status in visual processing of men's attractiveness** *Ray Garza, Jennifer Byrd-Craven*
42. **The potential role of testosterone as a relationship protection mechanism** *Stefan Mattias-Maria Goetz, Justin M. Carré*
43. **The bargain-hunting hypothesis** *Anne K. Gordon, Pat Nebl, Lynzee Murray, Mark McCoy*
44. **Dominance versus prestige in romantic fiction** *Ania Grant*
45. **Female competition and cooperation in romantic fiction** *Ania Grant*
46. **Likelihood of break-up following imagined sexual or emotional infidelity: The contribution of perceived threat, attribution of blame, and forgiveness** *Trond Viggo Grøntvedt, Leif Edward Ottesen Kennair, Mons Bendixen*

47. **Is altruistic punishment altruistic?** *Ricardo Andrés Guzmán, Cristián Candia, Leda Cosmides, Carlos Rodriguez-Sickert*
48. **Home is where the nature is: A content analysis of apartment complexes** *Rebecka Hahnel, Aaron Goetz*
49. **Value of species and the evolution of conservation ethics** *Darragh Hare, Bernd Blossey, H. Kern Reeve*
50. **Want to get with this? - You'd better commit: High mate value women enact a longer-term mating strategy** *Cameron Haslehurst, Rachael Morgan, Jessica Desrochers, Riley Desmarais, Steven Arnocky*
51. **Chimpanzees hesitate more in uncertain social situations than in uncertain nonsocial situations** *Lou Marie Haux, Jan Maxim Engelmann, Esther Herrmann, Ralph Hertwig*
52. **Predictors of perceptions of sexual images** *Jessica Hebman, Catherine Salmon*
53. **Beyond competitor derogation: Investigating the contraposition effect** *Nicole Hagen Hess, Jaimie Arona Krems*
54. **The relationship between disgust levels and sexual behaviors as moderated by self-perceived pathogen exposure** *Jessica K. Hlay, Graham Albert, Zeynep Senveli, Steven Arnocky, Carolyn R. Hodges-Simeon*
55. **Tinder v eHarmony: An assessment of sociosexuality among online dating users and platforms** *Richard H. Holler, Kayla Shephard, Lisa Welling*
56. **Developing methods for more ecologically valid face stimuli in kinship research** *Iris J Holzleitner, Tommaso Querci, Vanessa Fasolt, Kieran J O'Shea, Lisa M DeBruine*
57. **Experimental evidence for sex differences in sexual novelty preferences** *Susan M. Hughes, Marissa A. Harrison, Toe Aung, Gordon G. Gallup, Jr.*
58. **Risk taking across evolutionary domains: The relation to monetary costs** *Jana Jarecki, Katelynn Mays, Sarah Moran, Andreas Wilke*
59. **Sociosexual orientation predicts trait, but not state aggression in women** *Gabrielle Jenkins, Gryphon Phillips, Graham Albert, Jessica Desrochers, Steven Arnocky*
60. **Is there phylogenetic continuity in emotional vocalizations?** *Roza Kamiloğlu, Katie E. Slocombe, Frank Eisner, Daniel B. M. Haun, Disa A. Sauter*
61. **The mystery of low sexual concordance among heterosexual cisgender females** *Jesse E. Kavieff, Viviana A. Weekes-Shackelford, Zach W. Sundin, and Todd K. Shackelford*
62. ~~**Mortality as a predictor of risky sexual decisions** *Kevin L. Kenney, Gary L. Brase*~~
63. **Proximity and time are essential for horse-human bonding: Preliminary results from a study on horse-human interactions** *Emily Kieson, Sarah Markland, Hannah Dykes, Charles I. Abramson*
64. **Internet Flaming Reveals the Difference between Moral Anger and Moral Disgust** *Naoki Konishi, Yosuke Ohtsubo*
65. **The effects of strength and attractiveness on anger: What matters when?** *Mitchell Landers, Alex Shaw*
66. **The development of sex differences in distress to sexual and emotional infidelity scenarios** *Per Helge Haakstad Larsen, Mons Bendixen, Trond Viggo Grøntvedt, Leif Edward Ottesen Kennair*
67. **The role of taller stature in human female attractiveness** *William Day Lassek, Steven J.C. Gaulin*
68. **Why do women gain weight after their teens?** *William Day Lassek, Steven J.C. Gaulin*
69. **What is the stress response system really for? How stress accounting mechanisms mediate the social regulation of reproduction in the context of status hierarchies** *David W. Leake*
70. **Empowered or entitled to lead? An evolutionary perspective of how managers navigate structural empowerment** *Hun Whee Lee*
71. **Distinguishing between sexual attraction and sexual desire: The case of asexuality.** *Lauren N. Lesko, Martie G. Haselton*

72. **Children's time allocation to work and play in twelve full- and part-time forager societies** *Sheina Lew-Levy, Rachel Reckin, Stephen M. Kissler, Adam H. Boyette, Alyssa N. Crittenden, Renée Hagen, Randall Haas, Karen L. Kramer, Jeremy Koster, Matthew O'Brien, Ilaria Pretelli, Koji Sonoda, Todd A. Surovell, Jonathan Stieglitz, Bram Tucker, Helen D*
73. **Environmental harshness, early childhood health conditions, and life history of adolescents in Northern and Southern China** *Yuanyuan Liu, Lei Chang*
74. **Priming mate abundance increases women's expectations for engagement ring size and cost** *Ashley Locke, Jessica Desrochers, Danielle Lynch, Steven Arnocky*
75. **The origins of charisma** *Sirio Lonati*
76. **Gluttons for punishment? Experimentally induced hunger unexpectedly reduces harshness of suggested punishments.** *Riley N. Loria, Nicholas Kerry, Damian R. Murray*
77. **Rape avoidance across the menstrual cycle using a virtual paradigm** *Jenna M. Lunge, Virginia E. Mitchell, Anna Wysocki, Adam E. Tratner, Lisa L. M. Welling*
78. **Digital deception: Sex differences in upset lies about status and attractiveness in an online dating context** *Megan E. MacKinnon, Benjamin Kelly, Steven Arnocky*
79. **The mate expulsion inventory and the psychology of relationship termination** *Nestor M. Maria, Kelsey B. Meyer, Cari D. Goetz*
80. **He writes a lot, she gets to the point - sex differences in bathroom graffiti** *Kathrin Masuch, Susanne Schmehl, Elisabeth Oberzaucher*
81. **Does the method of delivery affect the punchline? An evaluation of priming effects and survey responses across three methodological conditions.** *Lisa Sheina McAllister, John Scofield, Madeleine Zoeller, Joseph Manson, David Geary, Mary Shenk*
82. **Conspicuous consumption of experiential goods** *Wilson Nemoto Merrell, Josh Ackerman*
83. **Why love only the one you're with? Sexual motivations and sexual behavior in consensually non-monogamous individuals** *Virginia E. Mitchell, Justin K. Mogilski, Sarah H. Donaldson, Simon D. Reeve, Lisa L.M. Welling*
84. **Life history strategies within monogamous and consensually non-monogamous romantic relationships** *Justin K. Mogilski, Simon D. Reeve, Sarah H. Donaldson, Sylis C. A. Nicolas, Lisa L. M. Welling*
85. **Breakup sex and infidelity: Sex differences and sexual strategy theory** *James B. Moran, T. Joel Wade, Damian R. Murray*
86. **Envy mediates the link between women's appearance comparison and mate retention** *Rachael Morgan, Alia Michaud, Jessica Desrochers, Nicholas Landry, Steven Arnocky*
87. **Aggressive mimicry as a human hunting strategy** *Cody James Moser*
88. **A community's practice motivates individuals' voluntary disaster mitigation action** *Fuko Nakai*
89. **Biased vocal sex ratios influence ejaculation parameters in healthy human males (Homo sapiens)** *John G. Neubhoff, Harper Jones, Laura K. Sirot*
90. **General Mate Value Scale (GMVS): Creation and assessment** *Emma F. Partain, Grace E. Cruse, Malia K. Bell, Carin Perilloux, Gregory D. Webster*
91. **~~Punitive sentiment and aerial bombing in the Vietnam War~~** *Christine Patricia Pelican*
92. **Individual differences in mate retention strategies based on health and romantic jealousy** *Gryphon K. Phillips, Gryphon Phillips, Adam Davis, Nick Landry, Steven Arnocky*
93. **Shape up or get out: The threat of social exclusion as a behavior modification tool** *Cari M. Pick, Caleb R. Haynes, Jessica D. Ayers, Steven L. Neuberger*

94. **Object clusters or energy? Manipulating phase and amplitude spectra to determine visual discomfort in tryphobic images** *R. Nathan Pipitone, Chris DiMattina, Maria Koroleva, Samantha Dreier, Shea Williams*
95. **A virtual reality foraging study** *Megan Porga, Noah Chicoine, Belisena Hall, Andreas Wilke*
96. **Factors influencing children's cooperative decision-making in a social dilemma** *Laurent Prétôt, Quinlan Taylor, Gorana Gonzalez, Katherine McAuliffe*
97. **Laughter as an honest signal of group affiliation** *Lawrence Ian Reed, Evelyn Edith Castro*
98. **Sociosexuality and infidelity in the big five model: Relationships to domains and aspects** *Scott Richard Ross, Kevin E. Moore, Evelyn Brosius*
99. **A functional perspective on everyday sadism** *Marley J. Russell, Marco Del Giudice*
100. **Managing costly generalisation errors: the food and danger domains** *Connair J. S. Russell, Camille Rioux, Annie E. Wertz*
101. **Reputation of punishment according to group conditions** *Jihyun Ryou*
102. **Spontaneous attention and psycho-physiological responses to others' injury and pain in chimpanzees** *Yutaro Sato, Fumihiko Kano, Satoshi Hirata*
103. ~~**Prevalence of HIV and disease predict legal eradication of same-sex sexual behavior cross-culturally**~~ *Katarina M. Schexnayder, Hilary S. Aguilar-Ruano, Angela G. Pirlott*
104. **Gender, sexual desire and testosterone – A pilot ecological momentary assessment study of the associations of gender, strength of sexual desire and testosterone** *Lara Schleifenbaum, Urs Nater, Charlotte Markert*
105. **Behavioral dynamics in romantic jealousy and friendship rivalry** *Achim Schuetzwohl, Olivia Hinds, Leticia John-Baptiste*
106. **Perception of facial attractiveness requires some attentional resources from women, but not from men.** *Sascha Schwarz, Lisa Baßfeld, Peter Würb*
107. **The psychometric evaluation of the intrasexual competition scale** *Zeynep Senveli, Graham Albert, George B. Richardson, Steven Arnocky, Jessica K. Hlay, Carolyn R. Hodges-Simeon*
108. **Say What?! The effects of fertility and speech content on men's hormonal responses to women's voices.** *Melanie L. Shoup-Knox, Sarah Howell, Samantha Moseley, Amanda Powell, Virginia Wright, Emily Zihal*
109. **It's more than a preference for hierarchy: A life-history reinterpretation of social dominance orientation as strategy for exploitation.** *Jeff Scott Sinn*
110. **Selective malleability in personality traits** *Carlie Sivils, Jack A. Palmer*
111. **The emergence of evolutionary psychiatry: Resistance to incorporating evolutionary science into psychiatry.** *William Edward Skiba*
112. **Perceptions of sexual orientation from facial cues: Testing the accuracy of categorization in different distributions** *Benjamin P. Skillman, Jaroslava V. Valentova, Logan Ashworth, Andrew Diaz, Lola A. Pesce, Amanda C. Hahn*
113. ~~**Measuring mental state talk across languages**~~ *Andrew Marcus Smith, Erica A. Cartmill, H. Clark Barrett*
114. **Psychological pain and life history: Examining predictors of postpartum depression in the National Health and Nutrition Examination Survey (NHANES)** *Caroline B. Smith, Edward H. Hagen*
115. **The optics of fairness: When do we punish friends and forgive the trespasses of enemies?** *Victoria H. Spooner, Jaimie Arona Krems*
116. **A Korean sample of perceptions of sex differences in deception** *Eric T. Steiner, Young-Jae Cha, Sojung Baek*
117. **Attachment style and reproductive strategy of the nerd and jock** *Edward D. Sturman, Michael J. Frederick**
118. ~~**Defeat, victory, and acceptance in relation to life satisfaction, psychopathology, and attachment**~~ *Edward D. Sturman, Jennifer Bremser*

*presenting author

119. **Ethnobotanical knowledge encoded in Wichi oral tradition** *Lawrence Sugiyama, Michelle Scalise Sugiyama, Marcela Mendoza, Itzel Quiroz*
120. **The effects of perceived partner orgasm on male self-esteem** *Zach W. Sundin, Viviana A. Weekes-Shackelford, Todd K. Shackelford, Rachel James, Jesse E. Kaveeff*
121. **Parent-offspring conflict and bargaining in adolescence and young adulthood among the Chon Chuuk** *Kristen L. Syme, Edward H. Hagen*
122. **The potential adaptive significance of premenstrual syndrome** *Anna Szala, Dariusz Danel, Agnieszka Siennicka, Bogusław Pawłowski*
123. **Shame is in the eye audience: An investigation of the mechanisms of social shame** *Patrick J. Thelen, Coltan Scrivner, Muxuan Lyu, Dario Maestripieri, Daniel Sznycer*
124. **Sex ratio correlates with both male and female suicide rates across US counties** *Hallie Turner, Kristin Snopkowski*
125. **Life history theory, dark triad, infidelity perception and sexual coercion in Chilean men.** *Carmen Gloria Baeza Ugarte, Ana Maria Fernandez*
126. **Gratitude and the formation and maintenance of friendships** *Lena M. Wadsworth, Daniel E. Forster, Michael E. McCullough, Debra Lieberman, Eric J. Pedersen*
127. **Life history strategies and problematic use of video social network: The mediating role of time perspective and sensation seeking** *Xinrui Wang, Lei Chang, Feifei Chen, Mengxuan Zhang, Shan Zhao*
128. **How trust emerges and changes within social groups: A study of naturalistic, longitudinal teams** *Shoko Watanabe, Joey T. Cheng*
129. **Potential cultural evolution of collective archetypal identities in 4 cities in China** *Caroline R. Whitfield, Chunying Wen*
130. **Fluid women gaze longer at the breasts of nude females** *David R. Widman, Madeline K. Bennetti, Rebecca Anglemyer*
131. **Churchill versus Machiavelli: Are preferences for prestigious over dominant leaders explained by the association of dominance with aggressiveness?** *Adi Wiezel, Michael Barlev, Douglas T. Kenrick*
132. **The role of parents and emotion regulation strategies on stress responsivity and risk-taking behaviors** *Erin E. Wood, Shelia M. Kennison*

Plenary Address



Hopi Hoekstra

Department of Organismic and Evolutionary Biology, Department of Molecular and Cellular Biology,
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Harvard University

The evolution and genetics of parental care (in mice)

Wednesday May 29, 1:40 - 3:00 pm

Parental care is essential for the survival of mammals, yet the mechanisms underlying its evolution remain largely unknown. In this talk, I will show that two closely related species of wild mice (genus *Peromyscus*) with extreme mating systems vary greatly in parental behaviour, especially paternal care, and that these differences are heritable. Using forward genetics, we identified regions in the genome that affect parental care, many of which have sex-specific effects, suggesting that parental care can evolve through independent changes in males and females. And, some regions affect parental care broadly, whereas others affect very specific behaviours, such as nest building. We next hone in on one region and one gene – vasopressin – that is strongly differentially expressed in the hypothalamus of the two species, with increased levels associated with less nest building. To show vasopressin plays a causal role in parenting differences, we used pharmacology in *Peromyscus* and chemogenetics in *Mus* and find that vasopressin inhibits only nest building and not other parental behaviours, surprising given its widespread role in many traits. Together, these results define the genetic architecture of parental behaviour evolution and demonstrate how variation in an evolutionarily ancient neuropeptide can contribute to interspecific differences in parental care.

Plenary Address



Polly Wiessner
Department of Anthropology
Arizona State University; University of Utah

Retributive or Restorative Justice? Implications for Cooperation **Thursday May 30, 8:30 - 9:50 am**

Breaches of norms occur regularly in human societies as individuals pursue their own self-interests. Most transgressions are regulated by dyadic responses from cutoff to conflict; others draw group responses in the form of retributive or restorative justice. Both responses appear to have deeply rooted psychological dispositions. Third party punishment has been the focus of norm regulation in recent studies. It certainly has power to promote conformity, however in small scale societies it can be costly for punishers, generate grudges, inhibit cooperation, cause rifts in communities, and alienate wrong-doers. Restorative justice, by contrast, allows the stakeholders to tell their sides of the story, consider the history of relationships, and build understandings. The mediators gain status, the offenders re-enter community as productive members, losses are compensated, and social rifts reduced. Furthermore, the community forums adapt norms to changing realities. The Enga of Papua New Guinea have a plural justice system composed of formal courts, which apply western based punitive law, and informal courts where traditional leaders apply customary law and restorative compensation settlements. Here I will present data from a study of ca. 1000 customary court cases documented by observation from 2008-2019 to understand: (1) why Enga reject punitive justice for most transgressions, (2) how restorative justice settlements are reached to promote cooperation; (3) how the process brings offenders back into the fold as productive group members; (4) social and political motivations of many community members who contribute voluntarily to compensation payments and; (5) how norms and values are adjusted to changing realities during public forums.

Plenary Address



Steven J.C. Gaulin and William D. Lassek
Department of Anthropology
University of California, Santa Barbara

**Women's reproductive biology logically precedes men's mating preferences.
Friday May 31, 8:30 - 9:50 am**

Compared to other mammals and to men, women have a unique fat deposition pattern. Under the influence of hormones acting during puberty, they add an extraordinary amount of fat (~30% of body weight), mainly to the highly derived gluteo-femoral depot. As a result the waist-hip ratio (WHR) decreases until about age 16 or 17, but it then increases with age and especially with parity, as does BMI. This period of minimum WHR, four to five years post-menarche, corresponds to the age of peak female reproductive value (Fisher 1930). First births in foragers typically occur two to three years later, despite the well documented lower fertility in this age group. Most supposed anthropometric correlates of female attractiveness—such as BMI and WHR—track body fat or fat distribution and have been previously argued to indicate better health and/or current fertility, none of which is correct. Health is strongly inversely related to age, but independent of age, there is no evidence that women with lower WHRs or BMIs are healthier or more fertile than those with modal values. In addition to marking peak reproductive value (the conjunction of sexual maturity and nulligravidity), a low WHR may indicate maximal stores of the omega-3 fatty acids critical for brain development. WHR increases as parity depletes these specialized stores, and as BMI adaptively increases. Because pre-pregnancy BMI strongly regulates fetal growth rate, nulliparous women benefit from low BMI to minimize the risk of obstructed labor; but after a first birth expands the birth canal, parous women benefit from higher BMI to produce a larger, more viable infant. Given these elements of female reproductive strategy, low WHR and BMI jointly indicate a sexually mature female who has not yet expended any of her maternal effort and has a maximal expectation of future offspring. A male preference for such indicators is in sharp contrast to the situation in chimpanzees and cercopithecoid monkeys and is further testament to the derived character of human mating systems.

Plenary Address



Ed Hagen
Department of Anthropology
Washington State University

Recreational substance use: the evolutionary significance of drug toxicity over reward
Friday May 31, 1:20 - 2:40 pm

Psychoactive drugs are widely used, it is thought, because they hijack reward-related neural circuitry. If so, drugs should be equally appealing to children and to adults of both sexes. Many drugs, however, are plant defensive chemicals. Hence, children, and to a lesser extent adult women, should have evolved to avoid consuming them to protect their, or their fetuses' and nursing infants', developing nervous systems, respectively. Analyses of national and cross-national data find virtually no substance use among children, a switch-like transition to substance use in adolescence, and a nearly universal male bias in substance use. They also find that various reproductive indices, such as total fertility rate and age of the youngest child, are negatively associated with women's substance use, even after controlling for indices of women's social, economic, and educational status. These results suggest that fetal protection helps explain female drug use decisions. The onset of substance use in adolescents of both sexes might be explained by the diminishing developmental costs of toxin exposure vs. its increasing benefits in ancestral environments, such as self-medication against macroparasites.

Plenary Address



Michele Gelfand
Department of Psychology
University of Maryland

Interdisciplinary Perspectives on the Strength of Social Norms
Saturday June 1, 8:30 - 9:50 am

Human sociality is enabled by our ability to develop, maintain, and reinforce social norms. While social norms are universal, there is wide variation in the strength of social norms (or tightness) around the globe. In this talk, I will describe theory and research on tightness-looseness in pre-industrial societies and in modern nations and states, discuss the evolutionary and neurological basis of such differences, and describe the implications of the strength of social norms for organizations and intercultural contact.

Keynote Address



David M. Buss
Department of Psychology
University of Texas

Sexual Conflict **Saturday, June 1, 7:30 pm**

Sexual conflict—manifest as deception, persistence, coercion, and force—occurs in sexually reproducing species, from water striders to rhesus macaques. Its profound influence on our psychology and institutions has not been fully recognized. Sexual conflicts occur at all levels of human social life. It is ubiquitous within mating markets, within existing mateships, and in the aftermath of romantic breakups. It occurs within step-families, within biologically intact families, and within coalitions. It permeates status hierarchies, in which power asymmetries can facilitate sexual exploitation. It can motivate kidnapping, terrorism, and warfare. Given its pervasiveness, it would be surprising if humans had not evolved multiple offenses and co-evolved defenses in perpetual sexually antagonistic co-evolutionary arms races. The impacts of sexual conflict are further complicated by modern environments. These enable novel offensive tactics in which defenses can be disabled by drugs, isolation from protective kin, and through hijacking components of our evolved psychology. This talk highlights what is currently known and unknown about the evolutionary psychology of sexual conflict and offers tentative suggestions for reducing sexual conflict.

Talk Abstracts

Children hold intuitive economic theories that align with formal economic principles

Richard E. Ahl, Emma Cook, Lisa Chalik, Katherine McAuliffe <richard.ahl@bc.edu>

Human decision-making strategies surrounding resource acquisition and distribution carry important fitness consequences and are relevant to partner selection (Raihani & Barclay, 2016). These strategies have been fruitfully described by economic principles. However, whether economic principles guide decision-making prior to adulthood remains unclear. We focus on one economic principle, the law of diminishing marginal utility, which states that the value of a resource declines as resource quantity increases. Thus, a single-unit gain or loss is less impactful to individuals with more, and more impactful to individuals with less. We test children's intuitive understanding of DMU. Our pre-registered study presents 5–8-year-olds with vignettes involving individuals who equally like a given resource, start with different levels of wealth, and then face gains or losses. We ask children to predict individuals' emotions and actions in such situations. Preliminary findings (based on $n = 36$; final $N = 52$) indicate that children make predictions consistent with DMU at above-chance rates. Children predict that individuals with less will be sadder upon losing one unit ($p < .001$) and work harder to obtain one additional unit ($p < .001$) relative to individuals with more. These findings highlight the surprisingly early emergence of humans' economic reasoning.

Sex, Smells, and Disgust: The relationship between smell acuity, disgust, and mating

Zachary Airington, Marjorie L. Prokosch, Damian R. Murray <zairington@tulane.edu>

Although smell (olfaction) is one of the central sensory modalities through which people evaluate both potential threats and potential romantic partners, its role in social cognitive processes remains grossly understudied and poorly understood. Given olfaction's close relationship with disgust, variation in olfactory acuity may be associated with variation in disgust and disgust's corollary disease-avoidant responses—such as more restricted sociosexuality. In the current study ($N=162$), using a validated physiological olfactory acuity battery, we tested the hypothesis that greater olfactory acuity is associated with higher disgust sensitivity and greater sexual restrictedness. Results revealed that higher olfactory acuity positively predicted greater sexual disgust—but not pathogen or moral disgust—and negatively predicted short-term mating orientation. Further analyses revealed that relationship was most strongly driven by scent discrimination ability. Further, the relationship between olfactory acuity and short-term mating orientation was mediated by sexual disgust.

Need-based transfer systems are more vulnerable to cheating when resources are hidden

Athena Aktipis, Scott Claessens, Jessica D. Ayers, Lee Cronk <aktipis@asu.edu>

Need-based transfer arrangements are typically bound by two simple rules: Ask for help only when in need and, if you are able, give help to those who request it. Do individuals cheat in these rules; for example by feigning either need or an inability to help? Here, we study whether the visibility of resources affects the likelihood of cheating in need-based transfer relationships. We conducted three experiments, both online and in the lab, using a novel experimental economic game in which individuals managed a resource over time and could request help from other players participants. When resources were hidden during both giving and asking, participants were (1) more likely to request help when not actually in need, and (2) more likely to not fulfill requests from others for help, even when they had sufficient resources available to help. In experiment 3, we independently manipulated whether resources were hidden or revealed during giving and asking separately, finding that 'stinginess cheating' was not due to suspicion about one's partner's potential cheating. These findings suggest that need-based transfer systems are vulnerable to cheating when resources can be hidden, and that suspicion about cheating when resources are hidden does not further destabilize cooperation.

Why do (some) women wear chokers?

Laith Al-Shawaf, Heather Williquette <laith.alshawaf@gmail.com>

In a series of three studies, we generated and tested seven distinct hypotheses about why women wear choker necklaces and what they signify. Study 1 (n=102) showed that interest in wearing chokers and frequency of wearing chokers were both predicted by women's sociosexuality, a stable individual difference variable that indexes a person's dispositional orientation toward short-term mating. Study 2 (n=104) showed that male observers correctly use women's chokers as a cue to their sociosexuality. Study 3 (n=100) showed that female observers also correctly use women's chokers as a cue to their short-term mating orientation. These studies find clear support for the hypothesis that wearing chokers is a function of short-term mating orientation and no evidence for the other six hypotheses. These findings suggest two key conclusions: a) choker necklaces appear to be valid cues of sociosexual orientation and b) both male and female observers use them as such.

Men's aging and testosterone profiles in three subsistence populations

Louis Calisto Alvarado, Claudia R. Valeggia, Peter T. Ellison, Caitlin L. Lewarch, Martin N. Muller <lalvarado@albany.edu>

Previous research suggests that relative to industrial populations, men from subsistence groups exhibit lower testosterone levels and attenuated decline with age. Limited energy availability has been hypothesized to suppress testosterone production, particularly in young adulthood when testosterone levels are highest, leading to a flatter trajectory of age-decline. However, energetic constraint is not unique to the evolutionary ecology of humans, and yet significant age-related testosterone decline is observed in numerous species of wild primates. Human life history is distinguished by extensive bi-parental care and male provisioning. Because fathers show decreased testosterone with parenting effort, we argue that within evolutionarily relevant ecologies, natural fertility and earlier reproduction suppress testosterone in emerging adulthood such that a lower relative baseline dictates less age-decline across the remaining lifespan. Accordingly, we examined men's testosterone levels as contrasting functions of energetic status and parenting effort across three traditional populations with substantial variability in nutritional condition and paternal involvement, 83 Datoga, 31 Hadza, and 48 Qom men (ages 17-72 years). Assays of salivary testosterone were standardized across groups. We find that within socioecological contexts of natural fertility in small-scale society, diminished age-decline in men's testosterone levels is primarily due population variation in parental investment rather than energetic stress.

A naturalistic study of norm conformity, punishment, and the veneration of the dead

Michael Alvard, Katherine Daiy, Jessica Raterman <Alvard@tamu.edu>

Norms are hypothesized to be maintained by punishment, but there is little observational evidence to show that punishment is commonly used to enforce social norms. In order to test for punishment as a mechanism that maintains norms, we examine a particular norm of ancestor veneration in a natural field experiment at the Memorial Student Center (MSC) at Texas A&M University. The MSC is a memorial to university war dead and the norm is that all who enter the building remove their hats in respect. Behavioral observation reveal that hat removal is significantly more common at the MSC than at two control locations. Survey data indicate that most, but not all, subjects understand the norm to be veneration of the dead, and most expect other to follow the norm. Many report a strong negative emotional response when asked to imagine the norm being violated. Sixty-two percent reported they would definitely or probably ask the noncompliant to uncover. Data from focal follows and experiments find that punishment is relatively rare, however, with the majority of behatted subjects going

unreproached as they pass through the building. However, both survey and observational data indicate there is a motivated minority that enthusiastically enforces the norm.

Testing the gender inequality and fetal protection model of low female smoking using cross-national, representative, individual-level data from the Demographic and Health Survey Program

Tiffany Alexandra Alvarez, Edward H. Hagen <Tiffany.Alvarez@wsu.edu>

Female smoking prevalence is dramatically lower in developing countries (3.1%) than in developed countries (17.2%), whereas male smoking is similar (32% vs. 30.1%). Low female smoking has been linked to high gender inequality. Alternatively, to protect their offspring from teratogenic substances, pregnant and lactating women might avoid toxic plant substances like nicotine. In a cross-national study of smoking prevalence using data aggregated at the national level (N=173), Hagen et al., (2015) found that total fertility rate was a negative predictor of female smoking prevalence even when controlling for country income and gender inequality. In addition, smoking increased postmenopause. Here, we test the gender inequality and fetal protection models using representative, individual-level data from 34 countries (N=572,958) from the Demographic and Health Surveys (DHS) Program. Adjusting for gender inequality (education and wealth), tobacco use was strongly negatively associated with the age of the mother's youngest child. In addition, tobacco use was significantly higher in postmenopausal compared to premenopausal or pregnant women. These results support the fetal protection hypothesis. Less education and wealth, on the other hand, were positively (but not significantly) associated with the probability of tobacco use, contrary to the gender inequality model.

The dual roles of intent and remorse in the development of forgiveness

Dorsa Amir, W. Shelby Parsons, Katherine McAuliffe <Dorsa.amir@bc.edu>

Forgiveness is an important component of human social life, having evolved through natural selection to allow restoration of positive, cooperative relationships (McCullough 2001; Hruschka & Henrich, 2006). Despite its importance, however, we know relatively little about how this ability develops in early life and the roles that features like intentionality and remorse play in supporting the emergence of forgiveness. Here, we investigate forgiving behavior in children between the ages of 5 and 10 (Preliminary N = 169), varying intentionality and remorse in a novel task that pits punishment against forgiveness. We find that baseline levels of forgiveness are

surprisingly high, suggesting children assume the best of transgressors in the absence of other information. We also find age-related increases in sensitivity to intent and remorse, such that older children are more likely to forgive accidental transgressions and trend toward more forgiveness in cases of remorse. As forgiveness is an important feature of the human social toolkit, exploring the ways in which this behavior develops across age and changes across conditions can help us better understand the early roots of human cooperation.

“You are not quite what I expected...”: A bayesian analysis on personality perception in online dating

Maximilian T. P. von Andrian-Werburg, Dorothea C. Adler, Sascha Schwarz, Frank Schwab, Benjamin P. Lange <maximilian.andrian@uni-wuerzburg.de>

Online dating has become increasingly popular. For example, almost 50% of american couples nowadays have first met on the internet. In communication science the ongoing shift from face-to-face to computer mediated communication (cmc) is still a focus of research as the richness of (social and biological) cues (e.g., olfactoric) is heavily reduced in the latter. Previous research shows that despite reduced cues, an online user name, for example, is already sufficient to make correct guesses about the mating strategy of its respective user. To further assess mate perception in cmc, we conducted two cmc speed dating studies (N1 = 56, N2 = 94) and were able to show that humans can estimate a chat partner's IQ ($r_1 = .28$, $BF_{10}(1) = 2.15$; $r_2 = .34$, $BF_{10}(2) = 47.78$) and extraversion ($r_1 = 0.24$, $BF_{10}(1) = 1.03$; $r_2 = .23$, $BF_{10}(2) = 2.27$) above chance merely based on text-based cues from the dating chat. However, participants were not able to estimate other mate choice relevant cues like sociosexual orientation or the remaining Big Five variables. To our knowledge, our studies are the first that simulated online dating under controlled settings and studied the communicative process therein from an evolutionary perspective.

Cooperate to be chosen, punish to control: Ecological rationality of reputation management behaviors

Sakura Arai, Leda Cosmides, John Tooby <sakura.arai@psych.ucsb.edu>

Having at least one reliable cooperative partner would have been essential for survival in our ancestral environments, where illnesses and injuries were far more fatal (Burger et al., 2012; Sugiyama, 2004; Tooby & Cosmides, 1996). It would have posed two major adaptive problems: obtaining cooperation and deterring exploitation. Both problems require tracking reputations of other individuals to choose cooperators while

avoiding cheaters. Further, obtaining cooperation involves tracking one's reputation for being cooperative in order to be chosen by cooperative partners (Barclay & Willer, 2007), whereas deterring exploitation involves managing one's reputation for being able and willing to punish cheating to prevent future mistreatment (Yamagishi et al., 2012). Selection would have favored psychological mechanisms to flexibly calibrate cooperative and punitive behaviors with socio-environmental inputs to increase benefits from having different kinds of reputations. Specifically, we examine whether (1) people cooperate more when they can switch partners than when they cannot, because acquiring a cooperative reputation is likely to attract better partners and (2) people punish cheating more when they cannot leave a cheating partner than when they can, because acquiring a punitive reputation is the only way to deter future cheating.

Do vocal and facial masculinization signal underlying male immunocompetence?

Steven Arnocky, Carolyn Hodges-Simeon <stevena@nipissingu.ca>

In a recent issue of *Evolution and Human Behavior*, Arnocky et al. (2018) reported evidence that male vocal masculinization predicted immunocompetence via salivary immunoglobulin-A (sIgA) and self-report markers. Since then, we have conducted follow-up research attempting to replicate and extend these findings to determine whether masculine phenotypic traits are indeed reliable markers of underlying genetic quality. In a study of 162 Canadian males, blood and saliva samples were taken and assayed for sIgA, white blood cell count, and heterozygosity of the Major Histocompatibility Complex. These genetic and functional immune markers were examined in relation to vocal and facial masculinization, total body fluctuating asymmetry, height, and grip strength, as well as female-rated facial attractiveness. Results confirmed that sIgA predicts vocal masculinization, along with height and hand asymmetry (negative) but not full body asymmetry. Surprisingly, sIgA negatively predicted facial masculinization. When examining female attractiveness ratings, there was a strong linear decrease in attractiveness of masculine male faces. Moreover, female attractiveness ratings of male's faces predicted underlying male sIgA. MHC heterozygosity did not predict any phenotypic variables. Together, it appears that the deep male voice may be a costly signal of underlying immunocompetence, whereas facial masculinization may not serve as a similar signal.

Sexual morality around the world: A survey of 37 countries.

Kelly Asao, Adele Romagnano, David M. Buss <kasao@isn.edu.au>

While morality is a human universal, the specific rules about right and wrong vary largely as a function of culture. This variation is perhaps most pronounced for human sexuality. Moral opinions on same-sex marriage and abortion, for example, differ widely around the world. In order to capture both the universality and diversity of sexual morality, we collaborated with researchers from 37 countries, across 6 continents to conduct a large cross-cultural study of sexual morality. Participants (N = 6,101, 44.8% Male) completed an abbreviated form of the Sexual Morality Inventory surveying people's moral judgments on a variety of sexual acts, ranging from casual sex and same-sex relationships to incest and sexual coercion. Data on cross-cultural predictor variables were sourced from publicly available datasets (e.g., UN Human Development Reports, UNICEF). Hypotheses generated using evolutionary theorizing were largely supported. Average temperature predicted slightly harsher views toward sex with same-sex partners and outgroup members. Higher levels of intergroup conflict predicted moderately harsher views toward casual sex, sex with same-sex partners, and sex with outgroup members. Additionally, harsher environments, in which biparental care is essential, predict more negative views toward casual sex. Future directions and limitations of the current study are discussed.

Are cravings, aversions and nausea/vomiting associated with pregnancy complications? Investigating the role of maternal-fetal conflict in maternal eating behavior and pregnancy complications

Jessica D. Ayers, Amy Boddy, Corrie Whisner, Athena Aktipis <jdayers@asu.edu>

It has been assumed that changes in maternal eating behavior during pregnancy (e.g., 'morning sickness') is a result of the maternal system protecting the fetus from damage. However, pregnancy is not just a cooperative venture between mother and fetus - there is also conflict between maternal and fetal interests, with the fetus preferring to extract more resources from the mother than is optimal for the mother. Thus, there is conflict between maternal and fetal interests over maternal food choice that might manifest as cravings, aversions, and nausea/vomiting during pregnancy. We predicted that cravings, aversions, and nausea/vomiting that were indicative of high maternal-fetal conflict would be associated with pregnancy complications such as preeclampsia. We found that having cravings for fetal-favoring foods was associated with experiencing high blood pressure and that cravings for maternal-favoring foods was associated with pregnancy loss or miscarriage. We also found that having aversions in response to fetal-favoring foods was associated with experiencing high blood pressure, preeclampsia, and stillbirth. Nausea/vomiting in response to fetal-favoring foods was

also associated with preeclampsia. In addition, we found that cravings for antimicrobial foods were associated with pregnancy infections. We are replicating this study including additional measures of maternal-fetal conflict.

Links:

<https://osf.io/gy8w3/>

Assessing effects of life history antecedents on age at menarche and sexual debut using a genetically sensitive design

Nicole Barbaro, George B. Richardson, Joseph L. Nedelec <nmbarbar@oakland.edu>

Psychosocial acceleration theory proposes that female reproductive strategies are conditional on environmental stress early in development. Early environmental stress, and father absence in particular, are hypothesized to accelerate menarche timing, thereby facilitating earlier and riskier sexual behavior. Both the father absence and the broader psychosocial acceleration hypotheses have been challenged on grounds that other aspects of fragmented family structure, among a variety of factors, may confound the purported associations. Further, the general proposal that early developmental stress adjusts female reproductive strategies is challenged on grounds of potential genetic confounding of developmental processes. The current study tested a preregistered comprehensive structural equation model using a twin subsample of the National Longitudinal Study of Adolescent to Adult Health (n = 520). Once genetic factors were controlled, neither common liability to early environmental stress nor any specific early stress indicators (e.g., adverse childhood experiences, childhood sexual abuse, father absence, divorce, and neighborhood risk) predicted age at menarche. Liability to environmental stress did predict age at sexual debut and this association was explained by shared environmental factors. Associations between age at sexual debut and subsequent riskier sexual behavior and number of sex partners were explained by genetic factors, suggesting that effects of sexual debut timing might be spurious. These results cast doubt on psychosocial acceleration theory for explaining variation of female reproductive strategies.

Links:

<https://osf.io/b8kyc/>

Stake size effects in Ultimatum Game & Dictator Game offers: a meta-analysis

Pat Barclay, Andrea Larney, Amanda Rotella <barclayp@uoguelph.ca>

Are people more generous when less money is at stake? The Ultimatum Game (UG) and Dictator Game (DG) are used as evolutionary models of bargaining and

generosity, respectively. Previous studies are conflicted about whether UG and DG offers are lower when the stakes are high, partly due to low power. To resolve this, we conducted a meta-analysis of 31 existing studies that manipulated the size of participants' endowments in the UG and DG (3233 total participants). We hypothesized that: (1) proposer offers would be lower with larger stakes in both games; and (2) offers would decrease more with stake size in the DG than in the UG because proposers would not want to risk their offer being rejected in the UG. Our results found almost zero effect of stake size on UG offers ($d=0.02$), and a small but significant effect of stake size on DG offers ($d=0.15$). Furthermore, larger differences in stakes had little impact on the effect sizes in the UG, but had a medium-large impact on the effect sizes in the DG. These results show that higher stakes reduce donations in the DG, albeit not by much, and have little to no effect in the UG.

Links:

<https://www.sciencedirect.com/science/article/pii/S074959781730523X>

Fat storage in a social ecological framework

Michael Barlev, Steven Neuberg <mlbarlev@gmail.com>

People who experience discrimination are more likely to be overweight/obese. Why? We argue there's much to be learned by considering fundamental questions about the psychology and physiology of fat accumulation and how these are facultatively calibrated by the physical and social ecologies. Fat accumulation is designed to mitigate against future food scarcity. Humans evolved in groups competing over resources, therefore, discrimination may cue possible future food insecurity and consequently trigger proximate mechanisms for fat accumulation. Further, risk pooling networks safeguard against future caloric unpredictability. Thus, social network quality may moderate whether one accumulates fat in food scarce or competitive ecologies. Last, because in women, fats stored in different regions of the body are functionally specialized ("survival" versus "reproduction"), the above factors may shift relative stores of android/gynoid fat and therefore waist-to-hip ratio. We present findings from a larger year-long study assessing physical and social ecological factors (including perceived discrimination, food scarcity/unpredictability, and life-history related factors), social network quality (size, strength, and stability), anthropometrics (including circumferences), and body composition (using bioelectrical impedance). Our findings are strongly compatible with our social ecological framework of fat storage. We discuss future directions including experimental ways of investigating unique predictions made by this framework.

Shuar hunting magic as a technology of the self

H. Clark Barrett <hclarkbarrett@gmail.com>

Practices regarded in the West as “superstitious” are typically thought of by evolutionary social scientists as irrational. That is, while they may have some etic functions, they cannot have the emic functions conceptualized by practitioners, because those entail magical causation. However, there may be practices that do in fact help to produce desired outcomes, albeit (sometimes) via different pathways than emically conceptualized. In this talk I consider Shuar hunting magic as a possible example. Hunting songs are thought to increase hunting success by, for example, rendering prey animals easier to catch. While the songs cannot, of course, influence the behavior of the prey animals they seek to influence, they can in fact influence the behavior of hunters in ways that might improve hunting success. Shuar hunting magic could be an example of a general category of practices that spread via cultural transmission and that are cultural attractors stabilized by their beneficial effects.

Play in wild bonobos and the role of social joy in human evolution

Isabel Behncke <isabel.beagle@me.com>

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 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.

Mechanisms that permit renewed cooperation following competition between valuable allies

Joyce F. Benenson, Lindsay Hillyer, Maxwell White, Delfina Martinez Pandiani, Melissa Emery Thompson, Henry Markovits, Richard Wrangham <joyce.benenson@gmail.com>

In valuable relationships, individuals cooperate to produce mutual benefits. Inevitably however, competing self-interests arise which stress the relationship. How individuals switch from competing to cooperating again is the focus of this study. de Waal's seminal work with non-human animals suggests two critical processes. First, following competition, immediate social contact must occur. Second, the winner and loser of a contest must accept their differential outcomes and behave accordingly. In this study, 81 pairs of same-sex, young adult friends collaborated on a task, then engaged in a competition, then after an 8-minute relaxation period, collaborated again. Immediately following the competition, half of the pairs were randomly assigned to an immediate contact intervention and the other half were separated. Renewed cooperation was measured the collaborative task. Levels of cortisol were measured immediately following the competition and again after the second collaborative task. In the contact intervention, physical affiliation was recorded between winners and losers. Male friends engaged in more physical affiliation before and after the competition. For both sexes, during contact, winner's increased levels of cortisol predicted renewed cooperation, whereas loser's did not. Results suggest several important mechanisms that facilitate renewed cooperation following competition between established allies.

Who suppresses female sexuality? An examination of support for Islamic veiling in a secular Muslim democracy as a function of sex and offspring sex

Khandis Blake, Rob C. Brooks <k.blake@unsw.edu.au>

Whether it is men or women who suppress female sexuality provides important insight into one widespread cause of female disadvantage. The question of which sex suppresses female sexuality more avidly, however, neglects that our interests are never ambiguously masculine or feminine; each of us has a combination of male and female kin which alters how much of our future fitness derive from each sex. With a sample of 600 Tunisians, we test whether support for Islamic veiling—a proxy for sexual suppression—is more common amongst one sex than the other, and is affected by the relative sex of one's offspring (i.e., number of sons relative to daughters). Men were more supportive of veiling than women, but women with more sons were more supportive of veiling than women with fewer sons. All effects were robust to religiosity, which was weaker amongst men and unrelated to the number of sons a woman had. Men were more religious if they had more sons. Overall, these findings highlight that far from being the fixed strategy of one sex or the other, female sexual suppression

manifests facultatively to promote one's reproductive interests directly or indirectly by creating conditions beneficial to one's descendent kin.

Why so angry? Understanding hostility in online political discussions

Alexander Bor, Michael Bang Petersen <alexander.bor@ps.au.dk>

Across Western democracies, online discussions about politics are considered uncivil, aggressive and hostile. Previous evolutionary research has explained this online political hostility as the result of the evolutionarily novel psychophysics of online environments: Lack of face-to-face interaction etc. down-regulate empathy and prompt hostility as a result of lack of emotion-regulation. On this explanation, online political hostility thus reflects an evolutionary mismatch. In contrast, we integrate (i) classical work on the adaptive functions of aggression and (ii) recent evidence on social media behavior to propose that online political hostility is deliberately employed as an instrumental strategy to further particular political agendas. We investigate this using a large representative sample of US citizens (N = 1500). Against the mismatch account, we find that individuals who are hostile online are equally likely to be hostile offline. Consistent with adaptive accounts of aggression, these individuals are motivated by status and seek to challenge existing political hierarchies. To this end, they invest more in online (vs. offline) political discussions as these discussions offer greater benefits (e.g., more interactions and greater reach) at lower costs. Thus, the hostility of online political discussions reflects a strategic investment in online discussions by aggressive-prone individuals rather than an evolutionary mismatch.

Evolutionary theories and men's preferences for women's WHR: Which hypotheses remain?

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Over the last 25 years, a large amount of research has been dedicated to identifying men's preferences for women's physical features, and the evolutionary benefits associated with such preferences. Today, this area of research generates substantial controversy and criticism. I argue that part of the crisis is due to inaccuracies in the evolutionary hypotheses used in the field. Here I focus on the extensive literature regarding men's adaptive preferences for women's waist-to-hip ratio (WHR). This paper provides the first comprehensive review of the existing hypotheses cited in the literature on why men's preferences for a certain WHR in women might be adaptive, as well as an analysis of the theoretical credibility of these hypotheses. By dissecting the evolutionary reasoning behind each hypothesis, I show which hypotheses are plausible and which are unfit to account for men's preferences for female WHR. The most cited hypotheses

are not necessarily the ones with the strongest theoretical support, and some promising hypotheses have been mostly overlooked in the literature. Finally, I suggest some directions for future studies on human mate choice, to move this evolutionary psychology literature toward a stronger theoretical foundation.

The bi-directional relationship between social status and disgust sensitivity in person perception and impression formation processes

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By prompting pathogen-avoidance behaviors, disgust protects individuals from interacting with potential contaminants. However, the behavioral management of pathogens is a luxury available only to those who can exercise choice over their environments and social partners. Given that social status plays a role in modulating one's ability to successfully engage in pathogen avoidance behaviors, we predicted that social status would be linked to disgust sensitivity in ways that have implications for person perception. Support for this hypothesis was found across four studies. Study 1 (N = 239) provides proof of concept, showing that status is related to pathogen and sexual disgust sensitivity. Study 2 (N = 167) finds that targets who exhibit disgust in response to contaminants were perceived as being higher in status and wealth than those who did not exhibit disgust. Study 3 (N = 105) finds that high status others were expected to experience more disgust in response to contaminants than low status others. Finally, Study 4 (N = 109) shows that status threats increase the intensity of disgust displays to contaminants, indicating that disgust sensitivity plays a role in impression-management strategies. Together, these results suggest that disgust sensitivity may be used as an indicator of status.

Links:

<https://osf.io/wrvgh>

~~Battle of the sex ratios: Is cognitive tracking tuned to overall sex ratio, adult sex ratio, or operational sex ratio?~~

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Although the ratio of males to females in an environment (the sex ratio) has been linked with several effects on human behaviors, the computational structure of that sex ratio tracking has been unclear. Previous research has often not separated overall sex ratio, adult sex ratio (adult males to females; ASR), and operational sex ratio (males to females that are available and viable potential mates; OSR). These distinctions are important because the ratios can be different within the same population, yet many previous studies have used only OSR because their stimuli matched the age ranges of

their subjects (i.e. typically young adults). The present research uses stimuli that presented divergent OSR, ASR, and overall sex ratios to evaluate which sex ratio information was being tracked and stored. Study 1, with 218 undergraduates, suggests that overall sex ratio is the primary information that is explicitly tracked, rather than ASR or OSR. The results of Study 1, however, do not unambiguously replicate previously found downstream effects of manipulated sex ratios on sociosexual orientation or delay discounting. Study 2 is clarifying these results by using a larger and more demographically diverse sample of participants through Amazon Mechanical Turk.

Gendered fitness interests: Using inclusive fitness theory to understand variation in socio-political attitudes and behaviours

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We propose that whereas most people are biologically either male or female, their interests are almost never aligned with just their own sex. We develop theory that combines residual reproductive value and inclusive fitness likely to be gained through relatives, and show how to partition the likely fitness gains via female versus male relatives. We argue that the balance of these female and male effects, which we call 'Gendered Fitness Interests', may influence human behavior, including the adoption of socio-political issues. Our proposal is consistent with a number of published observations, including a rich vein of evidence on how parents' socio-political views are modified by the sex of their children. Further, it offers a new explanation for the relatively small average differences between women's and men's socio-political positions. From our proposal, we derive the novel testable predictions that women's and men's socio-political attitudes will converge with age, and with larger family sizes. Our proposal identifies a previously unappreciated component of variance in traits with a gendered dimension, and may be generally useful in resolving the complex origins of gendered behaviour. Further, it undermines the primacy of an individual's gender identification (including but not limited to identifying strictly with one's biological sex) as a fixed and distinctive part of socio-political identity.

The cultural evolution of music

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Human music is comprised of a diverse set of behaviors and abilities, both in its production and perception. Many of the capabilities that give rise to music are present in other species, but are uniquely integrated in humans. Like many complex human phenomena, music is a product of cumulative culture exploiting aspects of our evolved

psychology. And also like other multifarious human abilities, such as language, this culture-cognition interface occurs in the context of rich social interaction. Music is derived from a long list of abilities that did not evolve for the purpose of music, ranging from auditory scene analysis, to language processing, to sophisticated tool use. In this talk I will describe the logic of this approach to understanding musical behavior, including a taxonomy of relevant cognitive and behavioral adaptations, their interrelationships, and ritualization effects of cultural evolution. I will end with discussion of adaptations potentially most directly contributing to the music faculty, including infant-directed song, and coalition-signaling in music and dance. Overall, this approach suggests that a search for musical universals should be at the level of underlying mechanisms, and not the surface features of music, which has traditionally been the goal of many music researchers.

Look before you leap: The effect of cuing positive and threat-related future scenarios on impulsivity in delay discounting and risk-taking tasks

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Humans frequently create mental models of future environments and scenarios, allowing prospective conditions to be inferred in advance. Recent evidence suggests that cuing the imagination of positive future events (indicative of a positive and stable future environment) can reduce delay discounting – the devaluation of reward with time until its receipt. On the other hand, cuing the imagination of negative future events (indicative of future threat) may increase delay discounting. In a pre-registered study with 297 participants, we assessed the potential effects of cuing imagination of emotional future scenarios (i.e. events indicative of a promising vs. harsh future environment) on decision-making in both delay discounting and risk-taking tasks. We found that cued imagery of positively and negatively valenced future scenarios was associated with reduced delay discounting relative to neutral imagery, but did not affect risk-taking during standard laboratory choice tasks. Thus, although these results replicate previous findings suggesting cued future simulation can reduce delay discounting, they indicate that this effect may not be dependent on the valence of the thoughts and may not generalise to other forms of “impulsive” decision-making such as risk-taking.

Links:

<https://osf.io/rfndu/>

Captain Dorito and the Bombshell: Supernormal stimuli in comics and film

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We examined depictions of male and female superheroes in Marvel comic books and film and television, measuring physical dimensions and hyper-masculine or hyper-feminine features such as shoulder to waist ratio, upper body muscularity, and waist to hip ratio. BMI data were collected for 3,752 Marvel comic characters. Males were on average 'obese' while females averaged low normal weight. This male 'obesity' (higher BMI) is from upper body muscularity; hundreds of comic depictions of male superhero bodies were measured with shoulder to waist ratios far above human limits. Female superhero bodies were curvy with far lower waist to hip ratios than average humans and even female porn stars. These and other exaggerated features are framed in terms of supernormal stimuli and established human preferences.

Decoupling conditional cooperation from payoff-based learning in the public-goods game

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What motivates human behaviour in economic games such as the public goods game? In this game, individuals can cooperate by making contributions that are personally costly (lead to a net loss) but benefit the group. Hundreds of studies have shown that individuals typically contribute 50% of their endowment, but then that contributions decline over time. The theory of conditional cooperation argues that most people are motivated to contribute out of an evolutionary unique desire for fairness and group welfare. Contributions decline due to a growing sense of dissatisfaction with non-contributors that 'poison the well' and force everyone to not contribute. However, the typical experimental design confounds conditional cooperation, whereby individuals respond to the behaviour of others, with an alternative explanation of payoff-based learning, whereby individuals learn from changes in their own payoffs how to improve their income. Therefore our experiment decouples these two sources of information, in a 2x2 factorial design (N=280). We find that cooperation only significantly declines when information on payoffs is present. Information on the behaviour of others is insufficient to drive the typical decline in cooperation. This shows that behaviour in the PGG is motivated by personal profit maximization and not evolutionarily unique social desires.

Attitudes towards parental control of mate choice, opposition to out-group mating and ethnic identification in Surinam

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There is considerable evidence that throughout human evolutionary history, parents and other group members controlled to an important extent the mate choice of their offspring, and that this control may be an evolved trait. However, there are in this respect large historical and cultural differences. The present study examined the attitude towards parental control of mate choice and two potential factors related to this, i.e., opposition to out-group mating and ethnic identification, in the five major ethnic groups from the Republic of Surinam (n= 500), i.e., Hindustani, Creoles, Maroons, Javanese and people of Mixed descent. Hindustani and Maroons, had a more positive attitude towards parental control than all other groups. Hindustani were more opposed to out-group mating than all other groups, that did not differ in this respect. Maroons expressed more identification with their ethnic group than any other group. Women valued somewhat more than men parental control of mate choice and expressed somewhat more opposition to out-group mating. All effects of ethnic group and gender were independent of the demographic variables on which the groups differed significantly. A positive attitude towards parental control of mate choice was across ethnic groups associated with more opposition to interethnic mating and with more ethnic identification. The results are discussed in the context of research on the persistent and independence of cultural differences.

Infants can form a negative stereotype of a novel group based on antisocial actions by a single member of the group

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Several mechanisms have been proposed to explain the acquisition of stereotypes. One such mechanism involves an evolutionary tendency to draw generalizations about groups when exposed to negative psychologically salient information about a member of the group. For example, adults generally believe that sharks attack bathers, even though such events are rare. If this tendency emerges early in life, then even infants might form a negative stereotype about a novel group after observing salient antisocial actions by a member of the group. Our research tested this prediction, using 18-month-olds. Infants watched videos involving individuals in green or pink shirts. A green-group member deliberately destroyed a tower built by the pink group. Next, a member of a blue group fell and was helped by either a new green-group member (harmful-group event) or a new pink-group member (neutral-group event). Infants looked significantly longer if shown the harmful-group event, suggesting that

they had formed a negative stereotype of the green group and found it unexpected when someone from that group acted prosocially. This effect was eliminated when the tower's destruction was accidental or when the test videos ended before helpful actions occurred. Thus, even infants can form stereotypes based on salient negative information.

The importance of biosocial trade-offs in understanding female sociality

Jennifer Byrd-Craven, Ashley Rankin <jennifer.byrd.craven@okstate.edu>

Forming alliances with same-sex peers is a fundamental part of human sociality. For girls and women in particular, the underlying dynamics of these relationships have important consequences for well-being, social status, and likely even reproductive and other fitness-linked outcomes (e.g., infant outcomes). Compared to males' well-studied same-sex alliances, female alliances can be unstable and difficult to navigate. Especially for females, then, social bonds are at once incredibly beneficial as well as incredibly stressful. Building on Taylor's tend-and-befriend model of response to threat, I extend this model to incorporate the specific dynamics of women's friendship formation, maintenance, focusing on the underlying activity of the stress response systems. The contagious nature of stress responses within female friendships and the role that may have in bonding is discussed. These results suggest that mainstream psychology has failed to account for the biosocial trade-offs associated with friendships. By accounting for sex differences in the underlying function of these relationship dynamics and associated nuances, we gain a better understanding of female sociality.

Literature and the current model of imagination in empirical psychology

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"Imagination" is an umbrella term for a closely related set of psychological processes that include dreaming, mind-wandering, fantasizing, simulation, mental time travel, counterfactual thinking, mentalizing or perspective-taking, constructing an autobiographical narrative, and the creation of imaginary worlds. Over the past few decades, and especially in the past decade, empirical psychology has made major progress in understanding the components of imagination, their functions, and their relations to one another. Research in neuroimaging has identified the Brain's Default Mode Network as the central hub of imaginative activity linking different imaginative processes. Developmental psychology has illuminated the role of imagination in children's cognitive development, and neuroimaging has given more precision to understanding the sequence and timing in which children develop adult imaginative capacities. In this presentation, I describe each component of imagination and explain

how it is manifested in literature. I argue that the specific functions attributed to each process can be integrated within an overarching evolutionary understanding about the functions both of literature and of imagination in general.

Sex differences in harm avoidance among hunter-gatherers and forager-horticulturalists

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Do sex differences in risk preference arise because sexual selection favors competitive males, or because natural selection favors cautious females? The former has received more attention, but it is also plausible that selection has acted on females to be more fearful and harm-avoidant about danger. That would arise because a child's survival depends more heavily on the mother's presence than the father's, so the fitness costs to her of getting hurt are greater. Using a five-item harm-avoidance questionnaire, we investigate sex differences in harm avoidance in four small-scale societies whose exposure to risks closely reflects those of the EEA: Hadza foragers, and Tsimane, Shuar, and Tve forager-horticulturalists. The questions ask about dangers that might occur while traveling, including animal attacks, injury, and bad weather. Females in all four societies report greater harm avoidance. Preliminary analyses indicate that the sex difference first appears in early adolescence and then increases with age. Further analyses will see whether harm avoidance in these natural fertility populations responds to reproductive status, and whether it varies with parental status and number of children, as might be expected if this is a facultative response to parental investment.

Environmental harshness and unpredictability, life history, and social and academic behavior of adolescents in nine countries

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Safety is essential for life. To survive, humans and other animals have developed sets of psychological and physiological adaptations known as life history (LH) tradeoff strategies in response to various safety constraints. Evolutionarily selected LH strategies in turn regulate development and behavior to optimize survival under prevailing safety conditions. The present study tested LH hypotheses concerning safety based on a 6-year longitudinal sample of 1245 adolescents and their parents from 9 countries. The results revealed that, invariant across countries, environmental harshness and unpredictability (lack of safety) was negatively associated with slow LH behavioral profile, measured 2 years later, and slow LH behavioral profile was

negatively and positively associated with externalizing behavior and academic performance, respectively, as measured an additional 2 years later. These results support the evolutionary conception that human development responds to environmental safety cues through LH regulation of social and learning behaviors.

Links:

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Fitness interdependence and cultural traditions

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Fitness interdependence, here broadly referred to as the shared influence of individuals in replicating their genes into the next generation, provides a theoretical framework for explaining human kinship altruism and cooperation. The ethnographic record demonstrates that human kinship altruism and cooperation extends far beyond Hamilton's Rule, and also shows how often kin terms do not match biological relatedness (Cronk et al., 2018). To explain these phenomena requires broadening the approach to kinship. Rather than focus solely on living individuals, this talk will consider how ancestors influence the behavior of their descendants through cultural traditions. I will present data from the Iban of Borneo arguing that fitness interdependence is as relevant to ancestor-descendant relationships as to relationships between living people. The Iban engage in many forms of cooperation, such as gotong-royong, the practice of helping other households plant their rice seeds. Longhouse members provide mutual aid in rice planting until every household has finished with their planting. There are also various ritual traditions nested underneath gotong-royong, such as prayers and sacrifices to the ancestors that further promote cooperation. Although fitness interdependence typically focuses on the horizontal interactions of living people, this research applies a vertical approach to ancestors and descendants.

Comparing computational models of mate choice

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Choosing a mate is perhaps the most important decision a sexually reproducing organism makes in its lifetime. But for humans, this choice is not easy: we must navigate mating markets where ideal partners may not exist, many competitors jockey for access to few mates, and chosen partners will not necessarily choose us in return. Models of this decision process are challenging to evaluate because they necessarily propose multiple, interacting processes that are difficult to measure, manipulate, or observe. Here, I will describe a new method, called "couple simulation," designed to compare such complex models of mate choice by challenging them to reproduce real-

world couples within computer simulated mating markets. I will present the results of proof-of-concept simulations and studies of real-world couples that provide evidence that this couple simulation approach can help researchers empirically evaluate complex models of human mate choice.

Variation of infant testosterone during "mini puberty" not predicted by parental care

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Testosterone (T) has been shown to influence basic processes of development during early postnatal life and to exert enduring influences on behavior. A transient surge in T, referred to as “mini puberty”, peak in the first three months of infant development and decline to minimal levels by 6 months postnatal. This T surge in infancy is thought to influence the development and long-term regulation of the hypothalamic-pituitary-gonadal (HPGA) axis. Despite reported variability in levels of T during mini-puberty, it is unclear what factors might predict this. In this exploratory study, three-month-old infants (n=180) provided saliva samples that were assayed for T. Infant testosterone was normally distributed and demonstrated variability that closely resembled prior research. Using self-report and experience sampling (cell phones) data, we explored the role that maternal and paternal investment might have in predicting infant T levels. We hypothesized that, in line with Life History theory, infants are evaluating levels of parental investment to detect cues that may lead to the acceleration of development through early calibration of the HPGA axis. However, our measures of maternal and paternal investment could not account for any significant amount of variance in infant T.

“A solidarity-type world”: Mutual aid among ranchers in the American Southwest

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Acts of generosity can be observed in virtually every human society. Despite its prevalence, it remains unclear exactly when and how generosity organically emerges within communities. Based on our observations across nine distinct societies, we find evidence that generosity—help given absent expectations of repayment—emerges when needs arise unpredictably; when needs arise predictably, people are more likely to expect repayment for lending a hand. We set to directly test this model of generosity in a sample of ranchers in the American Southwest. Specifically, we hypothesized that ranchers would be less likely to expect repayment for help given when needs arise

unpredictably, and more likely to expect repayment for help given when needs arise predictably. Through a combination of survey and semi-structured interviews, we asked ranchers in the New Mexico/Arizona/Mexico border to rate the predictability of several job-related tasks/risks (e.g., branding cattle, injury). We also asked ranchers to report the number of times they gave help and the reasons why they gave help (e.g., injury). In support of our model, we find that ranchers report being more generous (i.e., are less likely to expect repayment for help) when risks are perceived to be unpredictable.

When mental states don't matter: Kinship intensity and intentionality in moral judgement

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Research among Western, Educated, Industrialized, Rich, & Democratic (WEIRD) populations led many to conclude that reliance on mental states during moral judgement is universal, perhaps an adaptive strategy for selecting social partners. Recently documented variation in this tendency presents a puzzle. Here, we propose and test the hypothesis that adaptive benefits associated with inferring others' intentions vary with kinship intensity. Although tracking mental states allows agents to pick prime social partners when relationships are fluid, it may become maladaptive in settings with intensive kinship and rigid networks. We establish an ethnographic foundation for our theory by systematically analyzing anthropological observations from HRAF. We demonstrate that strict liability and corporate guilt— which deemphasize mental states— are pervasive and pattern in ways expected by our theory. We then expand an existing experimental dataset containing observations from 322 people in 10 diverse societies, showing that kinship intensity explains most of the cross-cultural variation in intentionality in moral judgments. Together, these findings suggest that reliance on mental states has coevolved culturally to fit local institutions. In closing, we suggest that relational fluidity and weak social ties in today's WEIRD societies position these populations' psychology at the extreme end of the global and historical spectrum.

Empirical evidence for networks effects of urbanisation and fertility transition

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A recently published paper (David-Barrett Sci Rep 2019) proposed a mathematical theory that links demographic processes, such as fertility transition, urbanisation, and migration, to a rise in norm violations, and the replacement of traditional social network based norm enforcement with formalised legal institutions.

Here we report an empirical test to this theory using a combined mobile phone database, census data, and macro statistics. The size of the database is 5.6 million people, from Chile. We found that the data is consistent with all causal predictions of the theory at a very high level of significance. The reported magnitudes are as follows: urbanisation, fertility, and migration explains ~20% of the variation of the clustering coefficient among individuals, which, in turn, explains 48% of the variation in crime among administrative units. These results validate the theory, and offer immediate policy implications.

The effects of fathers on daughters' expectations for men

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It is well-established that low paternal investment (including low-quality fathering and father absence from the home) predicts enactment of short-term mating strategies among daughters. Guided by paternal investment theory (PIT; Draper & Harpending, 1982), the current research examines the role of women's expectations for men in mediating established relationships between paternal investment and daughters' sexual behavior. Using a genetically-informed differential sibling-exposure design (N = 223 sister pairs from divorced/separated families; ages 18-38), we found that developmental exposure to low-quality paternal behavior (but not paternal absence per se) predicted adult women's expectations for men as partners. For older sisters, who spent much of their childhoods living with their fathers, lower-quality paternal behavior predicted lower expectations for male investment in their relationships as adults. Moreover, lower expectations for men as partners predicted higher numbers of sexual partners (past and anticipated) among these women. By contrast, for younger sisters, who spent relatively little time co-residing with their fathers, no such effects of quality of paternal behavior were observed. The current work suggests that exposure to low-quality paternal behavior during development may help calibrate daughters' expectations for the behavior of male relationship partners, and these expectations may shape their short-term sexual behavior.

Risk sensitive decision-making in groups

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Organisms usually prefer low risk or low variance options. Risk sensitive foraging theory, however, predicts that when facing high need, organisms will follow a risky

strategy, choosing high variance options, a prediction confirmed in studies of individual choice in humans and other animals. But will humans continue to make risk sensitive decisions in collective action? Unlike the individual case, collective action often involves the threat of free riding, which could mitigate risk taking. Across 4 studies, we tested this using a threshold public goods game designed to simulate a group working to prevent disaster: A group of players must collectively contribute sufficient money to a threshold to prevent losing their remaining personal funds. Each player chooses between a low-risk, low-yield investment, a high-risk, high-yield investment, or defection. Consistent with risk sensitive theory, as the amount required to meet the threshold increases, people are more likely to choose the risky investment. We discuss how these results are relevant for decision making to mitigate real-world environmental challenges.

Links:

<https://www.nature.com/articles/s41558-018-0266-y>

Inequity aversion and revenge motivate punishment

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There are two broad functional explanations for punishment: fitness-leveling (Price, 2002) and deterrence (Krasnow et al., 2016). The former suggests that people punish due to inequity aversion, the dislike of unfairness, while the latter suggests that people punish in order to reciprocate losses and deter others from inflicting losses on them in the future. We explore the relative roles of these motivations using a two-person stealing game. Participants were assigned to either a Take or Augment condition. In the Take condition, players could steal \$0.10 from the participant's bonus or do nothing. In the Augment condition, players could augment the participant's bonus by \$0.10 at no cost to themselves or do nothing. We also manipulated outcome, such that participants experienced advantageous inequity, equality, or varying degrees of disadvantageous inequity. Participants then decided whether to pay a cost to punish the other player. We find that people punish in the absence of losses, particularly when confronted with disadvantageous inequity, highlighting the importance of inequity aversion in motivating punishment. However, punishment was most frequent when theft resulted in disadvantageous inequity. These findings point to dual motivations underlying punishment and bear directly on functional explanations for the existence of punishment in human societies.

Links:

<http://aspredicted.org/blind.php?x=md765v>

Experimental evidence for adaptive reproductive suppression following social exclusion

Tran Dinh, Steven W. Gangestad, James R. Roney, A. Janet Tomiyama, Daniel M.T. Fessler, Theresa E. Robertson, Melissa Emery Thompson, Martie G. Haselton
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When current conditions are probabilistically less suitable for successful reproduction than future conditions, females may delay reproduction until conditions improve. Throughout human evolution, social support was likely crucial to female reproductive success. Women may thus have evolved fertility regulation systems sensitive to cues from the social environment. However, it is not yet understood how easily the ovulatory cycle can be perturbed by psychological phenomena. In this study, we examined whether cues of social ostracism impact ovarian hormone production. Specifically, we predicted an increase in progesterone, which can inhibit ovulation if elevated during the mid-to-late follicular phase. Following a group bonding task, women were randomly assigned to a social exclusion ($n = 88$) or inclusion ($n = 81$) condition. After social exclusion, women experienced a decrease in estradiol (E) relative to progesterone (P) when baseline E-to-P levels were high. Socially-included women with higher baseline E-to-P experienced an increase in this ratio. Hormonal changes in both conditions were more pronounced among women with low background levels of social support. Follow-up analyses revealed that these changes were primarily driven by changes in progesterone. Results are consistent with a mechanism for adaptive regulation of fecundity in response to the loss of social support.

Testosterone, cortisol, and risky behaviors in adolescence

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Risk-taking in adolescence can be viewed as an adaptive response aimed at increasing social status and, thus, access to resources and mates. As a proposed mechanism for status-seeking behaviors, the joint influence of testosterone (T) and cortisol (C) have been investigated in adult populations. The dual-hormone hypothesis states that T's influence on status-seeking behaviors is moderated by levels of C, such that T is positively associated with status-relevant behaviors in adults with low levels of C. In this study, we investigated whether this T x C interaction predicts one aspect of status-seeking behavior adolescents: risk-taking. In this project, we obtained saliva samples from 149 adolescents, ages 11-17 years, who then played a simulated driving game (the Yellow Light Game; YLG) as a behavioral measure of risk. We predicted that baseline levels of T and C would interact to predict risky decisions during the YLG, in-line with the dual hormone hypothesis. Surprisingly, we found the opposite pattern: those with low C and high T displayed fewer risk-taking behaviors. It is proposed that

adolescents evaluate risk differently compared to adults. Perhaps what adults consider “risky” actually represents a rational tactic for obtaining status among adolescents.

Links:

<https://osf.io/2qbkf/>

Pride and shame: Key components of a culturally universal status management system

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We extend recent adaptationist theories about the emotions “pride” and “shame” to the domain of hierarchical status and test the novel hypothesis that pride and shame are dissociable components of a culturally universal status-management system. Using an international dataset containing ratings of the status impacts of 240 personal characteristics within 14 nations (N = 2,751), we found that (i) status impacts of personal characteristics were strongly intercorrelated across nations ($r_s = .79-.98$); (ii) American’s (N = 222) forecasts of the pride or shame they would experience if they exhibited those same personal characteristics closely tracked the status impacts across nations ($|r_s| = .74-.98$); and (iii) pride differentially tracked status gains, while shame differentially tracked status losses. These findings provide the first evidence for the existence of a universal grammar of status criteria, and suggest that pride and shame are dissociable components of a culturally universal status management system.

Older paternal and grandpaternal ages at conception predict longer telomeres in human descendants and is consistent with sperm telomere length increasing with age

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Telomere length (TL) declines with age in most human tissues, and shorter TL appears to accelerate senescence. In contrast, men’s sperm TL is positively correlated with age. Correspondingly, in humans, older paternal age at conception (PAC) predicts longer offspring TL. We have hypothesized that this PAC effect could persist across multiple generations, and thereby contribute to a transgenerational genetic plasticity that increases expenditures on somatic maintenance as average age at reproduction is delayed within a lineage. Here we examine TL data from 3,282 humans together with PAC data across four generations. In this sample, the PAC effect is detectable in children and grandchildren. The PAC effect is transmitted through the matriline and patriline with similar strength, and is characterized by a generational decay. PACs of more distant male ancestors were not significant predictors, although statistical power

was limited in these analyses. Sensitivity analyses suggest that selective late life survival or reproduction are not a cause of long TL among ancestors with older PACs, supporting age-related lengthening of sperm TL as the likely mechanism underlying the PAC effect. These findings show that TL reflects age at reproduction of recent male matrilineal and patrilineal ancestors, with an effect that decays across generations.

Links:

<https://osf.io/h47us/>

Social taste buds: Same-sex friend preferences match the demands of ancestral cooperation

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Despite the importance of friendship, the traits that people seek in a friend are not well understood. Here, we pursue the theory that same-sex friendships evolved as ongoing cooperative relationships, so the criteria of friend choice should match those of ancestral cooperative partner choice. We tested this hypothesis in 3 studies using a face perception paradigm and live dyadic interactions, and relying on actual attraction rather than self-reported preferences. We found convergent evidence that friend preferences reflect design for securing beneficial cooperative relationships in the ancestral environment. Specifically, judgments of a person's friend desirability depended on perceptions of their ability to create material benefits in the ancestral environment (e.g. skill as a hunter or gatherer). Sex differences reflect the different ancestral cooperative ecologies of men and women: men's friend choice decisions were more influenced by perceptions of ancestral productivity than were women's, while women placed greater priority on perceptions of social status and required a higher threshold of attraction to a potential friend before attempting to actually initiate a friendship. These results provide new evidence that the psychology of friendship is tailored to the ancestral environment, and suggest new directions for the study of friendship and social preferences more broadly.

Contribution of shape and texture cues to kinship detection in 3D images

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Previous research has established that humans are able to detect kinship among strangers from facial images alone. The current study investigated what facial information is used for making those kinship judgments, specifically the contribution of face shape and texture/colour. Using 3D facial images, 195 participants were asked to judge the relatedness of one hundred child pairs, half related and half unrelated.

Participants were randomly assigned to judge one of three versions of the stimuli: stimuli with both texture and shape information present, stimuli with only shape information present (texture/colour removed) or stimuli with only texture/colour information present (all faces were averaged to have the same shape). Using a binomial logistic mixed model, we found that participants were able to judge actual relatedness accurately. However, there was an interaction between shape and relatedness, whereby shape information increased the accuracy of kinship judgment for related pairs only. Also, the interaction between relatedness and texture/colour information approached significance, suggesting that texture/colour information may increase kinship judgment accuracy for unrelated pairs only. This indicates that individual shape and texture/colour information contribute to different extents and in different ways to kinship detection.

Links:

<https://osf.io/7ftxd/>

Impulsivity in harsh and unpredictable environment; A model of information impulsivity

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Evolutionary psychologists have argued that high levels of impulsivity are adaptive in harsh and unpredictable environments. These scholars often assume that harshness, unpredictability, and impulsivity are unitary concepts. In reality there are multiple notions of each. Using mathematical modelling, we explore how environmental conditions shape the optimal level of information impulsivity (acting without considering consequences). We use two notions of harshness: average resource quality and average extrinsic event quality (e.g., high extrinsic morbidity), and three notions of unpredictability: variance in resource quality, variance in extrinsic events, and interruption rate. In our model, agents repeatedly interact with their environment. In some interactions agents cannot control the outcome (e.g., unprovoked aggression). In others they make decisions that influence outcomes (e.g., choosing to eat a food). Before deciding, agents can sample cues that provide imperfect information on the consequences of a decision. We manipulate harshness and unpredictability between agents and measure information impulsivity as the number of sampled cues. In line with existing studies, we find that impulsivity is adaptive when resources quality is low or when interruptions are common. However, surprisingly, we also find that impulsivity is adaptive when resource quality is high or predictable. The influence of extrinsic events is limited.

Sex differences in jealousy evoked by allocating to or receiving money from the opposite sex

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The evolved function of romantic jealousy is to protect reproductive resources that increase fitness in men and women, which are directly related to securing paternal certainty in males and the exclusivity of father's investment in females. We developed a method incorporating an interpersonal dictator protocol to test evolved sex-differences in jealousy using economic games: informing men and women that their imagined or real heterosexual partner allocates money to or receives money from an opposite sex third party that they recently met (experimental condition). We had a sample of 218 men and 200 women that participated in different formats of this protocol, as well as a control and neutral condition through MTurk™, and then 29 heterosexual couples completed the experiment in the laboratory. Our results show that women are more jealous than men by their partner allocating money to an opposite-sex third party, and men are more jealous than women by their partner receiving money from the third party. We discuss the robustness of this method to support the adaptive function of sex-differences in jealousy, addressing the criticisms around the use of hypothetical scenarios or imagined situations which are controlled by the incorporation of economic games in this research.

Gifted at gift giving- An evolutionary perspective on preference accuracy

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Humans remember and act on others' unique preferences, especially our kin and romantic partners. Preference accuracy has been shown in two monogamous bird species, but there is little other comparative evidence. Although men give the majority of gifts cross-culturally, some evidence indicates women are better at anticipating the gift preferences of others, even when only presented with a photo of the recipient. Here I present a new study of 54 heterosexual romantic couples and their ability to predict one another's preferences in domains including food, environments and pastimes. We find that, in two out of three domains, women are better at predicting the preferences of their male partner than vice versa. We also find that social intelligence, measured by accuracy in the "Mind in the Eyes" task, predicts better preference accuracy. We replicate a previous counterintuitive effect showing worse prediction accuracy in couples who have been together longer. We do not find that preference accuracy predicts relationship satisfaction. I'll consider why we take the time, attention and effort to learn one another's preferences from an evolutionary perspective.

Storytelling and survival: Looking at fiction as a human adaptation using a new database (StORI)

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Storytelling is a behaviour common to every human culture on the planet, and yet researchers know astonishingly little about how and why it evolved, or what patterns the massive variation we see in storytelling behaviour. This gap can be partially attributed to a lack of detailed, accessible resources on the subject. In this paper I introduce the Storytelling and Oral Record Index (StORI), the first anthropological database dedicated to examining cross-cultural patterns of storytelling in indigenous and small-scale societies. The database combines information from hundreds of sources on the broad storytelling practices of 109 globally distributed cultures with a variety of demographic, environmental, ecological, and socioeconomic variables. The aim of this database is both to collate and record key information on global storytelling behaviour and to enable researchers to examine how these variables work to pattern the cross-cultural prevalence of certain types of stories. Early investigation shows statistically significant variation in the distribution of several story types when measured against indices of local ecological and social challenges. Through this research, we may hopefully reveal more about how this central human behaviour operates, and perhaps ultimately why it emerged in our species sometime in our evolutionary past.

Same-sex friendships among hunter-gatherers

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Across populations, researchers have observed a difference in the cooperative behavior of men and women, with men more apt to form flexible, hierarchical coalitions geared towards competitive pursuits, and women more inclined to establish dyadic, egalitarian friendships that prioritize reciprocal support. While several evolutionary hypotheses have been proposed to explain this pattern, the cross-cultural evidence is notably lacking in studies of hunter-gatherers — the population most relevant to evaluating evolutionary claims. Here, I review 252 ethnographic accounts of same-sex friendships in hunter-gatherers and find that they broadly conform to the sex-stereotyped patterns observed in other societies, albeit with substantial variation between groups. This variation may be due to ecological factors and between-group dynamics, suggesting that sex-stereotyped cooperative behaviors arise, in part, as adaptive responses to local conditions. The literature also reveals that in societies where men control important resources, men's coalitions play a role in weakening friendships between women; from this, I propose a hypothesis for the emergence of stronger patriarchy in delayed-return hunter-gatherers and agriculturalists. Overall, evolutionary hypotheses regarding sex differences in cooperative behavior are

supported by ethnographic evidence from hunter-gatherer populations, but the variation observed across groups demonstrates that these behaviors are flexible and likely responsive to ecological circumstance.

Early developing coalitional preferences: Infants' and children's preferences towards members of larger groups

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Both infants and several non-human species use numerical group size as a dominance cue and belonging to a dominant coalition lends critical adaptive benefits among social species, suggesting that early-developing motivations to affiliate with larger coalitions might evolve. In study 1, we showed 3–6-year-olds ($N = 142$, 76 boys) an animation of two groups with 3 or 2 novel agents moving in synchrony on a touch-screen computer. Next, children were presented with one member of each group and asked to press the one they liked the best, wanted to play with, or wanted to befriend (question type was randomly chosen). As predicted, boys chose the member of the largest group (50/76 children, binomial test, two-tailed, $p = .008$). Surprisingly, we found no such tendency among the girls (28/66 children, n.s.). In study 2, we habituated 6–12-month-old infants ($N = 128$, 64 boys) to the animations used in study 1. Next, we administered a reaching task, letting the infants choose between the two agents. There was no effect among the infants younger than nine months (41/84 infants, n.s., $BF_{0+} = 8.669$), whereas results were inconclusive among the older infants (27/44 infants, ns., $BF_{0+} = 1.154$).

Hidden talents in harsh conditions? A preregistered study of memory and reasoning about social dominance

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Although growing up in stressful conditions can undermine mental abilities, people in harsh environments may develop intact, or even enhanced, social and cognitive abilities for solving problems in high-adversity contexts (i.e., 'hidden talents'). We examine whether childhood and current exposure to violence are associated with memory (number of learning rounds needed to memorize relations between items) and reasoning performance (accuracy in deducing a novel relation) on transitive inference tasks involving both violence-relevant and violence-neutral social information (social dominance vs. chronological age). We hypothesized that individuals who had more

exposure to violence would perform better than individuals with less exposure on the social dominance task. We tested this hypothesis in a preregistered study in 100 Dutch college students and 99 Dutch community participants. We found that more exposure to violence was associated with lower overall memory performance, but not with reasoning performance. However, the main effects of current (but not childhood) exposure to violence on memory were qualified by significant interaction effects. More current exposure to neighborhood violence was associated with worse memory for age relations, but not with memory for dominance relations. By contrast, more current personal involvement in violence was associated with better memory for dominance relations, but not with memory for age relations. These results suggest incomplete transfer of learning and memory abilities across contents. This pattern of results, which supports a combination of deficits and “hidden talents,” is striking in relation to the broader developmental literature, which has nearly exclusively reported deficits in people from harsh conditions.

Links:

<https://osf.io/c8fne/>

Have gender differences in desire for casual sex disappeared? Methods and moderators matter.

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Have gender differences in desire for casual sex disappeared? Recent studies suggest men and women are largely similar in their desire for short-term mating, especially after controlling for social stigma and other proximate factors (Conley et al., 2011, 2013). Across five national and college student samples (total N > 60,000), we examined how methodological approach and qualities of potential sex partners strongly moderate the size of gender differences in interest in casual sex. Looking at partner characteristics, sex differences were partially attenuated when potential partners had high athleticism, social status, and resources. Looking at methods, gender differences varied substantially across the “ideal,” “minimum,” and “maximum” number of partners desired. The findings also highlight, however, substantial variability within each sex and also constraints on men’s openness to having many sex partners. Both men and women reported strong interest in having 1-2 partners, but men descended to “neutral” interest at eight sex partners and expressed strong disinterest in having over 50 partners. These findings can largely be understood using Sexual Strategies Theory and highlight the menu of mating strategies men and women have to choose from (Buss & Schmitt, 1993), but also bring attention to potential constraints on men’s short-term mating.

Towards a standard model for the cognitive science of nationalistic behavior

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Pundits and scholars alike have been taken by surprise by the rise in popularity of separatist movements (e.g. Brexit, “America first”) following an era that seemed to be moving steadily toward globalization. This proposal suggests that these events would not seem so surprising and unpredictable if current models of nationalism were more thoroughly integrated with what we know about human cognition and its evolution. I will present a Standard Model for the Cognitive Science of Nationalistic Behavior (CSNB), modeled on the “Standard Model” in Cognitive Science of Religion which unified the scientific study of religion across disciplines by identifying structural components of religious systems that although seemingly different (i.e. attire, rituals), are strikingly similar in their underlying cognitive components. I will present a corpus of nationalistic movements and their shared behavioral elements, other domains in which those elements are prevalent, and the cognitive systems that match those elements and suspected as contributing to their appeal to humans. Such elements include: symbols (e.g. flags, anthems); shared narratives or myths of common ancestry; preoccupation with stranger-danger; claim to land; appeal to socially constructed categories (e.g. religion/ethnicity/race); and boundary demarcating idioms such as “Motherland” or “The country”.

On moderation of hormonal associations with mate preferences by relationship status

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Recent large replication studies have found little evidence for main effects of ovarian hormone levels on mate preferences (e.g., for facial/vocal masculinity, bodily muscularity). But they’ve yielded several progesterone by relationship status interaction effects, with low progesterone levels (associated with within-cycle conceptive status) relating to greater preference for these masculine/muscular features in partnered but not single women (in whom the opposite pattern is sometimes observed). As often as not, however, interactions involve between-woman, not within-woman, progesterone variation, leading some scholars to propose they reflect individual differences, not direct effects of progesterone. This conclusion does not follow. If progesterone has direct effects, total variation in progesterone levels will covary with outcomes. Total variation, in turn, can be separated into between-woman and within-woman components, both of which will covary with outcomes. Replication studies have imperfect power to detect meaningful interaction effects; one can’t expect all to be “significant.” One should,

however, expect both between-woman and within-woman progesterone interaction effects to run in similar directions, consistently across preferences – a pattern found in publicly available datasets and reports. The very datasets claimed to yield no evidence for hormonal impacts, then, are consistent with meaningful hormonal impacts. More empirical and theoretical work is needed.

Health, inflammation, and investment in present versus future outcomes

Jeffrey Gassen, Summer Mengelkoch, Sarah E. Hill <j.gassen@tcu.edu>

Making decisions in a rapidly changing world requires individuals to make trade-offs between taking advantage of current rewards and opportunities or forgoing those options in search of a better outcome down the road. Research and theory in the evolutionary sciences suggest that how individuals resolve this trade-off should be influenced by the internal, physical condition of the body. Combining insights from psychoneuroimmunology and the evolutionary sciences, I present a novel theoretical framework proposing that signaling by the immune system – and inflammation in particular – plays an important role in mediating relationships between changes in bodily condition and investment in present versus delayed outcomes. In the current presentation, I will outline this theoretical framework and present the results of recent cross-sectional and experimental studies which find that increases in inflammation predict greater present-focused decision-making. Further, I will present new data suggesting that conditions which compromise bodily health and activate the immune system also reduce individuals' investment in cooperation, a behavior that involves assuming immediate costs for delayed social benefits. I will close by discussing the implications that relationships between health, inflammation, and present-focused decision-making may have for additional behavioral and psychological outcomes, such as learning.

Links:

<https://10.31219/osf.io/ptsd4>

Evolving institutions for collective action by selective imitation and self-interested design

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Human behavior and collective actions are strongly affected by social institutions. A question of great theoretical and practical importance is how successful institutions get established and spread across groups and societies. Using institutionalized punishment in small-scale societies as an example, we contrast selective imitation and self-interested design with respect to their ability to converge to cooperative social

institutions. While there are many mathematical models of selective imitation, the theoretical toolbox for studying self-interested design is limited. Recently we expanded this toolbox by introducing a novel approach, which we called foresight, generalizing standard myopic best response for the case of individuals with a bounded ability to anticipate actions of their group-mates and care about future payoffs. Here we apply this approach to two general types of collective action -- "us vs. nature" and "us vs. them" games. Our results show that foresight and the "theory of mind" increase leaders' willingness to punish free-riders. This, in turn, leads to increased production and the emergence of an effective institution for collective action. We also observed that largely similar outcomes can be achieved by selective imitation, as argued earlier. Foresight and selective imitation can interact synergistically leading to a faster convergence to an equilibrium.

Cognitive-evolutionary therapy for depression - results of a randomized clinical trial

Cezar Giosan, Oana Cobeanu, Katarzyna Wyka, Vlad Muresan, Cristina Mogoase, Aurora Szentagotai, Loretta S. Malta, Ramona Moldovan <giosan@outlook.com>

Depression is the leading cause of disability worldwide. Despite the benefits of the current treatments, continued efforts are needed to improve existing interventions or create new ones. The present study examined, in the form of a randomized controlled clinical trial, the merits of Cognitive-Evolutionary Therapy (CET) for depression. CET consisted of interventions on patients' evolutionary fitness, such as upward mobility, extended family, social capital, attractiveness, etc. Results showed that CET was as effective in treating depression as Cognitive Therapy (CT), with similar reductions in symptoms of depression at posttreatment and 3-month follow up. CET was superior to CT in increasing engagement in social and enjoyable activities at posttreatment and, to a lesser extent, at the 3-month follow up, particularly for females. Participants in the CET group showed significantly greater reductions in behavioral inhibition/avoidance at both post-treatment and follow-up, compared to the CT group. The effect sizes obtained in this trial were particularly impressive and suggest that, on certain clinically-relevant dimensions, CET may be superior to CT. These encouraging findings provide evidence that CET is a novel, effective therapy for depression that can be offered to patients for whom other types of treatment are not appealing or have not been effective.

Links:

<http://www.isrctn.com/ISRCTN64664414>

How gossip and reputation shape high-stakes cooperative decisions among Turkana warriors

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Gossip is essential to sustaining cooperation through indirect reciprocity, but it is unclear if and how individuals obtain accurate information through gossip. We examine how information acquired through hearsay influences cooperative decisions in warfare among the Turkana, a politically uncentralized semi-nomadic pastoral population in Kenya. The Turkana engage in cattle raids against neighboring groups in which there is a substantial risk of injury or death. Using vignettes and surveys with 63 Turkana warriors, we obtained information regarding warriors' ratings of the qualities of other warriors, norms about information sharing over different social scales (from kin level to the cultural group at large), the level of consensus in reputation, and real-world instances of decision making in warfare based on gossip. The results indicate that 1) a warrior's reputation is associated with altruistic bravery, generosity, and combat skill; 2) there are norms regulating sharing other warrior's reputations; and 3) warriors actively assess reputation when determining who to cooperate with. The findings suggest norms may play a role in making gossip sufficiently accurate, thus facilitating indirect reciprocity as a mechanism of human cooperation.

Impact of relatedness, dominance rank, and reproductive state on female-male association in wild, white-faced capuchin monkeys

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Genetic evidence of inbreeding avoidance and male reproductive skew exists in several wild primates. How strategic mating might explain these breeding patterns remains under-explored. In this study, we present behavioral, genetic, and endocrinological data on female-male association in capuchins (*Cebus capucinus*) (n=223 dyads, n=36 females, n=26 males), a species that faces the challenge of avoiding both inbreeding and infanticide. Close proximity to alpha males was dependent on female dominance rank, with higher-ranking females spending more time in proximity. Higher-ranking females were also more likely to mate with alpha males. 'Baseline' females (pre-reproductive, lactating, and post-reproductive) were more likely to be in proximity of their closest male kin as compared to non-kin. Proximity to non-kin increased if females were cycling or pregnant, as compared to baseline females. Females and males were less likely to direct courtship toward close kin compared to non-kin. However, females were additionally also less likely to court distant kin as compared to non-kin, while males were not. Overall, our results suggest that females compete for access to alpha males, that affiliation with close kin and with non-kin

depends on female reproductive state, and that there are sex-differences in the magnitude of sexual aversion in capuchins.

Human reproductive behavior, life history, and the challenge hypothesis: A 30-year review, retrospective and future directions

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The Challenge Hypothesis (Wingfield et al., 1990) originally focused on adult male avian testosterone elevated in response to same-sex competition in reproductive contexts. The purpose of the present paper is to demonstrate how the Challenge Hypothesis has shaped ideas about human life histories. We conduct a citation analysis, drawing upon 400 Google Scholar citations in the human literature to identify patterns in this body of scholarship. We cover key contextual factors that help inform variable testosterone responses such as winning/losing to adult competitive behavior. Findings from courtship and sexual behavior indicate some variation in testosterone responses depending on factors such as motivation. A large body of research indicates that male testosterone levels are often lower in contexts of long-term committed partnerships and nurturant fathering and aligned with variation in male mating and parenting effort. As extensions of the Challenge Hypothesis across the life course, DHEA and androstenedione (rather than testosterone) appear more responsive to juvenile male competitive behavior, and during reproductive senescence baseline male testosterone levels decrease just as male life history allocations evidence decreased mating effort. We synthesize central concepts and findings that inform life history tradeoffs between maintenance and reproductive effort and conclude with future directions.

Sociality and the adaptive design of the oxytocin system

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Oxytocin (OT) is a mammalian neuropeptide hormone originally studied in the context of obstetrics and mother-infant bonding. Animal and human studies have suggested that OT also functions within other kinds of social bonds, such as those with pair-bond or coalitional partners. Some have adopted the perspective that OT is a generalized 'bonding' hormone, but numerous opposing findings make clear that no simple interpretation along these lines is possible. We propose a framework that addresses these seemingly paradoxical findings, and more broadly aims to provide

additional explanatory power regarding the roles of OT in sociality. We argue that OT mediates trade-offs pertaining to the relative benefits of varieties of social interaction. Furthermore, how these trade-offs are balanced should be sensitive to appraisals of the social environment. As a preliminary examination of these ideas, we present data from 148 romantically involved individuals who 1) provided at least one saliva sample assayed for OT and 2) completed several questionnaires regarding their investment and interest in multiple kinds of social bonds. We find intriguing, yet inconsistent suggestions of OT mediating trade-offs between kinds of social investment. Finally, we end by discussing ways forward for untangling the complex roles of OT in sociality.

Sex differences in humor production ability - a meta-analysis

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There is abundant evidence that sense of humor is a sexuality selected trait, signalling underlying mate quality and intelligence. Consistent with sexual selection and mental fitness indicator theories, women view humor production ability as more important when choosing a mate. However, it is not clear if men actually possess higher humor abilities than women. We offer the first comprehensive quantitative meta-analysis on the topic, aimed at measuring the magnitude of such differences, if present. We included studies where participants identified as male or female created humor output that was assessed for funniness by independent raters who were blind to any characteristics of the subjects. Our meta-analysis includes 36 effect sizes from 28 studies (N = 5057, 67% women, including college and non-college students). Twenty of the 36 effect sizes, accounting for 61% of the participants, were not previously published. Results based on random-effects model revealed that men's humor output was rated as funnier than women's, with a combined effect size $d = 0.321$. Results were robust across various moderators and study characteristics, and multiple tests indicated that publication bias is unlikely. Overall, the results are consistent with the signalling hypothesis, and the view that humor is a sexually selected trait.

Health and reproductive responses to market integration among the matrilineal Mosuo

Darragh Hare, Adam Z. Reynolds, Chun-Yi Sum, Mary K. Shenk, Tami Blumenfield, Siobhán M. Mattison <dhare@unm.edu>

Market integration (MI) is the process of transition from a subsistence-based economy to a market-based economy. MI does not affect all societies in the same way, because each has unique starting conditions, encounters different elements of MI, and

experiences MI with different pace and intensity. Similarly, MI might not affect all individuals in a given society in the same way: personal circumstances, family and household structure, and place of residence will all mediate how an individual experiences and responds to MI. We used multi-model selection to investigate relationships between multiple indicators of MI and variance in waist circumference, blood pressure, and age at first birth among adult matrilineal Mosuo in southwest China. We found that people who experience greater MI have larger waist circumference, higher blood pressure, and earlier age at first birth. Different indicators of MI at the individual, household, and village level predict each of these outcomes. People adjust different aspects of their strategic decision-making in response to different elements of MI, for example trading off health to pursue emerging opportunities to acquire wealth and status, or taking advantage of additional resources to increase reproductive success. These responses could represent attempts to maximize inclusive fitness in changing environments.

Ovulation cycle effects: Nothing there? Taking stock of shifts in women's desires in the wake of the "replication crisis"

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Are findings in social science replicable? Over the last seven years, this question has dominated journal titles and news headlines. Focus on one set of findings has been intense: changes in women's mating desires across the ovulatory cycle. Researchers have taken two approaches to assessing the evidence, revisiting published data using new statistical tools and conducting studies designed with the purpose of assessing replicability (e.g., pre-registered replications). These approaches have generated considerable discussion and controversy, with some voicing the conclusion that there's nothing there and we should move on to other endeavors. What, now, is the state of evidence? We review the evidence, including purported non-replications in preregistered studies. We focus on one set of findings in particular: the ovulatory shift in women's attraction to extra-pair mates and its moderation by partner attractiveness. Key conclusions about non-replication of these effects appear to be plainly false. One issue in the emerging replication literature is the standard by which findings are judged as replication failures. Somewhat ironically, researchers may adhere too strenuously to all-or-nothing tests of statistical significance (e.g., even rejecting $p = .012$ as non-significant for findings showing the same pattern as in previously published research).

Why the activities of the immune system matter for human social behavior (and not only for those who study health)

Sarah E. Hill, Jeffrey Gassen <s.e.hill@tcu.edu>

A growing body of research finds that the activities of the immune system – in addition to protecting the body from infection and injury – also influence how we think, feel, and behave. Although research on the relationship between the immune system and psychological and behavioral outcomes has most commonly focused on the experiences of those who are ill or experiencing an acute immune response, theory and research in the evolutionary sciences and psychoneuroimmunology suggests that the immune system may also play a key role in influencing such outcomes in those who are healthy. In this presentation, I will go over recent research that suggests that inflammation – a key component of the immune response to pathogens and stressors – may play an important modulatory role in shaping emotions, motivation, cognition, and behavior, even among those without symptoms of illness. Moreover, because inflammation occurs in response to a number of everyday social experiences (e.g., loneliness, stress), we propose that it may be an important mediator of many psychological and behavioral outcomes that are of interest to those seeking to understand the adaptive function of human behavior in a variety of contexts. We close by discussing potential opportunities for integrating psychoneuroimmunology (PNI) into evolutionary approaches to human behavior.

Links:

<https://journals.plos.org/plosone/article/metrics?id=10.1371/journal.pone.0203961>

<https://osf.io/ptsd4/>

<https://osf.io/uwkvq>

A collection of replication attempts in Japan: Mating, family, survival, and social exchange.

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In this presentation, we will present a collection of registered (partially) direct replications of several evolutionary psychological studies with samples from Japan (N > 3,000 in total). Specifically we have conducted replications of 1) Men's overperception of women's sexual intent (Haselton, 2003; Haselton and Buss, 2000), 2) Gender differences in mate preferences (Bech-Sørensen and Pollet, 2016), 3) Birth-order effects on personality (Healey and Ellis, 2007), 4) Biased attachment towards grandparents as a function of paternity uncertainty (Laham et al., 2005), 5) Memory enhancement effects of survival processing (Nairne et al., 2008), and 6) Effects of intentional cheating cues on social exchange reasoning (Cosmides et al., 2010). The

results were generally positive, supporting the original findings. At the same time, though, we also found some unexpected negative results. For instance, women perceived sexual intent in other women's behavior as much as men did (i.e., Perilloux and Kurzban, 2015). Gender differences in preference for physical attractiveness did not reach significance. Survival processing of words did not enhance memory for the words. We will present additional studies addressing factors that might have contributed to the negative results.

Links:

https://osf.io/w8mk5/?view_only=d7dbbf9dcb44470e95e660048a4fc7be

https://osf.io/fm9nd/?view_only=a314114fa3294b4ea9ca5555afbe82a4

https://osf.io/uk4e5/?view_only=77ec47991dab4b9d838e9474bb965b2d

Evidence games: A functional account of motivated reasoning

Moshe Hoffman, Erez Yoeli, Christian Hilbe <Hoffman.moshe@gmail.com>

Following Trivers and von Hippel, we presume that internalized beliefs are influenced by persuasion motives. We incorporate into this account insights from simple game theory models (verifiable signaling, evidence games, signal jamming) in order to explain particular features of motivated reasoning, such as the asymmetry between supportive and non-supportive evidence, and lack of accounting for extent of search or the diagnosticity of the evidence. We end by contrasting our model with a standard behavioral account and articulating the added insights beyond Trivers and von Hippel's original formulation.

Causal understanding and the cultural evolution of technology

Kevin Hong <kevintoyhong@gmail.com>

Unlike any other species, humans heavily rely on culturally transmitted technologies. However, there has been much disputes on the psychological basis for the transmission and evolution of technology; in particular, whether causal understanding is required for technological progress. I argue that there are two distinct kinds of causal understanding: 1) causal specification, or the folk equivalent of the traditional counterfactual theory of causality, and 2) causal association, or the ability to associate a technological dimension with an outcome without necessarily knowing the mechanistic details. I further argue that both types of understandings are results of evolved psychological mechanisms, and I adopt a formal modeling approach to demonstrate that technological progress can only occur when there is a factually correct causal association understanding in the relevant technological domain. Finally, I examine the dynamics of the model and offer some tentative suggestions regarding why

certain domains (e.g. medicinal and epistemic) have made relatively little progress for in most societies for the most part of human history.

Gender and temperament: Who do 14 month olds expect will take care of an infant?

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Across cultures and history, mothers spend more time caring for children than fathers (Hrdy, 2007). This sex difference in parental investment is not surprising from a biological perspective (Trivers, 1971); however, compared to other species (paternal investment is documented in less than 5% of mammals; Clutton-Brock, 1991) human males are actually unique in their degree of paternal investment (Bjorklund et al., 2002). In the current studies, we investigated whether 14 month old infants who have experience with female caregivers have expectations about who is likely to care for a baby. In three studies (N = 64) using a looking-time paradigm, we found evidence that when male and female voices were friendly babies were equally likely to expect male and female animated characters to soothe a cartoon crying infant. However, when male and female voices were stern and dominant, infants were surprised by the male voice soothing the infant, but not the equally stern female voice. We conclude that even with extensive exposure to female caregivers, infants are equally willing to accept a male as a caregiver as long as he provides cues of infant-directed warmth. This interaction between gender and temperament may reveal infants' evolved sensitivities to the risk of infanticide.

Falling for evolved navigation theory

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Tests of Evolved Navigation Theory (ENT) have led to the discovery of the largest visual illusions in humans. ENT posits that these visual illusions are cognitive adaptations that evolved in response to navigation risks such as falling. We know that environmental differences in falling risk are related to differences in ENT illusions within individuals. We might also expect that individual differences in injury history or likelihood should produce differences in ENT illusions across individuals, but no data have yet addressed this point. Here I present the first data from fifteen years of human vision experiments on personal falling history and environmental distance perception. Broad groups of participants estimated various environmental distances and also provided information about their previous injury history. Participants were unaware of the

accuracy of their estimates, comparison of their estimates to those of others, or the hypothesized relationship between falling history and distance estimates. Nonetheless, participants' estimates reflected their personal falling injury history. These are the first data to test this fundamental ENT prediction. They hold the key to addressing a primary source of natural selection in our species, as well as a major source of mortality in the modern world.

Costs of reproduction in women: high parity is related to poor health in post-reproductive age

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Life history theory predicts that resources invested in reproduction trade-off against investment in maintenance. It is less clear, however, if reproduction has long-term consequences for maternal health. Health consequences of reproduction were studied among 415 post-reproductive women from Polish population with parity of 1 to 13 children (mean 4.1). A composite index of health was designed to include 16 measured variables characterizing cardiovascular health, lipid profile, inflammation, physical strength, cognitive decline, obesity, anemia and diabetes. Women's reproductive investment, expressed as the number of children, correlated with a decline in the index of health ($p=0.0004$). The index declined at the rate of -0.01 , or about 2% per each child born. The number of sons had a significant detrimental effect on maternal health ($p=0.0038$) just as the number of daughters ($p=0.0305$). Age at first and last reproduction, and inter-birth intervals did not have any effects on the health index, indicating that timing and pace of childbearing is less important. This is the first study that tested costs of reproduction using a comprehensive, integrated assessment of health rather than single health indicators, or incidence of selected diseases. Costs of reproduction in women with high parity may last well beyond their reproductive years.

Developmental plasticity and seasonal resource variation in Timor-Leste

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Foraging people employ behavioural adaptations (e.g. relocation) to attenuate seasonal food shortages. Subsistence farmers experiencing seasonality are limited in their ability to relocate. Peak labour requirements often coincide with food shortages, imposing seasonal selection pressures on growth. Seasonal exposure to food shortages may select more strongly for developmental plasticity – even in utero -- in sedentary populations. Rural households in Timor-Leste depend on swidden farming, and experience food shortage in the rainy season. We examined early childhood growth of

581 children in 2 communities (mountain and coastal) relative to gestational timing. Longer in utero exposure to seasonal food scarcity was related to lower Z-height in boys (but not girls) after controlling for mother's height. Children gestated during the 'hungry' season tended to be shorter for age at 0-2 years ($xZht = -2.78$) than their siblings gestated during harvest season ($xZht = -1.78$; $p = 0.087$; $n = 30$ pairs), and weighed less for age than their less deprived sibling ($xZwt = -2.0$ and -1.34 , respectively; $p = .021$). The prenatal environment influenced mountain (but not coastal) children's growth from 2-5 years. We discuss the apparent advantages and limitations of these physiological responses to season resource scarcity in light of ecological shifts.

Disgust sensitivity and opposition to immigration: Does contact avoidance or resistance to foreign norms explain the relationship?

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Past research suggests that pathogen-avoidance motives (e.g., disgust sensitivity) relate to greater opposition to immigration. Two accounts have been proposed to explain this relationship: the outgroup avoidance account and the traditional norms account. According to the former, immigrants are perceived as being more infectious because they carry novel pathogens due to their foreign ecological origins. According to the latter, immigrants' foreign norms are perceived as a pathogen threat. This study aimed to disentangle these accounts. Participants ($N = 977$) were randomly assigned to read a description of an immigrant who had high or low physical proximity to locals and high or low assimilation to local norms. The effect of disgust sensitivity on attitudes toward the immigrant (and immigrants like him) was compared across conditions. Results supported the traditional norms account: disgust sensitivity related to anti-immigration attitudes when the immigrant was described as not assimilating to local norms, but not when he was described as assimilating. Contrary to the outgroup avoidance account, the relationship between disgust sensitivity and anti-immigration attitudes did not vary across the high-contact and low-contact conditions. Results suggest that resistance to foreign norms, rather than avoidance of novel pathogens, better explains the relationship between pathogen-avoidance and outgroup prejudice.

Links:

<http://osf.io/tcuap>

Experimenting with makeup: How cosmetic application affects women's agency and competitiveness, as well as others' perceptions

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Makeup is known to elevate women's perceived attractiveness and femininity. It also associates with negative consequences of sexualisation such as low self-esteem, unfaithfulness and promiscuity. It remains unclear whether makeup can benefit women by increasing other self-perceived traits or the perceptions of others. In a two-part study we investigate the effects of makeup on a) women's self-perceived agency and competitiveness and b) other's perceptions of mental capacity and moral status of women. In Study 1 (N = 229), women were asked to imagine one of 4 scenarios (e.g., a romantic date), and half were asked to apply makeup to suit that scenario, before answering questions measuring self-perceived agency, humanness, intrasexual competitiveness and mate guarding resistance. In Study 2, 422 men and 422 women rated images of the women's faces from Study 1 on perceived mental capacity and moral status. We find little evidence that applying makeup affects women's self-perceived traits. However, women wearing moderate to high amounts of makeup were attributed less mental capacity and moral status by other men and women. This suggests that although there exists cultural and competitive pressure on women to appear attractive, negative stereotypes of makeup may lead to detrimental perceptions of women wearing makeup.

Perceived effectiveness of flirtation tactics: The effects of sex and mating context

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To attract a potential mate, men and women have to exhibit a type of behavior that get the attention of, and potentially create a sexual interest from a desired partner. This type of behavior is often referred to as flirting, and involves various signals communicated between individuals. In the first large preregistered study of judgement of effectiveness of flirtation tactics based on Sexual Strategies Theory, we consider the effects of flirter's sex and mating contexts in addition to participant sex. In addition, effects of covariates such as sociosexuality, extroversion, mate value, age, and religiosity are considered. Data was collected in Norway (N = 415) and the US. Results from the Norwegian sample will be presented. The two major hypotheses concerning groups of tactics that convey sexual availability (women and short-term), and commitment (men and long-term) were mostly supported, dovetailing neatly with findings from the self-promotion literature. Other hypotheses concerning casual conversation and humor were only partially supported. Sex of participant and covariates

had limited effect on judgement of flirtation tactic effectiveness, and the effects of these individual participant differences were contingent on flirter's sex and mating context.

Links:

<https://osf.io/ty5dx/>

Attitudes towards #MeToo and perception of sexual harassment – The effect of prototypical #MeToo features

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The #MeToo movement has to a large degree addressed a specific type of sexual harassment, focusing on quid pro quo over hostile environment type sexual harassment. Further, prototypical #MeToo features include male over female harasser; superior over subordinate harasser; repeated over single case harassment; private over public settings; and personal over general targets. We predict that these prototypical #MeToo features that gained attention during the campaign will increase peoples' perception of which social-sexual behaviors are considered to be sexual harassment. Further, we consider sex differences and effects of attitudes toward #MeToo on perception of social-sexual behavior. Predictions were tested in a Norwegian sample of 491 participants (65.6% women). The results suggest that perception of sexual harassment is indeed associated with prototypical #MeToo features, sexualized physical contact and the participant's sex. While hostile sexism showed inconsistent patterns, positive attitudes towards the #MeToo campaign led to increased perception of sexual harassment. #MeToo gave increased attention to an important social issue. Nevertheless, the prototypical nature of sexual harassment perception might result in neglecting other forms of sexual harassment, including hostile work environment harassment and homophobic remarks.

Social dominance orientation has both genetic and unique environmental influences, but only genetic pleiotropy accounts for its correlation with political attitudes

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A foundational question in the social sciences concerns the underlying causes of people's political beliefs and prejudices. What role, if any, do genes, environmental influences, or personality dispositions play? Social Dominance Orientation, an influential

index of people's general attitudes toward intergroup domination, correlates robustly with political beliefs. SDO consists of the sub-dimensions SDO-Dominance (SDO-D), which is the desire people have for some groups to be actively oppressed, and SDO-Egalitarianism (SDO-E), a preference for intergroup inequality, but without any support for overt oppression. Using a twin design (N = 1987), we investigate if the desire for intergroup dominance and inequality makes up a genetically grounded behavioral syndrome. Specifically, we investigate the heritability of Social Dominance Orientation, in addition to whether it genetically correlates with support for political policies concerning the distribution of resources to different social groups. In addition to substantial heritability estimates for SDO-D and SDO-E (37% and 24%, respectively), we find that the genetic correlation between these sub-dimensions and political attitudes was overall high (mean genetic correlation 0.51), while the environmental correlation was very low (mean environmental correlation 0.08). We conclude that the relationship between political attitudes and SDO-D and SDO-E is grounded in common genetics, suggesting that the desire for (versus opposition to) intergroup inequality and support for political attitudes that serve to enhance or attenuate societal disparities are convergent adaptive strategies for navigating group-based dominance hierarchies.

An Energetic Explanation of Menstrual Taboos

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We present a new evolutionary hypothesis to explain the widespread occurrence of menstrual taboos. Menstrual taboos and rituals are prevalent across human societies and commonly involve a reduction in female labor. We thus hypothesized that one of the ultimate consequences of these taboos, irrespective of local cultural meaning, is that they decrease a women's energetic expenditure by restricting her daily activities. A reduction in energy expenditure is predicted to increase a woman's estradiol and progesterone levels, positively influencing her probability of conception in the next cycle. To test this hypothesis, we analyzed 110 societies present in both the Standard Cross-Culture Samples and the Human Relations Area Files for prevalence and types of menstrual taboos. Among the 90 societies with menstrual taboos, a significant number of societies (62%) explicitly list menstrual taboos that reduce a women's energy expenditure. We propose that menstrual taboos are prevalent in non-industrialized societies, where energy stress causes fluctuations in energy balance, impacting ovarian functioning, and therefore fecundity. We show that resting for 3-5 days would result in 520-3848 kcals of energetic savings. Our energetics hypothesis provides an adaptive and ultimate explanation, grounded in research on reproductive ecology, to explain the prevalence of energy saving menstrual taboos.

Functionally calibrating life satisfaction: The case of mating motives and self-perceived mate value

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The phenomenology of life satisfaction may be calibrated to how well one is moving toward achieving psychologically active and fundamental goals, thereby providing useful information for, and potentially motivating, subsequent action. Investigating the specific case of mating motives, we hypothesized that when mating goals are engaged, life satisfaction would be calibrated by self-perceived mate value – cues linked to mating success – in nuanced ways concordant with our functional approach. Because most individuals (eventually) seek long-term relationships, we predicted and found that self-perceived long-term mate value strongly predicted life satisfaction regardless of one's sex and relationship status. In contrast, self-perceived short-term mate value only predicted life satisfaction for individuals with short-term mating goals—single uncommitted men (Studies 1-4), individuals dispositionally motivated towards short-term relationships (Studies 3-4), and single uncommitted women for whom short-term mating motivation was experimentally engaged (Study 5). Internal meta-analyses revealed these nuanced findings to be reliable and robust. These findings support a broad, functional conceptualization of life satisfaction, suggesting the possibility that life satisfaction may be calibrated also by cues associated with progress toward other psychologically salient fundamental motives.

Women's strategic defenses against same-sex aggression: Evidence from sartorial behavior

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Whereas men's intrasexual aggression has been studied for over a century, women's has received systematic study on in the last decades—with even less work focusing on women's defenses against such aggression. Yet we should expect that women can (a) grasp which features evoke same-sex aggression and (b) strategically damp (some of) those features when aggression risk is high, thereby avoiding the costs of victimization. Here, we investigate this proposition via women's sartorial choices. Women selectively aggress toward women displaying cues of sexual permissiveness (e.g., revealing dress) and/or fertility (e.g., physical attractiveness). We find that (a) women (and men) expect greater intrasexual aggression toward a woman dressed revealingly versus modestly, especially if she is attractive. Sartorial cues contributing to permissiveness perceptions are easier to damp than bodily cues contributing to fertility perceptions; thus, we explored women's clothing choices across three experiments, gathering behavioral and self-report measures. We find that (b) women create outfits

baring less skin, choose more modest clothing, and intend to dress less revealingly to encounter other women—and, importantly, women do so flexibly: Women damp permissiveness cues depending on individual features (physical attractiveness) and situational features (being a newcomer) that amplify the risk of incurring same-sex aggression.

Who needs abstract thoughts?: Non-representational factors in (the emergence of) human-unique abstract relational reasoning

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Penn, Holyoak and Povinelli (2008) proposed the fundamental difference between human and non-human minds is the former's capacity for processing abstract relations - a capacity which underpins much of our abstract reasoning abilities. This talk aims to explore the ways in which relational reasoning truly is unique to humans through the lens of a central case study in the relational-reasoning literature (including Penn et al.'s argument): Relational-Match-to-Sample (RMTS). I begin by discussing comparative work on RMTS (Smirnova et al., 2015) which demonstrates that humans are not unique in their capacity to process abstract relations, contra Penn et al. I then present a series of original studies with adults and young children which support the argument that human relational reasoning depends not only on the capacity to process relations but on an inductive process by which relations are identified as relevant in a given context. This inductive process depends, at least in part, on certain kinds of social input and pragmatic reasoning abilities. I conclude that the human capacity for relational reasoning -is- unique, but only if understood in this expanded sense. Finally I discuss implications for how we think about the human-unique aspects of abstract thought and their emergence in evolution.

Viking and farmer: Alternative life histories in Swedish romantic poetry

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Erik Geijer was an early 19th Century writer, historian, poet, philosopher, and composer whose writings promoted Swedish National Romanticism. Geijer's poems "The Viking" and "The Yeoman Farmer" depict idealized yet historically truthful portrayals who differ in life history characteristics. Excerpts from these poems were translated into English by a bilingual literary scholar. Identifying information and mentions of romantic or sexual relationships were removed. Undergraduate participants (N = 150) read each poem in randomized order and rated each character separately on validated scales of the life history dimensions of mating effort and parental investment,

relationship interests and attractiveness, developmental environment, and physiological characteristics. Compared to ratings for the Yeoman Farmer character, participants' ratings of the Viking character were higher on mating effort, lower on parental investment, and higher on developmental environment harshness and unpredictability. Participants rated the Viking character higher on interests in and attractiveness to women for brief sexual affairs than on long-term committed romantic relationships and rated the Yeoman Farmer higher on interests in and attractiveness to women for long-term committed romantic relationships than on brief sexual affairs. Participants demonstrated an intuitive understanding of the relationships among life history characteristics as modeled by contemporary evolutionary researchers.

Support for female honor norms as a mate-guarding tactic

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In cultures of honor, women are expected to cultivate a reputation for purity, chastity, and loyalty, by, for example, wearing modest clothes and maintaining virginity. The dominant explanation for support for women's honor is that female infidelity and promiscuity reflect badly on the reputation of the male partner and family which damages community relationships. Beyond this, the literature affords little understanding of the individual-level psychological mechanisms underlying support for female honor norms. We propose that men, motivated by sexual jealousy, support female honor norms as an indirect mate guarding tactic. An experimental study found that men who were manipulated to feel sexual jealousy showed stronger support for female honor norms than men in a control condition. Another study replicated the effect of the sexual jealousy manipulation and demonstrated that it was specific to support for female honor norms, and did not lead to stronger support for masculine, family, and integrity honor norms. Additionally, men with more restricted sociosexual orientation showed greater support for female honor norms - but not other honor norms - after controlling for religiosity and conservatism. Findings have implications for understanding the evolution and maintenance of ideologies that enable the control of women's reproductive behavior.

Murdering and murderable minds: Experiments in the psychology of moral status

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How an entity has to be mentalized so that it can take part in the mental operations that generate moral judgments – i.e., such that it's attributed moral status – is debated. While some argue that specialized cognitive templates of moral

agents/patients are required, others disagree. We investigate this by leveraging people's intuitions about the use of the verb "murder". We argue that people's intuitions about semantically acceptable uses of "murder" require there being specialized agents/patients judged capable of murder/murderable. We investigate how well ratings on two clusters of mental states – Agency (e.g., self-control) and Experience (e.g., pain) – account for the fit of an entity in either of these specialized roles. We varied the entities (man, bear, android, tornado, etc.) that appeared in simple vignettes where one causes the death of another and asked respondents to rate each along the Agency and Experience dimensions, and to evaluate as true/false the statement "the [agent] murdered the [patient]". Ratings of Experience and Agency strongly predicted whether an entity can properly be said to be a moral agent/patient. These findings support the hypothesis that specialized cognitive equipment is necessary to explain moral judgements. Implications for theory and method are discussed.

Pathogen avoidance and conformity: Does salient infectious disease turn people into sheeple?

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By conforming to ingroup norms, individuals coordinate with other group members, preserve cohesion, and avoid costs of exclusion. Recent work suggests that conformity is influenced by pathogen avoidance motivations. Some experimental studies have shown that increased concerns about infectious disease increases conformity and both individual and cross-cultural differences in conformity are correlated with pathogen-related variables. For example, countries with more infectious disease have cultures with tighter norms and individuals who are more concerned about infectious disease emphasize conformity. However, coordination with group members has myriad benefits, most of which exist independent of pathogen hazards. Accordingly, a strong causal effect of concerns about disease on conformity appears suboptimal from an adaptationist perspective. These theoretical concerns are supported by results from three experiments that showed no support for the hypothesis that increasing pathogen avoidance motivations increases conformity (total N=755, all $p > .15$). In fact, two of the three experiments showed a non-significant effect in the direction opposite of the hypothesis. This raises two puzzles: (1) why are individuals who are more concerned about infectious disease more traditional, and (2) why do countries with more infectious disease have cultures with tighter norms?

Risk pooling in the context of rapid cultural change: Analyzing strategic defection, interdependence, and need-based transfers among Maasai pastoralists

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East African Maasai pastoralists traditionally use osotua, a need-based resource transfer (NBT) institution, to pool risk against herd losses. Previous agent-based models demonstrate this assuming (1) strongly interdependent agents and (2) public wealth preventing defection. However, pastoralists everywhere are undergoing substantial market integration as land conflicts undermine herding sustainability. Consequences include (1) weakened interdependence as villagers abandon traditional pastoralism and migrate to nearby cities, and (2) cash economies creating private wealth enabling defection. We therefore replicated previous NBT models, allowing weak interdependence and/or strategic defection. NBTs consist of two rules (ask only when in need, and give when asked without becoming needy), so we included two possible defection strategies -- "greedy" (feigning need) and "stingy" (refusing to give) -- and modeled their impact on herd survival with varying levels of interdependence. We found that each defection strategy is only profitable in the short-term, but becomes increasingly profitable in the long-term as interdependence weakens. Our findings, combined with preliminary interviews, motivate future empirical work investigating cultural responses to disincentivized cooperation in osotua. Possible responses include tolerated or secretive freeriding, opting out of the institution altogether, and/or repurposing the institution to accommodate newer forms of wealth.

The roots of intergroup aggression lie in the logic of bargaining: From microaggressions to hate crime to terrorism

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From microaggressions to hate crimes and terrorist violence, human social life abounds with overt and covert acts of intergroup aggression. Here, we consolidate these diverse phenomena under a single overarching, computational-evolutionary framework. We propose that this full range of behaviors and the reactions to them result from a system that evolved to solve a single underlying abstract adaptive problem: bargaining over intergroup welfare tradeoff ratios. We identify the primitives of the system – representations of groups, group-level correlates of bargaining-relevant features, and the inferential architecture to generalize from individual behavior to group dynamics – and show how certain parameter setting engage three distinct computational-emotional programs: contempt, anger, and hatred. The contempt program generates behavioral output in the form of subtle and indirect slights that are sometimes perceived as microaggressions. The anger program attempts to negotiate power-treatment disequilibria through threatened cost imposition or benefit withdrawal.

The hate program – activated for extreme or recalcitrant disequilibria – generates behavioral output in the form of violent aggression, such as hate crime and terrorist violence. We describe testable predictions that follow from this theory and offer experimental evidence that supports these predictions.

Anger is the mechanistic core of the folk-lexical construct “agreeableness”

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According to the recalibrational theory, anger is an evolved neurocomputational program designed to solve the adaptive problem of being undervalued by bargaining for better treatment from others. The current research extends previous findings by probing the universal input-output logic of the anger program, and demonstrating that the outputs of anger are captured in the folk-lexical dimension of person description called “Agreeableness.” Using a combination of correlational and experimental methods, we report evidence that (i) anger is activated by cues of being undervalued by others (i.e., being entitled to better treatment than one receives), (ii) the behavioral outputs of anger (e.g., the universal anger face) uniquely influence folk perceptions of state and trait Agreeableness, and (iii) individual differences in anger proneness are very strongly negatively correlated with measures of Agreeableness. This research exemplifies a general framework for discovering the mechanistic underpinnings of personality: start with mapping the evolved mechanism, then determine which, if any, existing personality constructs are folk-lexical descriptions of its outputs.

Coevolution of ecological patchiness and cognitive strategies

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Resources and organisms are distributed in patches (e.g., forests of trees, lakes of water) and much prior work has focused on the role of such distributions on the evolution of cognitive strategies (e.g., Todd & Yanco, 1996). However, research on early organisms suggests that the resources they consumed (e.g., sunlight, nutrients in water) were uniformly distributed (Seilacher, 1999). Therefore, an important question is how ecological systems became patchily distributed in the first place. The current project explores the possibility that ecological patchiness evolved alongside cognitive strategies intended to exploit these ecological structures; behaviors produced by cognitive strategies (e.g., predation, competition) gradually led organisms to accumulate into ecologically dense areas, producing patches. To investigate this hypothesis, we implement an agent-based model involving three levels of agents sharing a hierarchical predator-prey relationship. The first-level agent is uniformly distributed (akin to sunlight),

while the distributions of the higher-level agents are free to vary. Higher-level agents can evolve different degrees of cognitive abilities in terms of detecting and consuming their resources (other agents). Preliminary simulations find that over long evolutionary runs, cognitive abilities and patchiness of agent distributions co-evolve, supporting the idea of cognition-driven patchy environment structure.

Support for populist candidates in the 2008 and 2016 presidential elections predicted by declining social capital and an increase in suicides.

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The conditions which generate popular support for social change is of broad social and scientific interest and rising support for populist political candidates in the United States has received considerable attention by researchers. Populism is frequently viewed as a revolt by the common people against corrupt elites and two of the two most common explanations for the recent rise in populism are the economic insecurity hypothesis — populism is a consequence of fundamental changes in the workforce stemming from globalization and the cultural backlash theory — populism is a reaction to societal changes in values led by progressives. Neither of these theories are mutually exclusive, however, and widespread social movements are likely to arise from a broad range of complex and interrelated factors. Here we test what we call ‘the social isolation theory’ which hypothesizes that the rise in support for populism is the outcome of a number of interrelated factors all of which contribute to increasing loneliness, social detachment and deteriorating mental health and. Using census data from the American Community Survey (ACS), mortality data from the Center for Disease Control (CDC) and county level results from the 2008 and 2016 presidential elections and primaries, we find that support for populist candidates Bernie Sanders and Donald Trump is strongly predicted by what have been called ‘deaths of despair’ — deaths from suicide, alcohol and drug overdoses. These results can be understood within the framework of social capital and attachment theory and we discuss the relationship between support for populist candidates and changing economic conditions, cultural factors and social isolation.

Development of a behavioural laboratory measure for human perseverance and persistence

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Personality psychology has recently been mostly concerned with self-reported measures of personality and behavioural tendencies, rather than real-life measures of

such phenomena. In this study, we wanted to establish whether an evolutionarily relevant behavioural tendency, the ability and motivation of an individual to continue an unpleasant behavior, can be measured in a laboratory setting. This ability can be called perseverance or grit in English, and “sisu” in Finnish language. We devised several measurements to study this phenomenon. Our hypothesis was, that the different tasks would correlate with each other, providing evidence of an underlying factor or factors that reflect this behavioural tendency. We devised six different tasks to measure perseverance: a thread and needle task, a cold pressor task, an anagram task, a verbal reasoning task, a hand grip endurance task, and a boring video task. The hand grip endurance task required strength and was adjusted by the hand grip strength of the subject, and was repeated after a pause. In each of the tasks, one measure was taken for the analysis: total time used in all of the other tasks, and time used for the first impossible task in the anagram and verbal reasoning tasks. Correlations between many of the tasks were often relatively large and positive. We ran an exploratory factor analysis to find the possible underlying factor(s). According to our results, the task performances formed two separate perseverance factors. Cold pressor task and hand grip endurance tasks were mostly loaded to one factor, “physical perseverance”. The other tasks were mostly loaded to another factor, “mental perseverance”. Based on our results the following things can be argued: tasks that require perseverance under physically unpleasant situations reflect a single trait, and the same is true for mental perseverance. Our results suggest that evolutionarily relevant personality-like traits can be measured in a laboratory setting, also without the use of questionnaires. In order to understand the evolution and adaptations of human and animal personalities, more rigorous empirical tests for such traits should be developed.

Testosterone reactivity and perceptions of challenge from romantic partner during conflict

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Research guided by the Challenge Hypothesis has demonstrated that people—men in particular—experience increased testosterone reactivity when challenged in the context of sports and in-lab competitions with unfamiliar partners. However, research in close relationships highlights that romantic partners often challenge each other during conflict situations. We examined whether husbands and wives experienced testosterone reactivity when they were challenged by their spouse. Fifty newlywed couples discussed four marital problems. Each member of the couple reported how much they perceived their partner to be challenging them during the discussions. Pre- and post-discussion saliva samples were assayed for testosterone. For men, but not for women, perceptions of challenge were associated with heightened testosterone reactivity, and this result replicated across three different measures of testosterone reactivity. Findings were

specific to men's perceptions of challenge, and held controlling for objective measures of challenge coded from videos of the conversations. These results highlight the benefits of considering pair-bonded relationships as a novel context for investigating associations involving hormones and behavior. These findings also raise the possibility that sex differentiated hormonal reactions to opposition partly explain why conflict among heterosexual partners can be so divisive.

The general factor of personality as a life history indicator: Do other-reports concur with self-reports?

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The General Factor of Personality (GFP), a hypothesized positive manifold across extraversion, agreeableness, conscientiousness, openness, and emotional stability, has been proposed to reflect social effectiveness and a slow life history strategy. We tested this hypothesis by examining whether harsh early childhood environments, and accelerated pubertal timing, predict lower levels of the GFP in a sample of 366 U.S. undergraduates. To address the problem of shared method variance, we assessed Big Five personality traits using both (1) self-report and (2) other-rating, across multiple raters, based on brief videotaped interviews. Self- and other-ratings were significantly ($p < 0.01$) positively correlated for all Big Five dimensions except emotional stability. Structural equation modeling revealed a well-fitting (RMSEA = 0.04) GFP from the self-reported Big Five dimensions, and this GFP was related positively to father-closeness ($p = 0.02$) and negatively to childhood neighborhood stress ($p = 0.04$). However, a GFP comprised of the other-rated Big Five dimensions showed poor model fit (RMSEA = 0.30), and this GFP was unrelated to measures of childhood environment. These results may cast doubt on the value of the GFP construct; alternatively, the personality variation uniquely captured by thin-slice based other-report may be unrelated to rearing conditions.

Links:

<https://osf.io/82kpf/>

Moralization of obesity: Social error management concerns about self-control and cooperation

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Self-control is essential for trust, morality, and cooperation, and people should be vigilant to relevant, even if inconsistent, diagnostic cues of self-control in social partners. Obesity may be one such cue, known to be associated with a relatively fast life history

strategy. Across five studies (four preregistered; N=1,199), we found that people view obese others as low in self-control and therefore low in trustworthiness/morality (Study 1). Concerns about self-control did not affect behavioral trust in a resource-sharing game when people had no choice of partner (Study 2a and 2b), but did extend to cooperative partner preference, such that most people chose to work with a thinner target over an obese one, which was driven by perceptions of self-control (Study 3). Obesity-based inferences about self-control and morality emerged even when explicit countervailing information indicated that a person's obesity was out of her control (Study 4). Together, findings suggest that the use of obesity to infer self-control is a social error management strategy, and we discuss how finely tuned the social cognitive system is to maximizing cooperative opportunities.

The intent-based development of partner choice

Justin Martin, Kyleigh Leddy, Liane Young, Katherine McAuliffe
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In response to others' bad behavior, humans can respond in two functionally distinct ways: We can punish, or we can avoid the violator (i.e. engage in partner choice). One possibility is that both responses stem from the same system of evaluation. However, adult research suggests that these two responses may be supported by distinct underlying processes. We examine the development of these two responses throughout childhood, focusing on sensitivity to agents' intentions and outcomes caused. Participants (166) were presented with vignettes that varied an actor's intention and the outcome caused (Figure 1). Participants then made either a punishment decision or a partner choice decision (i.e. inviting the actor or a random other to the movies). We find that punishment is initially outcome-focused and becomes more intent-focused with age, consistent with past work (Figure 2). In contrast, partner choice is more sensitive than punishment to intentions early in life: By 6 years of age, children believe those causing attempted harm should be avoided (but not punished). This pattern of results is suggestive of different developmental trajectories for punishment and partner choice, consistent with the idea that punishment and partner choice are psychologically and functionally distinct responses to others' behavior.

Is the cultural boundary also the moral boundary? An empirical test of cultural group selection among pastoral populations in Kenya

Sarah Mathew, Carla Handley <sarah.mathew@asu.edu>

A fundamental puzzle of human evolution is how we evolved to cooperate with genetically unrelated strangers in transient interactions. Group-level selection on culturally differentiated populations is a promising but controversial theory which has not yet been rigorously tested. Despite empirical tests alluding to the potential for such selection, the predicted correspondence between the scale of cooperation and the scale of cultural variation has not been shown. To tackle this central untested prediction of the theory we examine the population structure of cultural variation and the patterns of cooperation among subsistence pastoralists in Kenya. We measured the degree of cultural differentiation between populations by assessing normative beliefs of 752 individuals spanning nine clans nested within four ethnic groups—the Turkana, Samburu, Rendille and Borana. We measured the scale of cooperation with vignette experiments that probed subjects' cooperative dispositions towards individuals from the same clan, different clan, or different ethnic group. We find that the social scales at which cultural differentiation occurs corresponds to the social scale within which people cooperate. Our results confirm that norms governing cooperation in these societies have evolved under the influence group-level selection on cultural variation. This could explain why despite humans' unprecedented cooperative scope, we are nonetheless culturally parochial.

The expendable male hypothesis

Siobhan Mary Mattison, Robert J. Quinlan, Darragh Hare <smattison@unm.edu>

Matriliny is a system of kinship in which descent and inheritance are conferred along the female line. The theoretically influential concept of the matrilineal puzzle posits that matriliney poses special problems for men. Evolutionary work frames the paradox as one resulting from a man investing in his nieces and nephews at the expense of his own biological offspring. We present a new hypothesis - the expendable male hypothesis - that argues that the assumptions of the matrilineal puzzle are unlikely to be met. Specifically, we contend that: (i) men are not always in positions of authority over women and resources; and (ii) that men are not always interested in the outcomes of parenting. In ecologies where women take on these duties, men may be considered expendable within local kinship configurations. This arises when (i) women, without significant assistance from men, are capable of meeting the subsistence needs of their families; and (ii) men have little to gain from parental investment in children. We conclude that the expendable male hypothesis may explain the evolution of matriliney in numerous cases, and by noting that female-centered approaches that call into doubt

assumptions inherent to male-centered models of kinship are justified in evolutionary perspective.

Links:

<https://www.biorxiv.org/content/10.1101/473942v1>

Anonymous cooperation reflects habituation to incentives from everyday life

William McAuliffe, Daniel Forster, Eric Pedersen, Michael McCullough

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Experimental economists who study payoff-based learning have long warned that people's decisions in unfamiliar contexts do not necessarily reflect their goals. Yet researchers seldom estimate the prevalence of unselfish motives using participants who have experience with the measurement context. Instead, researchers typically assume that even inexperienced participants' sharing decisions are acutely sensitive to the anonymous, one-shot nature of economic games. Here, we present evidence that participants inexperienced with economic games cooperate in them because they employ the same decision-making heuristics that they use in everyday contexts where reciprocity and reputation matter. 276 participants made several Dictator Game, Trust Game (in both investment and trustee roles), and charitable giving decisions; 200 of those participants completed the same tasks weeks later. Sharing decisions declined by about 20% in every task save for investment decisions in the Trust Game, the only task where sharing can advance self-interest. Self- and peer-reports of altruism, trust, and trustworthiness—which are informed by participants' behavior in everyday life—evinced positive associations with sharing decisions at the first session, but had nonsignificant (and in many cases significantly smaller) associations with sharing decisions at the second session. Thus, much of anonymous cooperation reflects prudential habituation to societal incentives.

Links:

https://www.nature.com/articles/s41562-018-0454-9.epdf?author_access_token=j1uGsK-pBnVmObolEskyJtRgN0jAjWel9jnR3ZoTv0M4xBHG86SVhUf7oy9WrgzZV6UKVahPzbETVAkIIPLQqG_qkbnLNIPhF0BX1k1XRu5ELybhgcAIEq7rLnFKssN8Asewml3q7zls1YJH_W6qJw%3D%3D

The developmental foundations of third party punishment

Katherine McAuliffe <katherine.mcauliffe.2@bc.edu>

Third-party punishment (TPP) is an important force stabilizing cooperation amongst non-relatives in human societies (Boyd & Richerson, 1992). Adults across cultures are willing to pay costs to punish others in a third-party context (Henrich et al., 2006; 2010), suggesting that TPP may be a widespread solution to cooperative

dilemmas. However, comparative data indicate that TPP is rare if not absent in other species (Riedl et al., 2012) raising the question of how its origins can be studied. Here I argue that developmental data can offer insight into the forces that shape TPP over time. I review a set of studies that examine when and under what conditions children across cultures enact TPP. From these studies, I distill four main lessons: (1) costly TPP emerges relatively early in development in the USA, appearing around the age of 6; (2) from its inception, TPP is biased by ingroup favoritism; (3) children's motives for TPP are more consistent with retributive than restorative theories of punishment and (4) like adults, children show cross-societal variation in TPP. Together, these studies represent an important advance in our understanding of the foundations of costly TPP in human societies.

Finger amputation rituals among the classic Maya

Brea Miranda McCauley, David Maxwell, Mark Collard <bmccaule@sfu.ca>

Religious rituals that are painful or highly stressful are hypothesized to be costly signs of commitment essential for the evolution of complex society. Among the Ancient Maya, it is well known that elites and rulers engaged in costly rituals of blood sacrifice. However, it is unclear whether commoners also partook in similarly costly rituals. Here, we report a study designed to highlight a previously underreported costly ritual among the Ancient Maya. Our review of the iconographic, glyphic, ethnographic, mythic, and archaeological literature identified the widespread phenomenon of finger amputation rituals among members of all social classes. We identified evidence of these rituals at over 60 sites across Mexico, Guatemala, Belize, and Honduras spanning from the Late Preclassic to Early Postclassic eras (400BCE-1200CE). The evidence suggests that finger amputation rituals were often associated with periods of social unrest, such as the termination of royal lineages or the conquest by neighbouring polities. This is consistent with the idea that societies may engage in costly rituals in order to enhance within-group cooperation.

Disgust, anger, and contempt in response to harm and incompetence

Kate McCulloch, Kate McCulloch, Rick O'Gorman <kmccul@essex.ac.uk>

It is thought that immoral behaviours should be related to the other-condemning emotions: anger, contempt, and disgust. These emotions are usually distinguished by type of violation or by whom the violation affects, for example it is suggested that disgust responds exclusively to threats to others, incompetence, or "purity" violations; anger to threats to the self or intentional harm; and contempt to incompetence. Using an

economic game which allowed participants to display incompetence and financial harm, we found that these models could not offer a complete explanation. Data from 220 participants (tested in groups of 5) analysed using mixed effects models, indicated that, in the player's own group, disgust responds to harm to the player, anger responds to incompetence, and contempt responds (to a lesser extent than the other two emotions) to harm to the player and incompetence. Additionally, different emotional responses were found to the group the player was not a part of, where all three emotions were found in response to harm. This suggests that the condemning emotions do not function as hypothesised and function differently dependent on whether the violator is a member of your own group.

Reputation Redux: Why Observation Is Obsolete

Anne M. McGuire <anne_mcguire@harvard.edu>

Psychological and biological work on the evolution of altruism has focused on reputation of the helper or nonhelper. Data here show that two intrapersonal processes operate in parallel with observers' opinions, thus rendering reputation unnecessary for indirect reciprocity. Examining a wide range of 72 actually-occurring peer helping behaviors, some of which occur in close relationships (emotional and substantial personal help) and others that often involve strangers (casual and emergency help), demonstrates high variability of intrapersonal and interpersonal processes across helping behaviors: "altruism" has theoretical but not empirical unity. Results presented here show that a helper's increased self-esteem is highly correlated with an observer's opinion of a helper performing the same specific behavior ($R^2=.81$); likewise, nonhelpers' guilt is correlated with observers' opinion of someone failing to help ($R^2=.88$). The processes supporting helping and those punishing nonhelping are not as highly correlated as the hedonically parallel processes. Thus guilt and self-esteem reinforce helping and nonhelping in parallel with, and in the absence of, the observation by a known third-party that is required for reputation effects. Significantly, this finding holds for behaviors that typically involve strangers as well as intimates, extending altruism beyond indirect reciprocity to indiscriminate ("parochial") altruism.

What we owe to family: The impact of special obligations on moral judgment

Ryan M. McManus, Liane Young <mcmmanurd@bc.edu>

Based on research demonstrating that people generally favor kin over non-kin, we hypothesized that moral evaluations of everyday prosocial behavior depend on the genetic relatedness of the helper and potential beneficiary. Across four pre-registered

studies (total N = 1,011), we found that people use perceived obligations to genetic relatives to inform their moral judgments of helping behavior. In Study 1 (N = 209), in hypothetical vignettes, agents who helped strangers were judged more positively than those who helped kin, but agents who helped strangers instead of kin were judged less positively than those who helped kin instead of strangers. Study 2 (N = 193) replicated these patterns. Study 3 (N = 304) generally replicated judgments in previous studies and demonstrated that agents who simply failed to help strangers were judged more positively than agents who failed to help kin. Study 4 (N = 305) replicated these patterns, and importantly, judgments of perceived obligations being fulfilled versus violated corresponded to the moral judgments made across studies. We argue that mainstream moral psychology has neglected the role of special obligations (e.g., to genetic relatives) in moral cognition, and suggest that the field would benefit from investigating how kin-selection pressures affect moral perception.

A natural history of song

Samuel A. Mehr, Manvir Singh, Dean Knox, Daniel M. Ketter, Daniel Pickens-Jones, Stephanie Atwood, Christopher Lucas, Nori Jacoby, Alena A. Egner, Erin J. Hopkins, Rhea M. Howard, Timothy J. O'Donnell, Steven Pinker, Max M. Krasnow, Luke Glowacki <sam@wjh.harvard.edu>

We built corpora of ethnographic text and audio recordings from many human societies and analyzed them with tools of quantitative social science to explore universals and cross-cultural variability in music. In the corpus of ethnographic text, we find that music appears in every society measured; that variation in musical behavior is well-characterized by three dimensions capturing the formality, affect, and religiosity of song events; that musical behavior varies more within societies than across societies on those dimensions; and that many common hypotheses about the behaviors regularly associated with music are supported by the ethnographic record. We then analyze four quantitative representations of the audio corpus. In all four cases, the musical features of songs predict their primary behavioral function. We identify the musical features that consistently characterize specific song types worldwide and show that the musical features of songs reduce to two dimensions mapping melodic and rhythmic complexity. By applying quantitative social science to rich bodies of humanistic data, these findings show universal patterns of variability in the behavioral and musical features of song, addressing longstanding debates about the nature of the human music faculty.

Links:

<https://psyarxiv.com/emq8r/>

Body odor attractiveness and ovarian hormones in women

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Women's odor samples during the fertile window are on average rated as more attractive than samples from the luteal phase. However, little research has examined relationships between women's odor attractiveness and their estradiol and progesterone concentrations. In this study, we examined the effects of estradiol and progesterone on women's odor attractiveness throughout the menstrual cycle. Forty-six women wore underarm pads overnight every five days for 30 days. They also provided daily luteinizing hormone tests, and saliva samples on the mornings of odor collection days. Sixty-six men rated the odor samples for pleasantness, sexiness and intensity. These ratings were regressed on the donors' estradiol and progesterone concentrations using multilevel modeling. Consistent with previous research, we found that odor samples during women's fertile window were rated as more attractive than samples collected outside the fertile window. In addition, there was a between-women effect whereby men rated the odors of women with higher mean estradiol concentrations as more attractive, which support the position that men have evolved to attend to women's general reproductive condition. We found only null effects of progesterone on odor attractiveness, suggesting that men are not detecting women's ability to conceive at that specific time during the menstrual cycle.

More than just a pretty face: The relationship between facial attractiveness and three key measures of immunocompetence

Summer Mengelkoch, Jeffrey Gassen, Sarah E. Hill <s.mengelkoch@tcu.edu>

It has long been hypothesized that attractive faces are perceived as such because their features provide cues to health and immunocompetence. However, the results of research bearing on this hypothesis have been mixed. Here, we examined the relationship between immunocompetence and perceptions of facial attractiveness using three key markers of cellular immune function: tumor killing, phagocytosis of *E. coli* bioparticles, and proliferation in response to stimulation by each lipopolysaccharide (LPS), phytohemagglutinin (PHA), and polyinosinic-polycytidylic acid (poly I:C). In Phase I of the study, we collected photographs, health history, and blood samples from 159 participants. Participants' peripheral blood mononuclear cells (PBMC) were then subject to three types of live immunological challenges. In Phase II of the study, more than 400 participants from Amazon's Mechanical Turk were recruited to rate opposite-sex target photographs for facial attractiveness and perceived health. By comparing these ratings to the actual measures of immunocompetence obtained in the previous

study, results provide insight as to the true nature of the relationship between facial attractiveness and immunocompetence.

Links:

<https://osf.io/8atkj/register/5771ca429ad5a1020de2872e>

An epistemic vigilance framework for the representation and transmission of counterintuitive concepts

Spencer Mermelstein, Michael Barlev, Tamsin C. German

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Humans depend on communication, yet this leaves us vulnerable to manipulation. Such conditions favored the evolution of epistemic vigilance mechanisms that evaluate the source and content of communicated information. As a function of these mechanisms, messages found to be inconsistent with pre-existing beliefs are hypothesized to (a) remain associated with their source and (b) motivate a continued search for additional information. Concepts that violate evolved and reliably developing beliefs about objects, living things, and people (counterintuitive concepts) are one class of information predicted to be targets of epistemic vigilance. Here we present two lines of evidence for these hypothesized functions of epistemic vigilance mechanisms. First, in a series of memory experiments, participants (N = 707) read short stories communicated by different persons, each containing counterintuitive and ordinary concepts. After a delay, participants exhibited enhanced memory for the sources of counterintuitive versus ordinary concepts. Second, participants (N = 415) were more likely to talk about counterintuitive versus ordinary concepts with others and to search for additional information about counterintuitive versus ordinary concepts. We suggest that the operation of epistemic vigilance mechanisms accounts for the mental representation and social transmission advantage of counterintuitive concepts like those found among the world's religions.

Links:

<https://osf.io/v4dhk/>

Are all threats processed the same way?: An event-related potential study

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In our evolutionary past, humans have encountered threats of various kinds. How does the mind distinguish between threats in order to respond appropriately? To test this idea, we ran an electroencephalography (EEG) study (N = 45, 80% power to detect $d_z = 0.42$). We found early event related potential components involved in attention were

greater for threatening stimuli (such as those that elicit disgust, are disease related and are high in physical injury) compared to neutral or negative low arousal stimuli. Despite recruiting similar levels of early attention, we observed that disgusting stimuli selectively elicited a stronger Late Positive Potential (LPP) compared to all other stimuli. Our finding suggests that the LPP may be one physiological mechanism selectively involved in distinguishing cues that elicit disgust from other threats. We also elaborate on the utility of electroencephalography for testing evolutionary explanations.

How to avoid going extinct: The evolutionary psychology of effective altruism and existential risk

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Effective Altruism (EA) is an influential new movement that uses utilitarian ethics, reason, and evidence to promote sentient well-being. EA initially focused on global poverty, neglected tropical diseases, and animal welfare. Lately, though, EA has realized it's vastly more important to minimize 'existential risks' (X-risks) such as nuclear war, bioweapons, SETI, and AI. Whereas extreme poverty hurts 1 billion people and factory farming hurts 50 billion animals/year, X-risks could wipe out 8 billion people and prevent over 10^{30} future sentient lives from coming into existence. The problem is, we're terrible at managing X-risks, due to some evolved biases and constraints: (1) tribalism, anthropocentrism, and short-sightedness; (2) the 'availability heuristic' that focuses on vivid dramas (e.g. science fiction movies) rather than gradual, systemic X-risks; (3) empathy towards identified lives rather than rational compassion about statistical lives; (4) 'scope neglect' about the astronomical number of potential future beings affected by current policies; (5) moral disgust at people who use utilitarian reasoning like this. Based on two classes I've taught about 'The Psychology of Effective Altruism', this talk will outline how evolutionary psychology insights could help us manage X-risks more effectively, so our field can help humans avoid going extinct in this century.

Links:

<https://static1.squarespace.com/static/58e2a71bf7e0ab3ba886cea3/t/5a8c5ddc24a6947bb63a9bc9/1519148520220/Todd+Miller.evpsych+of+ETI.BioTheory.2017.pdf>

Direct and indirect punishment in daily life: Situational, relational, and emotional antecedents

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Punishment of norm violators is seen as a powerful mechanism to promote cooperation. Yet, to date, most research on second- and third-party punishment has focused on anonymous interactions in abstract experimental situations. Here, we use a novel, daily diary approach to study punishment in more ecologically valid situations. We distinguish between direct punishment, including physical or verbal confrontation, and indirect punishment, including gossip and social exclusion. In a two-week diary study, we documented individuals' (N = 257) direct and indirect punishment of real-life immoral events (k = 1,507), and tested pre-registered hypotheses about the situational, relational, and emotional antecedents of punishment. Individuals were more likely to gossip the more they perceived offenses as morally wrong and harmful, the less power they possessed, the less they valued offenders, and the more they experienced moral disgust. In contrast, they were more likely to directly confront offenders when they were personally victimized, had more power, and valued their relationship with offenders more. Findings highlight the role of gossip as a low-cost, high-benefit means of regulating socio-moral dilemmas. Further, they reveal nuanced patterns of punishment responses, consistent with a psychology that weighs the benefits of adjusting others' future behavior against the costs of counter-punishment.

The auditory looming bias: Converging evidence for an evolutionary bias in perceiving looming sounds

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In a natural listening environment, a sound source that approaches a listener can present a threat or opportunity that requires a rapid behavioral response. Physical changes in acoustic cues can accurately specify the arrival time of looming sounds. However, almost all listeners exhibit a systematic perceptual bias to hear looming sounds arrive when they are in fact still some distance away. I argue that this "auditory looming bias" is an evolutionary adaptation that provides a selective advantage by giving advanced warning of approaching sound sources and thus, more time than expected to prepare for the arrival of the source. Such adaptive hypotheses about human behavior are often controversial and require rigorous converging evidence. I will discuss how evolved perceptual and cognitive biases can sometimes be more advantageous than accurate perception and provide strong evidence that the effect is perceptual (not decisional) in nature. I will present data from behavioral, developmental,

comparative, neurophysiological, and sex differences experiments that all support an evolved anticipatory bias in perceiving looming sounds.

Synchronized musical performance and social bonding

Nathan Oesch, Jessica Grahn <nathanoesch@yahoo.com>

Music is a human universal, as a form of social communication that is often synchronized (e.g. playing at the same time) with another participant or group of participants. Synchronized drumming has been shown to activate endorphins and synchronised singing has been shown to activate endorphins and facilitate social bonding. Yet, it is unknown if other forms of synchronized music, especially instrumental music, may also promote social bonding, facilitated by endorphin reward activation. Here, 5 pairs of skilled pianists (N = 10) were instructed to improvise piano playing with another unfamiliar participant. Pairs performed according to four 10-minute experimental conditions: synchronous playing, coordinated playing, asynchronous playing, and a social non-musical control condition. Subjects were pre- and post-tested using a standard battery of endorphin activation and relationship closeness measures. As predicted, subjects experienced greater social bonding and endorphin activation in the synchronous condition compared to the social non-musical control condition. In summary, this finding suggests that synchronized playing of instrumental music can promote social bonding, facilitated by endorphin reward, among pairs of strangers.

The Westermarck effect: Measuring incest aversion by pupil dilation

Rick O'Gorman, Gerulf Rieger, Katherine McCulloch, Lydia Whitaker <rogorman@essex.ac.uk>

The incest taboo has received empirical focus as an example of an adaptation for avoiding selectively disadvantageous behaviour, given the costs of reproduction with close relatives. Previous findings show heightened incest aversion and disgust when individuals have younger siblings who were cared for by their mothers, or if they co-resided with opposite-sex siblings. Although these findings are based on self-report methodology, a recent psychophysiological study found that muscular facial activity associated with expressions of disgust was related to the hypothesized life history cues used for incest avoidance. However, this finding is possibly subject to experimental demand and impression management given the extent of control over facial expressions and the experimental setup. In the present study, pupil dilation is used to capture attentional arousal to examine whether participants show incest aversion in line with the life history cues (e.g., co-residence with opposite-sex siblings). We recorded pupil

dilation using an eye-tracker while presenting participants with a series of visual and auditory stimuli. The salient stimuli consisted of an established research-based incest scenario presented aurally, with modified versions for a non-incest but sexual scenario and a non-sexual sibling scenario. Findings show relationships between previously established incest avoidance cues and pupil dilation.

Five non-human primate species' behavioral responses to plants

Linda S Oña, Nate Swetlitz, Laurie Santos, Katja Liebal, Annie E. Wertz <ona@mpib-berlin.mpg.de>

Recent research suggests that human infants possess behavioral avoidance strategies to cope with dangers posed by plants (e.g., toxins and physical defenses). Specifically, infants are reluctant to touch plants compared to other types of entities. Here we examine whether this strategy is shared by other primate species who encounter plant dangers, but have different ecologies and evolutionary histories than humans. We tested five non-human primate species—chimpanzees, orangutans, bonobos, gorillas, and capuchin monkeys—using a paradigm adapted from the previous infant studies. Each individual was presented with real plants, artificial plants, novel artifacts, familiar artifacts, and naturally-occurring entities. We measured how long it took individuals to touch each stimulus type. The results indicated that nearly all species treated plants differently compared to non-plant objects, but there were interesting species differences. Chimpanzees and orangutans took longer to touch plants than non-plant objects, like human infants. However, bonobos did not show differential responses to plants, and gorillas and capuchin monkeys showed an opposite response pattern to human infants, touching plants faster than non-plant objects. These results underscore the complex interplay of phylogenetic and ontogenetic factors that determine different species' responses to plant dangers.

Kinship signaling in the human voice

Kieran John O'Shea, Rebecca J. Lai, David R. Feinberg, Benedict C. Jones, Lisa M. DeBruine <kieran.o'shea@glasgow.ac.uk>

Kinship and similarity judgements of faces are highly correlated, suggesting that perceived similarity acts as a graded kin recognition signal. We test this theory using voice samples (vowels and longer passages). We examine if listeners can discriminate between vocal samples from full siblings and friendship pairs and whether sibling voices are rated as perceptually more similar. In Experiment 1, participants judged whether voice pairs were related or not. In Experiment 2 (data collection on-going), a second

group of participants rated these pairs on similarity (0=not at all similar; 10=very similar). Analysis for Experiment 1 revealed that participants correctly identified whether voice pairs were siblings or friendship pairs in both vowel samples and in longer passages at levels greater than chance. In Experiment 2, analysis suggests that participants rate sibling voice pairs as more similar than friendship pairs when listening to longer speech passages but that there is no significant difference for vowels. Results indicate that listeners can distinguish between kin and non-kin speakers. Our preliminary findings in Experiment 2 suggest that kin voices are indeed rated as being more similar than friendship pairs but that this effect is more prominent in longer speech passages compared to shorter vowel sounds.

Links:

<https://osf.io/tzav6/>

<https://osf.io/9kge7/>

~~Status, leadership and power: A comprehensive model of men's social hierarchy in a small-scale Amazonian community [cancelled]~~

John Patton <johnpatton@fullerton.edu>

In his classic paper on political power and status in small-scale societies, Marshal Sahlins (1963) lists five attributes of men's status: warriorship, magical power, power in trade, oratory skills and the ability to provide food resources. This paper presents data assessing the influence of these five attributes of men's status in a small-scale horticultural foraging society in the Ecuadorian Amazon. In addition, the attributes of intelligence, generosity, social centrality, physical strength, humor, resource sharing, health, and coalitional loyalty are assessed to produce a comprehensive model of men's status. This paper will also review longitudinal data covering nearly three decades of data on men's status in the tribal community of Conambo where formidability in warfare consistently predicts a man's position in the social hierarchy.

Convergent thinking and socially effective responding

Samuel Glen Pearson, William von Hippel <samuel.pearson1@uqconnect.edu.au>

Whether it is closing a deal or finding love, saying the right thing at the right time is a crucial component of successful social functioning. Yet why do some excel at this whilst others flounder? My research suggests part of interpersonal magnetism emerges from five key cognitive abilities that are distinct from general intelligence and personality. In this presentation, I'll present the results of two laboratory studies, which focus on two of these abilities—divergent and convergent thinking. Study 1 found these two abilities predicted performance on written tasks of humour and persuasiveness

amongst a sample of 245 students. Study 2 replicated this relationship amongst 211 students who were recruited in friendship groups. It also found divergent and convergent thinking partially predicted peer evaluations of humour and persuasiveness. To conclude, I will discuss preliminary results from a cross-cultural field study that investigated the relationship between divergent and convergent thinking and social network position amongst a population of Ni-Vanuatu horticulturalists.

Links:

<https://osf.io/qxfu8/>

<https://osf.io/tk7pb/>

The adaptive function and reputational consequences of gratitude

Eric J. Pedersen, Daniel E. Forster, Jairo Ramos, Lena M. Wadsworth, Michael E. McCullough, Debra Lieberman <eric.j.pedersen@colorado.edu>

Gratitude promotes cooperative relationships and is elicited when an act reveals that an actor values the recipient, especially when the benefit conferred is greater than the recipient expected. We argue that gratitude helps solve the adaptive problem of forming cooperative relationships by motivating individuals to communicate to their benefactors that there has been an increase in the value that the beneficiary ascribes to the benefactor. This signal of gratitude, in turn, updates the benefactor's view of the beneficiary as "someone who cares about me" and motivates cognitive processes and behaviors that increase the likelihood they will develop and maintain a cooperative relationship. Here we present the results of five experiments (total N > 1500) testing what produces gratitude, how benefit delivery increases beneficiaries' valuation of benefactors' welfare, and how expressions of gratitude alter the expressor's reputation in the eyes of both their benefactors and third-party observers.

Hungry for emotions: The effect of food deprivation on disgust and food neophobia.

Paola Perone, Paola Perone, Çağla Çınar, Joshua M. Tybur
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The selection pressures posed by pathogens have shaped anti-pathogen behavioral adaptations. Some of these adaptations should trade off the costs of pathogen exposure against benefits requiring physical contact. Benefits of contact are not static across contexts and, hence, pathogen-avoidance adaptations might output more disgust under some conditions than under others. Here, we investigate whether nutritional state informs benefits of contact, and if so, which stage of the information processing underlying disgust it influences. Participants (N=40) rated the valence and

arousal of forty emotion-eliciting images (disgust-eliciting food, disgust-eliciting non-food, fear-eliciting, neutral, positive) while their heart-rate and skin-conductance responses were recorded. They also indicated their willingness to eat novel foods depicted in another sixteen images. They did so at two time points, approximately one week apart - once after fasting for 15 hours, and once immediately after eating a meal that was standardized across participants. Participants reported a greater willingness to eat novel food after fasting than after eating. However, nutritional state did not affect their physiological or self-reported reactions to disgust-eliciting images. Results suggest that nutritional state does not influence disgust experienced toward pathogen cues, but might lead to greater willingness to risk incurring the (pathogen) costs of eating novel foods.

Selection pressures against domain-specific modules in human brains

Juan Perote-Peña <jperote@unizar.es>

Having brains with specialized modules that are domain-specific and content-rich is generally considered to be an efficient and adaptive solution to the problem of conditioning behavior to relevant and complex information. However, in some social contexts where behavior might be made dependent on the results from previous interactions, specialized modules can be sub-optimal and an evolutionary pressure to merge modules and redesign them based on cues on individual or groups' behavior rather than on the specific domain of interaction or evolutionary problem to solve should be expected. To prove this, I develop a simple theoretical model of reciprocal altruism where individuals are randomly matched to interact in two different domains: a public good cooperation problem and a competition-for-status problem. Individuals have initially two domain-specific modules to process relevant information in each problem, but any mutation that merges both modules and becomes individual-specific rather than domain-specific is proved to be fitness enhancing. The reason is that obtaining fitness gains from cooperation in both domains depends more on the frequency of total interactions with the same individual than on the details of each particular domain, so merging modules allows for using the information from past interactions more efficiently.

Collective action problem in heterogeneous groups with punishment and foresight

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The collective action problem can easily undermine cooperation in groups. Recent work has shown that within-group heterogeneity can under some conditions promote voluntary provisioning of collective goods. Here we generalize this work for the case when individuals can not only contribute to the production of collective goods, but also punish free-riders. To do this, we extend the standard theory by allowing individuals to have limited foresight so they can anticipate actions of their group-mates. For humans, this is a realistic assumption because we possess a “theory of mind”. We use agent-based simulations to study collective actions that aim to overcome challenges from nature or win competition with neighboring groups. We contrast the dynamics of collective action in egalitarian and hierarchical groups. We show that foresight allows groups to overcome both the first- and second-order free-rider problems. While foresight increases cooperation, it does not necessarily result in higher payoffs. We show that while between-group conflicts promotes within-group cooperation, the effects of cultural group selection on cooperation are relatively small. Our models predict the emergence of a division of labor in which more powerful individuals specialize in punishment while less powerful individuals mostly contribute to the production of collective goods.

Leadership and followership create a marketplace that solves the problem of meta-coordination

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Leadership and followership are not just evolved solutions to the problem of coordinating what to do once a group exists. Rather, leadership and followership also solve the problem of creating a group in the first place. Creating a group is a problem of meta-coordination: coordinating with others about what to coordinate about. Of all possible bases for coordinating or cooperating, only a tiny fraction will be embraced by others, and smaller fraction still will be successfully implemented and executed. No one individual has enough information to solve this problem on one’s own. Leadership and followership solve this problem by creating a social marketplace in which leaders propose possible coordination and cooperation enterprises, and followers evaluate and choose among these offered possibilities. This marketplace—in which different individuals propose and evaluate different coordination and cooperation enterprises—solves the problem of meta-coordination by exposing possible enterprises to the broader social market, which serves as a selective or culling regime. A task analysis of

this problem of creating and sustaining coordination and cooperation within the market predicts novel information-processing functions for leadership and followership, and suggests that leadership and followership are a broader set of phenomena than currently conceptualized.

Equality for all, or for my allies? Testing the alliance theory against alternative approaches

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According to mainstream theories in political psychology, policy disagreements derive from partisans' conflicting moral values surrounding equality and social hierarchy. According to the Alliance Theory, by contrast, policy preferences have little to do with moral values and are determined primarily by one's allegiance to the supporters and beneficiaries of the policy in question. Using a nationally representative dataset from the American National Election Study (N = 4,271), we test predictions entailed by these contrasting approaches. Examining a variety of political issues, we find that policy preferences are fundamentally group-centric, with group attitudes (e.g. attitudes toward partisan, religious, economic, or racial groups) explaining over twice as much variation as egalitarian values, on average. Moreover, controlling for group attitudes powerfully reduces or eliminates the effect of egalitarian values on policy preferences, whereas controlling for egalitarian values leaves the effect of group attitudes virtually unchanged. Even for issues that are explicitly about equality—i.e. opposition to income inequality—the effect of group attitudes is still larger and more direct than the effect of egalitarian values. Taken together, the findings pose a challenge to mainstream theoretical approaches and suggest that policy disputes are better explained as coalitional conflicts than as clashes of moral values.

Hear me roar: The communicative function of human nonverbal vocalizations

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Humans produce nonverbal vocalizations such as laughter, cries, and screams in a wide range of contexts. Yet despite their cross-cultural universality in social communication and clear parallels with the affective vocalizations of other mammals, human nonverbal vocalizations remain understudied relative to speech. Using acoustic analysis and playback experiments, we examine the social communicative functions of aggressive roars, distress screams, pain cries and competitive grunts compared to neutral and emotional speech. We show that these call types follow a form-function

design, wherein acoustic features appear to reflect the evolved function of each call type. For instance, aggressive roars are characterized by high amplitude, low pitch and low harmonicity. Fear screams are, in contrast, more tonal and much higher pitched. We further show that listeners are sensitive to such acoustic variation, predicting judgments of evolutionarily relevant traits including sex, body size, and physical strength. Finally, we demonstrate that nonverbal vocalizations, free from the constraints of linguistic content, can communicate functional information more effectively than speech (e.g., roars maximize perceived strength). Taken together this series of studies provides compelling evidence that human nonverbal vocalizations, much like those of other animals, have been shaped by selection to communicate, and sometimes exaggerate, socially relevant information.

Human social valuation inference is statistically optimal

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The level at which someone values you is not transparently visible, but has to be inferred on the basis of that person's behavior. Do humans make such inferences in an optimal manner, even on the basis of sparse data? We report a study where participants saw another individual behave either selfishly or generously in a trial of a simple economic game. They were then asked to predict how this individual would behave in slightly different trials of the same game. Participants' predictions were highly sensitive to the information content of the individuals' decisions. For instance, when evaluating an individual who made a selfish decision in a trial, participants made harsher inferences about the individual if that individual stood little to gain from his selfish act. Quantitatively, participants' predictions showed a remarkable fit with the predictions made by an ideal observer model for the task, which uses Bayes' rule to update its estimate of the Welfare-Tradeoff Ratio (WTR) of an individual. This suggests that humans excel at making the fine-grained inferences necessary to associate with people who value their welfare, a pre-requisite for successful cooperation.

The communicative function of emotional tearing

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How do our emotional tears affect the way we are treated? We tested whether tears, paired with either a neutral or a sad facial expression, affected prosocial behavior. Participants viewed a video clip depicting a confederate partner displaying a neutral or sad facial expression with or without tears before making a behavioral decision in two economic games. In a Trust game (Experiment 1), participants playing the role of the

investor were more likely to share after viewing a confederate with tears (paired with a neutral or a sad facial expression) in comparison to a confederate without tears. However, in a Dictator game (Experiment 2), participants playing the role of allocator were no more likely to share after viewing any clip. Taken together, these findings suggest that tears increase prosocial behavior by increasing trustworthiness as opposed to generally increasing other-regarding altruistic tendencies.

Embodied capital and risk: Evidence for an ability-based and need-based pathway to risk

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The relative state model posits two non-independent pathways to risk. The need-based pathway suggests people take risks when non-risky options are unlikely to meet their needs. The ability-based pathway suggests people take risks when they possess resources or abilities making them more capable of successfully “pulling off” risk-taking. Cross-sectional, experimental, and longitudinal evidence supports the need-based pathway. However, little is known about the ability-based pathway to risk-taking. We aim to address this gap by examining the relationship between various instantiations of risk (behavioral risk, risky personality, risk attitudes, risky outcomes) and embodied capital indices (attractiveness, physical dexterity, and intelligence). Using a sample of 328 community members, we found that greater embodied capital was associated with greater prosocial risk-taking, consistent with the ability-based pathway to risk. Additionally, greater embodied capital was associated with less antisocial risk-taking, consistent with the need-based pathway to risk. All in all, these results support the relative state model of risk.

Does women’s sensitivity to friendship transgressions grant social benefits?

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Women’s same-sex friendships are more likely to dissolve than men’s. We hypothesized that women are particularly sensitive to cues of commitment and kindness in their same-sex friends and this sensitivity compels women to disclose these transgressions, thereby harming other women’s moral reputations. We contend that women’s victimization disclosures are not recognized as gossip, thereby insulating gossipers against the social penalties of gossip. Study 1 examined when men and women would question their same-sex friendships. Men were more likely to question a friendship when a male friend lacked athleticism/bravery, while women questioned a friendship when a female friend lacked commitment/kindness. In Study 2, across 11

friendship transgressions oriented around commitment/kindness, compared to men, women were more hurt by the transgressions and were more likely to disclose them to other same-sex friends. Study 3 examined whether perceivers evaluate first person disclosures (“she did this to me”) as less gossipy and more moral than third person transgression disclosures (“she did this to her”). These findings suggest women’s greater sensitivity to cues of commitment or kindness allows them to gossip about same-sex peers’ moral character, while avoiding the social penalties of gossip.

Links:

<http://aspredicted.org/blind.php?x=jw2h2d>

Left-handed fighters are overrepresented and more successful in combat sports

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Left-handedness is a costly, sexually dimorphic trait found at low frequencies in all human populations. How the handedness polymorphism is maintained is unclear. The fighting hypothesis argues that left-handed men have a negative frequency-dependent advantage in fighting giving them a selective advantage. In support of this, many studies have found that left-handed men are overrepresented in combat sports, but studies typically find no difference in fighting success between left and right-handed fighters. We studied over 13,800 professional boxers and mixed martial arts fighters of varying abilities in three of the largest samples to test this hypothesis to date, finding robust evidence that left-handed fighters have greater fighting success. This held for both male and female fighters, and for both percentage of fights won and an objective measure of fighting ability. We replicated previous results showing the left-handed fighters are strongly overrepresented in professional combat sports, but left-handed fighters did not show greater variance in fighting ability, a hypothesis suggested in previous studies. Overall we find strong evidence consistent with the fighting hypothesis.

Links:

<https://osf.io/x3unr/>

Investigating infants’ avoidance behavior toward plant-based foods

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Infants exhibit a reluctance to touch plants (Wertz & Wynn, 2014; Włodarczyk et al., 2018) and seek out social information before touching them (Elsner & Wertz, 2019)—an effective behavioral avoidance strategy for mitigating plant dangers. Behavioral avoidance of new foods (food neophobia) has also been documented in children and is particularly strong for fruits and vegetables (Lafraire et al., 2016). Here

we examined whether infants exhibit a reluctance to touch plant-based foods and whether they also seek out social information for these entities. 7- to 15-month-olds (N=56) were presented with 16 stimulus objects. The stimuli were leafy plants, leafy plants with fruits, whole and cut-up fruits, processed foods, novel feature-matched artifacts, and naturally-occurring objects (e.g., shells). Infants' latency to touch each object and the frequency and duration of their social looks were coded. Overall, infants were more reluctant to touch plants compared to all other objects, and engaged in more social looking for leafy plants, replicating previous findings. Further, infants were more reluctant to touch cut-up fruits compared to processed foods and naturally occurring objects, but did not exhibit differential social looking strategies for these objects. These results provide evidence of precursors of food neophobia in infancy.

Do cooperative relationships promote culture learning? A test in elementary schools

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It is widely recognized that learning is a cooperative enterprise and it has been claimed that specific adaptations for pedagogy were developed by our hunter-gatherer ancestors. However, the link between cooperation and learning remains relatively unexplored in young children. Here, we study the relationship between elementary school performance and the position of the student in his/her social network. We mapped the social networks of 45 classrooms in 14 Chilean public schools, using a dyadic social dilemma, and measured the cooperative centrality of students by quantifying their deviations from the average level of reciprocal cooperation in each interaction. In order to tackle endogeneity (not only cooperation might foster academic performance, academic performance might also promotes cooperation), we implement a 2-step IV regression, and found that students that engaged in high levels of reciprocal cooperation have significantly higher GPAs. We also find that students with high GPA student cooperate more within the context of a reported mutual friendship. Finally, we did not find any significant effects of GPA-based homophily patterns. Young students do not build cooperative relationships according to the GPA of their peers. The strategic cooperation of high GPA students together with the fact that we do not observe GPA-based homophily suggests that friendship can improve academic performance.

Cycle phase shifts in women's sexual motivation: Implications for dual sexuality

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Functional approaches to cycle phase effects on women's sexuality have been heavily influenced by dual sexuality theory: the idea that there is a different sexual psychology during the fertile window of the menstrual cycle than at other times. Versions of this theory have posited that there is no general increase in sexual desire during the fertile window, that paired women have stronger preferences for extra-pair men but not their own partners when near ovulation, and that progesterone promotes in-pair sexual desire. Here, I present evidence for the opposite conclusions: that there are fertile window peaks and luteal phase depressions in women's desire for their own partners and in their general sexual desire, and that progesterone negatively predicts both in-pair and extra-pair desire. As an alternative to dual sexuality theory, I propose that women's sexual motivation is regulated by two independent input pathways: ovarian hormones, which increase general sexual motivation when conception is possible, and social inputs, to which desire is designed to respond in ways that promote relationship initiation and maintenance. I conclude that the two input position can explain both ovulatory increases in sexual motivation and extended sexuality without the need to posit a dual sexuality.

Hormones and hoarseness predict women's vocal attractiveness: Evidence from Germany and the U.S.

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Although human sexual behavior is not limited to the fertile phase of the ovarian cycle, behavioral and morphological changes have been observed to increase women's attractiveness to men around ovulation. For example, both vocal attractiveness and vocal acoustic parameters may track within-woman changes in ovarian hormones. These putative fertility cues have been hypothesized to be components of adaptive shifts in reproductive strategies, or alternatively, as non-adaptive byproducts of hormonal changes across the ovarian cycle. We tested associations between women's ovarian hormone concentrations, the acoustic parameters of their voices, and ratings of their vocal attractiveness in independent samples from Germany and the United States. In both samples, hormone concentrations predicted changes in women's vocal attractiveness, although the directions of the relationships were not always consistent across samples. We then attempted to ascertain which features of women's voices drive changes in attractiveness. However, we did not find any relationships between hormones and acoustic parameters in either sample. We did, however, identify significant relationships between several acoustic parameters and ratings of vocal

attractiveness, one of which (the harmonics-to-noise ratio, a measure of hoarseness) emerged in both samples. We discuss the implications of these findings, and suggest directions for future research.

Observation and moral ambiguity matter: A meta-analysis on moral licensing

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Moral licensing occurs when someone who was initially moral subsequently behaves less morally, as if they had “license” to act badly. Many studies have found moral licensing, but many have failed to replicate it. We apply evolutionary reputation-based theory to predict when and why moral licensing would occur. Specifically, our pre-registered predictions were that (1) individuals who were observed during the licensing manipulation would display larger licensing effects, and (2) dependent measures that make it easy to infer reputational information (i.e. with low moral ambiguity) would have smaller licensing effects. We present a new meta-analysis of 116 studies ($k = 155$, $N = 20,162$) that tests these moderators. As predicted, there was a larger licensing effect when participants were explicitly observed ($d = .56$) compared to when they were unobserved ($d = .13$). Moreover, there was a larger licensing effect when dependent measures were morally ambiguous ($d = .35$) compared to unambiguous ($d = .19$). Overall, the licensing effect was much smaller than previously reported ($d = .17$). This study emphasizes the importance of using an evolutionary approach to study human moral psychology.

Cooperation, conflict, and status in an Amazonian community

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Human social life is structurally patterned. The interpersonal relationships that we forge and maintain do not develop in isolation. For example, ties from one network influence the formation of ties in another. The current research proposes that conflicts (negative ties) are more likely to emerge between individuals who more frequently engage in cooperation (positive ties), and that both of these networks are patterned by status differentiation. More specifically, we predict individuals high in social status are more often targeted as cooperation partners. However, friction may emerge among cooperators, particularly those close and/or high in social status per war of attrition models. We assess the overlap in cooperation and conflict networks—and how these networks are patterned by status differentiation—between adult men in an Amazonian community. Our findings indicate a significant overlap between conflict and cooperation networks. Moreover, individuals higher in social status have more cooperation partners

and are more likely to be involved in conflicts. In conclusion, the present research highlights the importance of network multiplexity between positive and negative ties, and further suggests that the benefits to status trade-off with costs from greater conflict.

Social risks as costly trait signals

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Prior research has established that men who take physical risks are more attractive than individuals who avoid risk; this has been interpreted as costly signaling. Yet these studies leave several large gaps in our knowledge. Does the risk outcome matter to attractiveness? Is this true of other types of risk, such as social risk taking? Are female risk takers judged in the same way? The current study addresses these gaps. Participants read short vignettes about socially risky situations, such as an individual who raises their hand in class, then rated how attractive they found the protagonist. The vignettes varied as to the gender of the protagonist and risk outcome (succeeds, fails, or avoids the risk). Results indicate that both successful and unsuccessful risk takers are more attractive than risk avoiders, though the magnitude of these differences depends on the specific situation. There were no differences in these effects depending on protagonist gender.

Edna St. Vincent Millay: A poet exploring benefits of female short-term sexual strategies

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Packing her poetry with unorthodox portraits of sexually eager, promiscuous women, Millay (1892-1950) is an important voice in post-Suffrage reappraisals of female human nature. Presenting sexuality in the context of women's agency, her poetry tacitly argues that women's quest for personal autonomy is well served by short-term sexual strategies. Since women command no means of ensuring durable male commitment, Millay suggests that they can exercise control over their destinies by eschewing long-term expectations, by avoiding emotional entanglements (together with concomitant dependencies), and by defecting first from crumbling relationships. These and similar tactics enable female personae in her poems to get and keep the upper hand in their erotic relationships with men. Exercising dominance in the interpersonal sphere enables them to preserve sexual and emotional independence. Thus Millay explores the intertwining of two evolutionarily significant spheres of activity, indicating how mating activity (including proximate satisfactions, strategic decisions, and choice of partners)

intersect with what David Geary has described as the "fundamental" desire to preserve autonomy, i.e., freedom of choice and action: the ability to direct one's own life history.

Where's the fitness? Facultative "life history" variations in personality and attachment differentially linked to reproductive success across ecological contexts

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Some evidence suggests individual differences in personality and attachment stem from facultative adaptations, perhaps functioning as differential life history trajectories evoked by the degree of ecological harshness and unpredictability experienced during development. In ancestral environments, personality and attachment variations should have been differentially associated with enhanced reproductive success when pursued by individuals inhabiting these varying ecologies. In this study, findings from a cross-cultural survey of over 35,000 people across 58 nations were used to explore the links between individual differences in personality and indicators of reproductive success (e.g., current number of offspring, number of past sexual partners). Those with anti-social personalities and avoidant attachments were more likely to have higher numbers of past sexual partners and, in some cases, more current offspring, particularly within high stress ecologies. However, many of these links were moderated by sex, sexual orientation, and religiosity. Moreover, only certain facets of anti-sociality appeared to be prime drivers of these associations. Although limited in several ways, the current study contributes to the larger literature on how life history strategies are not simple "fast" and "slow" responses, but likely result from many mechanisms operating in complex and seemingly contradictory ways. Productive pathways for future investigations are suggested.

Global psychological variation, intensive kinship and the Church

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Recent research not only confirms the existence of substantial psychological variation around the globe but also highlights the peculiarity of many Western populations. We propose that much of this variation arose as people psychologically adapted over centuries to differing kin-based institutions—the set of social norms governing descent, marriage, residence and related domains. We further propose that part of the variation in these institutions arose historically from the Roman Catholic Church's marriage and family policies and prohibitions, which contributed to the

dissolution of Europe's traditional kin-based institutions, leading eventually to the predominance of nuclear families and impersonal institutions. By combining data on 24 psychological outcomes with historical measures of both kinship and Church exposure, we find support for these ideas in a comprehensive array of analyses across countries, among European regions and between individuals with different cultural backgrounds.

Links:

<https://psyarxiv.com/d6qhu/>

Fixating on violence: Visual assessment of violent social interactions

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Understanding how people visually evaluate and conceptually categorize social interactions is an important empirical question that has been largely unaddressed in studies of cognition. In this study, we characterized viewing biases associated with social interactions that varied in how violent they were. To do this, we tracked the eyes of 90 participants as they viewed 72 images of social interactions and had them rate the images on a 7-point scale for violence. We found that participants looked at faces much less in social interactions than had been previously reported. The presence of a point of contact and the violence rating were major factors in this, suggesting that previous studies might not have used many action-oriented social scenes. Related to this, we find that when images were violent, participants spent less time looking at faces, but more time looking at the objects being held and the points of contact between the individuals interacting in the scene. Finally, regardless of the violent rating for the interaction, our three regions of interest predicted over 70% of the variance in attention to social interactions. These findings provide new insights into the cognitive processes involved in gathering information from both violent and non-violent social interactions.

Does sexual harassment come in multiple varieties?

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Sexual harassment is a broad category of behaviors that vary in severity and quality. One of the most direct and commonly used scales to measure harassment proclivity only measures quid pro quo harassment, or use of professional threats or rewards to obtain sexual favors. This scale does not reflect the scope of behaviors that are labeled as sexual harassment, many of which may stem from different evolved mechanisms. In Study 1 (N = 300), we expanded the range of scenarios in this scale by adding 25 conceptually generated items of a similar format. Exploratory factor analysis suggested two conceptually distinct — though correlated — forms of sexual

harassment: coercive sexual harassment (e.g., quid pro quo) and persistent sexual harassment (e.g., repeated requests for dates after rejection). In Study 2 (N = 296) and Study 3 (N = 205), we revised the scale to 14 questions based on factor loadings (7 coercive sexual behaviors and 7 persistent courtship behaviors). Confirmatory factor analysis indicated that a two-factor solution was optimal. These results suggest that there may be meaningfully different types of antagonistic sexual behaviors grouped under the broad heading of "sexual harassment," and they may stem from different evolved mechanisms.

Social closeness revisited in MZ and DZ twin families: Aunt/uncle-niece/nephews relations

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This study combines kin selection theory and twin methodology to assess factors affecting social closeness. The main hypothesis states that monozygotic (MZ) twins will express greater social closeness and care-taking behaviors toward nieces/nephews than dizygotic (DZ) twins. MZ twin aunts/uncles are "genetic mothers/fathers" of their co-twins' children, whereas DZ twin aunts/uncles share conventional genetic relationships with nieces/nephews. This analysis examined 482 individual twins by applying standard multivariate and alternative analytic methods. Twins completed a Closeness Questionnaire that additionally requested demographic and zygosity information. Previous research derived three factors from the questionnaire: comparative closeness (CC), perceived closeness (PC) and perceived similarity (PS). A two-way (zygosity x co-twin sex) ANOVA overall model was significant [$F(3,478)=18.96$, $p<.001$], as was the main effect for zygosity [$F(1,478)=12.316$, $p<.001$]. Closeness toward nieces/nephews was greater for MZ than DZ twin aunts/uncles. The main effect for co-twin sex was also significant [$F(1,478)=19.159$, $p<.001$]. Closeness toward nieces/nephews was greater for twins with female than male co-twins. The three factors were significantly affected by zygosity and co-twin sex. Other measures (e.g., child age) were also examined with reference to social closeness. SEM procedures confirmed these findings. The model shows that PS fully mediated the path between zygosity and closeness.

Links:

<https://www.sciencedirect.com/science/article/pii/S0191886910004460?via%3Dihub>

Life history correlates of human ejaculate quality

Todd K. Shackelford, Nicole Barbaro, Andrew M. Holub, Austin J. Jeffery, Guilherme S. Lopes, Virgil Zeigler-Hill <shackelf@oakland.edu>

Life history strategies reflect resource allocation decisions, which manifest as physiological, psychological, and behavioral traits. We investigated whether human ejaculate quality is associated with indicators of relatively fast (greater resource allocation to mating effort) or slow (greater resource allocation to parenting effort) life history strategies in a test of two competing hypotheses: (1) The phenotype-linked fertility hypothesis, which predicts that men pursuing a relatively fast life history strategy will produce higher-quality ejaculates, and (2) The cuckoldry-risk hypothesis, which predicts that men pursuing a relatively slow life history strategy will produce higher-quality ejaculates. Men ($n = 41$) completed a self-report measure assessing life history strategy and provided two masturbatory ejaculate samples. Results provide preliminary support for the cuckoldry-risk hypothesis: Men pursuing a relatively slow life history strategy produced higher-quality ejaculates. Ejaculate quality may therefore reflect resource allocation decisions for greater parenting effort, as opposed to greater mating effort. The findings contribute informative data on correlations between physiological and phenotypic indicators of life history strategies.

Are reproductive behaviors sensitive to priming? A Bayesian multi-level meta-analysis

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The effects of socioecological factors on human reproductive preferences and behaviors are traditionally explored through surveys, focus groups, and vignettes. This research shows strong evidence of correlation, but collinearity issues among socioecological factors limits the identification of causal pathways. Priming may help evaluate causal links between socioecological factors and reproductive behaviors. However, as a method, priming has been under strong scrutiny due to low rates of replication, and accusations of p-hacking and data fabrication. We present Bayesian multi-level meta-analyses of 219 effect sizes from 42 papers to test the efficacy of priming reproductive preferences and behaviors. To better understand causes of variation in individual preferences and behaviors we discuss which reproductive variables are most sensitive to priming, and which prime media and socioecological cues are most effective. We find a small to medium overall effect of priming on reproductive preferences and behaviors (Cohen's $d=0.40$, 95% HDI [0.32, 0.49]); and no publication bias (59.9% of studies reported p-values >0.05). However, among the 79 studies showing significant effects, Bayesian mixture modelling estimates that a

substantial portion probably arise from a null or non-effect distribution. This suggests that studies priming reproductive preference and behaviors warrant more scrutiny, especially from different methodological perspectives.

Hot and not bothered: High testosterone is associated with lower pathogen disgust sensitivity

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Life history theory predicts that organisms will make developmental and behavioral trade-offs that facilitate survival and reproductive success given their local ecological conditions. Among these trade-offs are those that organisms make in their allocation to mating versus somatic maintenance. When investment in mating effort is high, investment in processes related to somatic maintenance are expected to be low (and vice versa). Here, we sought to examine these trade-offs by examining the relationship between disgust sensitivity – which functions to protect the soma from pathogens – and testosterone, which is a neuroendocrinological driver of mating effort. The results of the current research (N = 131) found that testosterone (measured via blood serum) is related to lower pathogen disgust sensitivity. Moreover, we show that this relationship is not sex differentiated, indicating that the relationship between testosterone and disgust sensitivity operates similarly across both men and women. Discussion will focus on implications for person perception and mate attraction.

The genetic relationship between physical attractiveness and health

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It is commonly assumed that physical attractiveness reflects underlying genetic quality and health. However, the link between attractive physical traits and objective or subjective measures of health has not been consistently supported in existing studies. Further, the genetic relationship between physical attractiveness and health has never been examined. The UK Biobank, comprising ~500,000 genotyped individuals, enables us to test whether common genetic variants associated with health are also associated with facial attractiveness in an independent sample. Using beta weights derived from a genome wide association study of self-rated health, we constructed a polygenic score that we applied to an independent sample (N = 2392) with facial photographs rated for attractiveness. We showed the health polygenic score was significantly associated with ratings of facial attractiveness, suggesting that judgements of physical attractiveness are shaped by cues to genetic health. To follow up this result, we aggregated polygenic

risk scores from 105 physical, behavioural, mental, and anthropometric traits to form an overall fitness composite. Results from this second study will be discussed.

The origins of sex, age, and ecology stereotypes: social perceivers as lay adaptationists

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Individuals have evolved to adaptively allocate energy across different tasks, including mating effort, parenting effort, and building embodied capital. According to evolutionary theories (e.g., parental investment, life history), an individual's biological sex, current life stage, and ecological conditions all influence how energy is allocated across different tasks. We propose that social perceivers are lay adaptationists, generating predictions about the behaviors of others based on another's sex, age, and home ecology. We present two lines of work that show that: (1) well-documented sex stereotypes of agency (e.g., competitiveness) and communion (e.g., caring) may be derived from perceptions of sex differences in mating and parenting goals, and (2) that perceivers hold ecology stereotypes—beliefs about individuals living in harsh/unpredictable environments as holding faster life history strategies—and that these stereotypes are held by perceivers across cultures and demographic groups. The “lay adaptationist” perspective provides multiple novel insights to understanding the origins of sex, age, and ecology/race stereotypes.

Developmental factors and first sex: Comparing evolutionary hypotheses using the National Longitudinal Survey of Children and Youth

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Previous research has shown that early-life events are associated with reproductive scheduling. A variety of non-mutually-exclusive hypotheses have been proposed to explain these effects, including psychosocial acceleration theory, father absence, extrinsic mortality, internal prediction, social support, and intergenerational conflict. Many of these have used similar variables, such as childhood socioeconomic status or parental separation, as empirical support of the hypothesis, making it hard to determine the mechanism by which early life events influence later reproductive scheduling. In this paper, we use the Canadian National Longitudinal Survey of Children and Youth (NLSCY), which follows over 4000 children from infancy to adolescence, to examine how early life factors influence progression to first sex. We use a model comparison approach to analyze combinations of variables related to previously described hypotheses to determine which best predict progression to first sex. Results

show that variables associated with early life stress, mortality cues [in later childhood], prenatal factors, unpredictability, intergenerational conflict, and social support are all represented in the best models. Variables related to father absence and later childhood stress are not included in the top models. This evidence suggests that many of the hypotheses related to reproductive scheduling may be working in concert.

Probing ovulatory cycle shifts in women's make-up and clothing styl

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The existence of ovulatory cycle shifts in women's mate preferences and sexual desire has been discussed controversially, highlighting methodological criticism and the need for high powered replication studies. However, there is still a lack of replication studies investigating whether women actually advertise their fertility to signal sexual proceptivity to men, by dressing more attractive (wearing red, sexy or skin revealing clothes) and spending more time and effort in grooming. We addressed this lack of research in a large, pre-registered within-subject study including salivary hormone measures and luteinizing hormone tests. One-hundred-fifty-seven female participants have been photographed in a standardized setting four times across two ovulatory cycles. All photographs were coded on a number of variables for three dimensions: a) clothing color (e.g. wearing red), b) body exposure (e.g. wearing skin revealing clothes), c) grooming (incl. make-up use, hairstyle or accessoires). Multilevel intraindividual comparisons revealed that, contrary to most previous findings, women's clothing style and grooming did not change according to cycle phase or hormone levels. These results indicate that women may not advertise their fertility with different clothing styles or make-up usage. Hormonal mechanisms and implications for estrus theories will be discussed.

Does female choice or men's mating effort explain the relationship between sex ratio and men's aggression? Evidence from Micronesia

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Cross-cultural research on the effects of imbalanced sex ratios has consistently found a counterintuitive pattern of aggression: men commit more same-sex homicides and assaults when there is a surplus of women, rather than a scarcity, as you might expect if low supply breeds demand. There are two competing explanations for this: men's mating opportunities, which follows the adage that men are as faithful as their options, and compete more because there are more opportunities; and female choice, which suggests men are less violent when women are scarce because women have

bargaining power in this context and don't find aggression attractive. This study tests the female choice explanation on two islands in Micronesia that vary in the sex ratio. Men and women ranked local mate preferences according to importance, including a proxy measure for aggressiveness—drunkenness. Of the 13 traits, drunkenness was the only measure that men and women ranked differently by sex ratio—men's ratings remained the same across sex ratio, but women on one island ranked it significantly higher than on the other. Discussion addresses how sex ratio affects the interrelationship between men's mating opportunities, female choice, and aggression on these islands.

Inferring patterns in ambiguous events predicts reported history of anomalous experiences

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Virtually all religious traditions valorize “religious experience”, promoting specific experiences that they view as sources of new religious insight and means of transforming self and world. However, there are substantial individual differences in reported history of religious experiences. Experiences deemed religious include many anomalous experiences that involve inferring patterns in ambiguous events (e.g., Evangelical Christians might interpret a fleeting thought as communication from God). Here, we present data from three different populations – undergraduate students (Exp. 1), Mechanical Turk workers (Exp. 2), and members of a New Age spiritual movement (Exp. 3) – showing that individual differences in the tendency to infer patterns on basic tasks (e.g., determining whether there are images present in slides of black and white noise) predicts reported history of anomalous experiences. We speculate that in certain environments, psychological mechanisms designed to infer real patterns in the world may be functionally upregulated, and as a by-product of this pick up on erroneous patterns. We discuss possible real-world factors, observed during our ethnographic study of a new spiritual movement, that might upregulate these mechanisms and therefore increase proneness to interpreting ambiguous events as anomalous.

The effect of sublingual testosterone on ischemic pain sensitivity

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Sex differences in pain have been reported for over a half-century with males having higher pain tolerance and lower pain sensitivity than females. Testosterone, a hormone found in higher levels in men, has been found to dampen pain perception in humans. However, no study as of yet has directly manipulated a participant's

testosterone to test for causal relationships between testosterone and pain. The current study's objective was to examine this relationship by administering testosterone sublingually in 20 female participants, each of whose pain tolerance was assessed on two occasions, once in a testosterone-treatment condition and once in a placebo control condition. The administration was found to not only increase testosterone levels but also to boost estradiol and progesterone levels. Hence, the intervention along with logged testosterone, estradiol, and progesterone levels were entered in a multilevel model predicting pain tolerance. Pain tolerance increased as sublingual testosterone increased. Theoretical implications for understanding how pain modulates trade-offs between risk and somatic protection within an evolutionary life history framework may follow.

The role of etiological animal tales in TEK transmission

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Hunting demands extensive zoological knowledge, but the means by which traditional ecological knowledge (TEK) is transmitted are poorly understood. One candidate is etiological animal tales, which are pervasive in forager oral tradition and explain the origin of a species' distinctive physical and/or behavioral traits. If these stories transmit ethnozoological knowledge, we would expect them to contain information useful for predicting availability of, locating, killing, processing, and/or avoiding costly encounters with animals. A pilot study tested this prediction using story collections from 64 diverse forager populations across five continents (Europe and Antarctica excluded; Scalise Sugiyama 2017). For each collection/culture, one etiological animal tale was chosen at random for content analysis; all 64 stories evinced the predicted information. Here I present a follow-up study examining whether this pattern holds across all etiological animal tales within a given culture. Two forager cultures from diverse habitats and for which story collections were available were selected from each continent. Collections (n = 10) were then searched for etiological animal tales, all of which were analyzed for the presence of nine types of zoological information. Results suggest that etiological animal tales encode practical zoological knowledge and may be an important vector of TEK transmission.

Links:

https://www.researchgate.net/publication/317356347_Transmission_of_Forager_Zoological_Knowledge_Via_Animal_Profiles

Functional invariances in the architecture of shame

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Human foragers are obligately group-living, and their high dependence on mutual aid is believed to have characterized our species' social evolution. It was therefore a central adaptive problem for our ancestors to avoid damaging the willingness of other group members to render them assistance. Cognitively, this requires a predictive map of the degree to which others would devalue the individual based on each of various possible acts. With such a map, an individual can avoid socially costly behaviors by anticipating how much audience devaluation a potential action (e.g., stealing) would cause, and weigh this against the action's direct payoff (e.g., acquiring). The shame system manifests all the functional properties required to solve this adaptive problem, with the aversive intensity of shame encoding the social cost. Recent data from WEIRD societies showed that the shame evoked when the individual anticipates committing various acts closely tracks the magnitude of devaluation expressed by audiences in response to those acts. Here I show that this feature of shame is observed also in 15 small-scale traditional communities scattered around the world. Despite massive variation in languages, cultures, and subsistence modes, shame in each community closely tracked the devaluation of local and even foreign audiences.

Links:

<https://www.pnas.org/content/115/39/9702>

East meets West in mate preferences, except when it doesn't: An international budget-allocation study

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Several studies have investigated how people trade-off their mate preferences. However, these tend to focus on a small number of preferences in homogenous samples. This talk will present the results of an international budget allocation study that provides support for the mate preference priority model. As part of an international collaboration between researchers in Australia, Malaysia, Norway, Singapore, and the UK, 2,477 participants designed a long-term partner by allocating points to eight traits using constrained budgets. Unlike previous versions of the task, we also included traits that vary in importance between cultures, such as religiousness and chastity. In line with the mate preference priority model, we found that the attributes most relevant to reproductive success were prioritized over others and that this pattern differed by sex. By comparing Eastern and Western participants, we also found that prioritization

patterns differed by culture group. For example, the preference for good financial prospects was more of a priority in the Eastern group, while sense of humor was more of a priority in the Western one. We discuss some of the factors that may contribute to these cultural differences and highlight possible future research questions that could be tested using the budget allocation paradigm.

Infants prefer those who 'bow out' of zero-sum conflicts

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Cooperation and conflict are basic to human social life. From early infancy, humans seem to recognize cooperation and to prefer cooperative individuals. They also seem to recognize conflict, expecting larger individuals or those with more allies to prevail. The present paper asks how infants feel about others who either win or lose (by yielding) in a conflict. We present a total of nine experiments. In four of the experiments, infants ages 10 to 16 months watched vignettes showing two puppets in a conflict. Infants preferred (reached for) the puppet that yielded to another puppet, rather than the puppet who was yielded to. Five more experiments ruled out alternative explanations for the main findings, including that the infants preferred the yielding puppet because it helped the other puppet achieve its goal. These results are striking in light of earlier findings showing that only five months later, at age 21 months, children emphatically prefer the winner (non-yielding puppet) in such conflicts. These results suggest that humans go through a dramatic developmental shift during the second year of life in the way they evaluate individuals based on the outcomes of conflict.

The structure of dominance: Preverbal infants map pyramidal position to social dominance

Lotte Thomsen, Erik Kjos Fohn, Joakim Haugane Zahl, Oda Eidjar, Susan Carey <lotte.thomsen@gmail.com>

The learnability problem of the social world suggests that evolution may have built core relational concepts (Thomsen & Carey, 2013). Indeed, preverbal infants represent social dominance (Thomsen et al, 2011). Across cultures and language families, UP-DOWN is mapped to social hierarchies such that higher-ranked superiors are placed and spoken metaphorically as above lowly inferiors (Fiske, 1992; Lakoff & Johnson, 1980). However, human dominance hierarchies are pyramidal, such that more people are at the bottom than at the top. Consistent with this, adults across cultures readily interpret a pyramidal structure as hierarchy, but not a vertical line (Thomsen, 2010). Here, we demonstrate that 11-16 month-olds, after watching six same-size

agents “flying” in a pyramidal structure, expect the top agent to prevail in a subsequent right-of-way conflict, looking significantly longer if it yields to a bottom one than vice versa. Study 2 replicated these effects among 9-10 month-olds. A control study instead familiarized infants to an inverted pyramid. These results demonstrate that infants map pyramidal position to social dominance as soon as they associate it with relative physical size, suggesting that infant concepts of dominance are formed as pyramidal structures, akin to human dominance hierarchies.

Tableaux, camera angles and outrage lock: the political cognition and cultural epidemiology of group-relevant events

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Coalitions compete in a collective, zero-sum fashion for status (relative entitlement to determine outcomes). This selected for an evolved, group-directed motivational system that is designed to link individuals together to act as a unit to enhance, defend or repair their status, or initiate aggression in the interest of exploitive supremacism. The status of the group is a public good to its members. Hence, harms (“outrages”) to one or more members of the ingroup (or proxy members) by one or more members of an outgroup advertise potentially undeterred mistreatment as a new public precedent for tolerated mistreatment and low status. Typically, joint attention on outrages triggers collective responses, and so representations of outrages and grievances function as group-mobilizing resources, and are nurtured, embroidered, and exaggerated for their utility in advancing the group’s interests, including in subordinating outgroup members. Lack of support for inflammatory representations, however inaccurate, is treated as immoral and disloyal, leading to outrage lock, where extreme representations maintain themselves in the group long after whatever underlying reality has dissipated. The cultural epidemiology of representations of significant outrages and emblematic events become cognitively stylized imagery—what might be called tableaux—built out of underlying evolved systems of situation representation.

Context-contingent effects of head-tilt on leadership perceptions

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Previous research has found that physical characteristics in faces that influence perceptions of trustworthiness and dominance have context-contingent effects on leadership perceptions. People whose faces are perceived to be trustworthy are judged to be better leaders in peacetime contexts than wartime contexts. By contrast, people

whose faces are perceived to be dominant are judged to be better leaders in wartime contexts than peacetime contexts. Because head tilt has previously been thought to influence trustworthiness and dominance perceptions, we tested whether head tilt has context-contingent effects on leadership judgments. Although we found that head tilt influenced trustworthiness and dominance, we did not see the predicted effects of head tilt on leadership judgments. However, we did find context-contingent effects on leadership judgements with regards to potential-leader sex, where female faces were judged to be better leaders in peacetime than wartime contexts and male faces were judged to be better leaders in wartime than peacetime contexts. Together, these results suggest that the context-contingent effects of physical characteristics on leadership judgments do not necessarily extend to head tilt and, potentially, other transient characteristics.

More valued relationship partners engender less pathogen avoidance

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People touch their own infant's snot and their sexual partner's saliva with little discomfort. Based partially on such observations, recent models have proposed that interpersonal pathogen avoidance varies not only as a function of perceived infection risk, but also target relationship value. The current work tested this hypothesis. In both of two studies (N 's = 504 and 430), participants were randomly assigned to think of a target who was: (1) their romantic partner; (2) their closest friend; (3) an acquaintance; or (4) a disliked other. They then indicated their comfort with 10 examples of infectious indirect contact with the target (e.g., touching a handkerchief used by the target). Finally, they completed a welfare-tradeoff task, which assessed the value they place on their relationship with the target. Study 1 revealed that comfort with infectious contact was strongly related to target relationship value, $r = .68$, $p < .001$; this effect remained after controlling for target category (e.g., romantic partner versus acquaintance), $\beta = .21$, $p < .001$. Study 2 replicated this finding, $r = .62$, $p < .001$, and further found that relationship value related to contact comfort independent of target category, attractiveness, and hygiene, $\beta = .28$, $p < .001$.

Phenotypic plasticity across the lifespan: a model of sensitive periods when the reliability of information varies

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Sensitive periods are widespread in nature. Much work investigates the neural-physiological underpinnings of variation in sensitive periods between and within

species. Recently, complementary research using formal theoretical modeling has explored the evolutionary pressures that shape the development of sensitive periods. Most models acknowledge that, for plasticity to be adaptive, organisms require reliable information about the environment. However, they have yet to explore how within-lifetime variation in the reliability of information affects the development of sensitive periods. Our model fills this gap. We consider organisms that incrementally tailor their phenotype to their environment by using cues (i.e. sampled information) and assume that cue reliability is not fixed, but instead varies across time. We then simulate developmental trajectories over a range of ecologies. Additionally, we offer multiple ways to quantify sensitive periods in order to closely match a variety of empirical study paradigms (e.g. migration, adoption, and cross-fostering studies). Our model shows that natural selection may favor sensitive periods in developmental windows other than early life (e.g., adolescence), and generates testable predictions about the environmental conditions in which "mid-life sensitive periods" are likely to evolve, and about individual differences in the onset and offset of such periods as a function of experience.

Links:

<https://royalsocietypublishing.org/doi/10.1098/rspb.2015.2439>

<https://royalsocietypublishing.org/doi/full/10.1098/rspb.2011.0055>

Can sex ratio explain the variance in sex differences in mate preferences across 45 countries?

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Sex ratio is an important variable in the domain of human mating. Skewed sex ratios cause one sex to be scarcer than the other, resulting in more competition in the numerous sex and more power of choice in the scarcer sex. Consequently, the ratio of males to females in a given population appears to relate to sexual strategies, divorce rates, age of first marriage, male aggression, violence, and financial behavior. Despite this previous research and clear theoretical links between mate preferences and sex ratio, little work has directly examined cross-cultural sex differences in mate preferences as a function of sex ratio. Here we examine this relationship using a large cross cultural sample, $n=14,487$, with participants from 45 countries in conjunction with demographic data. We find some evidence that sex ratio is associated with sex differences in mate preferences but not equally for all measures of sex ratio.

Death awareness: Terror management or cognitive adaptation to time management?

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Death awareness refers to thinking about and recognizing the inevitability of one's own death. According to the popular terror management theory, death awareness is a common source of many irrational defensive reactions to existential anxiety. However, an evolutionary perspective suggests that death awareness is an essential part of human-unique auto-noetic consciousness, and should be viewed as a cognitive adaptation to the problems of resource management, mainly time management. In three studies, we explored proactive effects of death awareness, activated experimentally or experientially by the affliction of cancer. In Studies 1 and 2, compared to a control group, the participants who contemplated death underestimated the passage of time in a time-perception task and had a lower delay-discounting rate, indicated by a more future-oriented preference for a larger-and-delayed reward to a smaller-and-immediate reward. In Study 3, cancer patients, when compared with non-cancer patients with more curable diseases, overestimated the passage of time and had a higher delay-discounting rate (more present-oriented) when making intertemporal choices. These findings do not support defensive reactions predicted from terror management theory. Instead, the results reveal a proactive time management pattern adapted to different types of death awareness: mortality reminder and cancer experience.

The infectiousness of crowds: Crowding experiences are amplified by pathogen threats

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In our everyday lives, we may find ourselves in situations where many people are congregated, like on a subway car during rush hour, or in a dance club on a Saturday night. People sometimes perceive these social situations as unpleasantly crowded. Previous work has demonstrated that incidental factors such as being hungry or hot increase perceptions of crowdedness. Yet, crowds afford additional threats and opportunities to individuals, ones that exist because other people can act as agents (even unwitting ones) of harm and safety. Here, we demonstrate that crowding perceptions and evaluations depend on specific, active threats for perceivers. Eight studies (combined N = 2056) test whether infectious disease threats, which are associated with crowded conditions, increase negative reactions and avoidant behavioral intentions. Across studies, activating pathogen threat consistently made dense social environments seem more crowded, and consistently generated more negative affect toward these environments. Finally, under pathogen threat, people were more likely to choose to inhabit uncrowded environments. These outcomes were threat-

specific. That is, they were more influenced by pathogen threat relative to other threats of physical safety. These studies suggest that interpretations of social environments depend on the unique threats and opportunities those environments afford to individuals.

Using conjoint analysis to assess men's relationship interest in women with and without children

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If the presence of children and remarriage (or re-mating) were recurrent features of human evolutionary history, mating psychology should contain features that address problems associated with the presence of children and re-mating and we should see this revealed in a variety of mating behaviors. Mothers of very young children (<2yrs) report more dates than fathers of very young children and single parents of children less than 5 report higher frequency of sexual activity and more first dates in the past 3 months than do parents of older children. Men and women with at least one genetic child with their partner also perform more frequent individual mate retention behaviors. Furthermore, women report different mate preferences before and after having children. The current research used conjoint analysis to explore men's long- and short-term interest in women with and without children. Over 500 men were asked to rank profiles of potential mates that varied by the woman's age, her child's age, her child's sex, and the father's involvement. Findings add to a provisional framework for research on mating psychology after having children.

Plant avoidance behaviors in Shuar infants and toddlers

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Recent research shows that 8- to 18-month-old infants from the US and Germany are reluctant to touch plants and look more frequently toward adults before touching plants, a behavioral avoidance strategy that would mitigate plant dangers. Here we test Shuar infants and toddlers to examine whether infants growing up with substantial exposure to plants exhibit similar avoidance behaviors. The Shuar are an indigenous Amazonian society in southeastern Ecuador. Infants and toddlers (7- to 36-month-olds; N=52) from four small rural Shuar villages were tested. The stimuli were real plants, artificial plants, feature-matched novel artifacts, familiar artifacts, and naturally occurring objects. An experimenter placed each stimulus object in front of the

infant for 10 seconds; infants' touch behavior and looking behavior were coded. The results showed that Shuar infants, like infants from the US and Germany, took longer to touch plants (real and artificial) compared to familiar artifacts and stones. However, unlike US and German infants, Shuar infants were as reluctant to touch novel artifacts as plants, and exhibited similar amounts of social looking across all object types. These results suggest informative similarities and differences between the Shuar and infants from the US and Germany.

Third-party punishment, vigilante justice, or karma? A comparison of reactions to interpersonal and cosmic justice

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People around the world believe in both the appropriateness of interpersonal punishment for immoral actions and believe that supernatural forces ensure transgressors get what they deserve. Evolutionary theories have proposed that both interpersonal and supernatural justice beliefs result from similar motivations, cognitive mechanisms, and cultural evolutionary processes that bind human beings into cooperative groups. Three preregistered studies investigated situational factors and individual differences that shape reactions to interpersonal and supernatural justice. Although the appropriateness of interpersonal and supernatural justice both depended on recipients' past moral actions, third-party punishment was viewed far more negatively. Contrary to past research, third-party punishers did not reap reputational benefits from their actions but were only viewed as minimally better individuals who harmed a previously-prosocial target or unknowingly harmed a previously-antisocial target. Further, exploratory analyses indicated that reactions to third-party punishment were unrelated to reactions to supernatural justice, explicit belief in karma, and generalized belief in a just world. Results imply that an evolved sense of fairness, or a motivation to see bad people suffer, does not provide a sufficient explanation for supernatural justice beliefs, whereas other cognitive and cultural predictors provide better insight into observed variability in supernatural justice beliefs within and across cultures.

Do men and women know what they want? Sex differences in online daters' educational preferences

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Using a unique cross-sectional data set of dating website members' educational preferences for potential mates (N =41,936), we showed that women were more likely than men to stipulate educational preferences at all ages. When members indifferent to educational level were excluded, however, the specificity of men's and women's preferences did differ for different age groups. That is, whereas women expressed more refined educational preferences during their years of maximum fertility, their demand specificity decreased with age. Men's specificity, in contrast, remained stable until the 40s, when it was greater than that of post-reproductive women, and then was higher during their peak years of career-earnings potential. Further, when individuals' level of education was controlled for, women (compared with men) were more likely to state a higher minimum preference for educational level in a potential mate.

The selection of social partners based on the moral actions of the group vs. the individual

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The ability to select appropriate social partners enables the human species to better navigate the social world. Research has demonstrated that at least two factors influence the selection of social partners, even as early as infancy: (i) who helps vs. harms others (Hamlin et al., 2007), as a signal of how someone may act towards ourselves; and (ii) who acts like vs. unlike others (Powell & Spelke, 2018), as a signal of someone's capacity for coordinated action. Although people have studied these two factors, they have done so independently. It is unknown whether these two factors interact. At times, they may even come into conflict. In the present study, we presented 128 participants with agents who help others, harm others, or do a non-moral action after the agents' friends either have done the same thing, have done a different thing, or have not done anything. Participants rated people who acted like vs. unlike their friends as a better potential friend: (i) when the friends did a non-moral action; and (ii) even more strongly when the friends helped others. When the friends harmed others, however, participants rated people who acted like vs. unlike their friends as a worse potential friend.

Traditional postpartum care: Alloparenting from an evolutionary perspective

Sangkwon Woo, Mark V. Flinn, Robert S. Walker <woosangkwon@gmail.com>

Variation of traditional postpartum care practices vary across different regions. Paternal and alloparental support, however, are common components in human cultures. Whereas many ethnographic studies have accumulated information on cultural variation during antepartum/postpartum period, such as food taboo and couvade, systematically comparative data sets have not been broadly considered on these cultural traits, mainly due to the limited comparability of diverse variables. Alloparental care has long been considered as an important factor in raising children, but it is also essential in that additional help can enhance further reproductive opportunity of new mother and her key role on enhancing the fitness of the newborn. Here we examine how traditional care practices might have helped the health of mothers and infants. Traditional care practices in East/Southeast Asian population and indigenous populations in American continents involve not only intensive treatment and isolation but also strong cold-avoidance, or 'hot-cold theory' based care. We collected information on temperature management after childbirth during postpartum care practice and utilized the Standard Cross-Cultural Sample (SCCS), a globally representative data of human populations. Using a phylogenetic supertree including the SCCS, the cultural evolutionary processes on the postpartum care are examined to indicate the association between genetic/linguistic phylogeny and vertical/horizontal transmission of cultural traits.

Return the favour: Preverbal infants represent direct reciprocity

Joakim Haugane Zahl, Erik Kjos Fonn, Oda Eidjar, Lotte Thomsen <j.h.zahl@psykologi.uio.no>

If direct reciprocity sustains selective altruism and cooperation among non-kin (Trivers, 1971), early-developing representations of reciprocity might evolve to facilitate the navigation of such social relations. Here, we show that preverbal infants represent direct reciprocity. We familiarized 32 7-12 month-old infants to a scenario with three novel agents where the benefactor gave one of his two apples to the beneficiary who had none (the third agent simply had one apple). In test trials the former beneficiary now had two apples, while both other agents had none. In Expected trials it reciprocated by giving its surplus apple to its former benefactor, in Unexpected trials it instead gave it to the third agent. We found that nine-to-twelve month-olds looked longer at unexpected than expected trials ($M_{\text{unexpected}}=27,8$ seconds; $M_{\text{expected}}=21,5$; $p<.0005$, $BF_{10}>550$), indicating that they expected agents to act reciprocally, but 7-8 month-olds did not. A second study demonstrated that reciprocity is generalized across resources (receiving an apple and returning a banana). Two control studies demonstrated that

these effects are specific to resource distributions among self-propelled, intentional agents and not accounted for by low-level mechanisms of mere association

A critique of life history approaches to human trait covariation

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Covariation of life history traits across species may be organised on a 'fast-slow' continuum. A burgeoning literature in psychology and social science argues that trait covariation should be similarly organised across individuals within human populations. Here we describe why extrapolating from inter-species to inter-individual trait covariation is not generally appropriate. The process that genetically tailors species to their environments (i.e. Darwinian evolution) is fundamentally different from processes that tailor individuals to their environments (e.g. developmental plasticity), so their outcomes in terms of trait covariation need not be parallel or even related. We discuss why correlational selection, physical linkage, pleiotropy, and non-random mating do not substantively affect this claim in the context of complex human traits. We also discuss life history trade-offs and their relation to inter-individual trait covariation. We conclude that researchers should avoid hypotheses and explanations that assume trait covariation will correspond across and within species, unless they can mount a theoretically coherent argument to support this claim in the context of their research question.

New Investigator Award Talk Abstracts

Politics and Parental Care: Experimental and Mediational Tests of the Causal Link between Parenting Motivation and Social Conservatism

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People vary greatly in their desire to have children, their affective reactions towards children, and their willingness to care for children. This variation in “parenting motivation” predicts a wide range of cognition and behavior. Strategic perspectives on political attitudes suggest that parenting motivation should be associated with more socially conservative attitudes, since these attitudes prioritize norms that emphasize self-protection, and discourage short-term sexual behavior. Three studies replicated previous findings that parenting motivation and parenthood predicted social conservatism, and found that parenthood mediated age- and sex-differences in social conservatism. Study 1 (n = 347) found that an experimental child-interaction prime increased social conservatism in parents, but not in non-parents. Studies 2 and 3 (preregistered, n’s=803; 763) found a small main effect of the prime (marginally significant in Study 3). An internal meta-analysis found evidence of a small main effect, and exploratory post-hoc tests revealed that this effect was entirely driven by 25-35 year-olds across the three studies. Study 3 also found that the relationship between parenting motivation and social conservatism was mediated by both mating orientation and belief in a dangerous world. These findings provide support for the idea of a functional relationship between parenthood, parenting motivation, and social conservatism.

A Life History Approach to the Female Sexual Orientation Spectrum

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Women’s capacity for sexual fluidity is at least as interesting a phenomenon from the point of view of evolutionary biology and behavioral endocrinology as exclusively homosexual orientation. Evolutionary hypotheses for female nonheterosexuality have failed to fully account for the existence of these different categories of nonheterosexual women, while also overlooking broader data on the causal mechanisms, physiology, ontogeny, and phylogeny of female nonheterosexuality. Using the synergistic approach of Tinbergen’s four questions, I review the evolutionary-developmental origins of various phenotypes in the female sexual orientation spectrum. This synthetic review indicates that various nonheterosexual female phenotypes emerge from and contribute to hormonally mediated fast life history strategies. Life history theory provides a biobehavioral explanatory framework for nonheterosexual women’s masculinized body morphology, psychological dispositions, and their elevated likelihood of experiencing

violence, substance use, obesity, teenage pregnancy, and lower general health. Synthesizing life history theory with the female sexual orientation spectrum enriches existing scientific knowledge on the evolutionary-developmental mechanisms of human sex differences.

Links:

<https://doi.org/10.1007/s10508-018-1261-0>

Partner choice in human evolution: The role of character, hunting ability, and reciprocity in Hadza campmate selection

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The ability to choose the partners we interact with is thought to have been an important driver in the evolution of human social behavior, and in particular, for our propensity to cooperate. But evidence for this claim comes largely from Western populations. Here, we investigate qualities associated with being a preferred partner (i.e. campmate) in Hadza hunter-gatherers of northern Tanzania. Ninety-two Hadza participants from 12 camps ranked their current campmates on character traits (i.e. hard work, generosity, and honesty), hunting ability in men, and their preference for them as future campmates. We found positive but weak associations between rankings on character traits and being a preferred campmate. However, there was suggestive evidence that being perceived as a better hunter was a more important criterion than any character traits for being a preferred campmate in men. And we found little evidence to suggest that partner preferences were reciprocated among campmates. Finally, we found little evidence to suggest that being a preferred campmate is associated with greater reproductive success, which suggests there is little benefit to being a valued partner. Together, these findings suggest that social selection for character traits was not a powerful driving force in the evolution of human cooperation.

Links:

<https://osf.io/8sxxmw/X>

Postdoctoral Award Talk Abstracts

Spatial cognition, navigation, and mobility among children in a forager-horticulturalist population, the Tsimané of Bolivia

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In many societies, males range farther than females, and this greater environmental experience may foster better spatial ability. Females are also reported to be more harm-avoidant, which may reduce spatial exploration. We evaluated these relationships among 6-18 year old Tsimané children, who live in a forager-horticulturalist society where both girls and boys have few constraints on spatial exploration compared to children in Western societies. Mobility was assessed through GPS tracking and interview, spatial ability through pointing accuracy, perspective-taking and mental rotation, and harm avoidance through interview. Few gender differences were found in mobility or spatial ability, although males pointed more accurately to challenging (high sinuosity) routes. Tsimané girls were more harm avoidant beginning in adolescence, and harm-avoidant adolescents took more direct routes. Greater regional travel and winding daily tracks were predictive of better navigation, but mental rotation scores was more strongly correlated with schooling.

Signaling when no one is watching: A reputation heuristics account of outrage and punishment in one-shot anonymous interactions

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Moralistic punishment signals trustworthiness to observers. But why punish when nobody is watching? We propose that reputation concerns shape outrage and punishment even in anonymous interactions, because people employ the heuristic that somebody is usually watching. In anonymous experiments, subjects ($n = 8440$) are more outraged by selfishness when they cannot signal their trustworthiness through direct prosociality (sharing money)—such that if somebody were watching, punishment would have greater signaling value. Additionally, mediation analyses suggest that sharing opportunities reduce outrage by decreasing reputation concerns. Furthermore, anonymous experiments measuring costly punishment ($n = 6076$) show the same pattern: subjects punish more when sharing is not possible. And moderation analyses suggest that sharing opportunities do not merely reduce outrage and punishment by inducing empathy towards selfishness or hypocrisy aversion among non-sharers. Finally, supporting the role of heuristics: less deliberative individuals (who typically rely more on heuristics) are more sensitive to sharing opportunities in anonymous punishment experiments, but, critically, not in punishment experiments where reputation is at stake ($n = 3422$); and not in our anonymous outrage experiments (where condemning is costless). Together, our results suggest that when nobody is watching,

reputation cues shape outrage and—among individuals who rely on heuristics—costly punishment.

Links:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2969063

<https://osf.io/7z8b6>

Reputational and cooperative benefits of third-party compensation

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Humans sometimes intervene in moral conflicts between others—so-called “third-party responding”. Sometimes third parties punish perpetrators; other times they provide aid to victims. Across 24 studies (N > 20,000), we provide a comprehensive examination of the different benefits third-parties accrue based on their choice between these two forms of response, as well as third-parties’ understanding of those benefits. We find that compensating victims leads to greater reputational and cooperative benefits than punishing perpetrators. In fact, even people who themselves prefer to punish still prefer social partners who compensate. We also find that the signal that is sent via third-party compensating may be an honest signal of trustworthiness. Furthermore, we find that people accurately anticipate that observers would prefer them to compensate victims than to punish perpetrators and that participants personal decisions about whether to compensate or punish is based in part on the belief that the social norm is to compensate. Finally, we find that this selective preference for a compensation strategy is limited to fairness violations and does not extend to harm violations. These findings provide an extensive analysis of the causes and consequences of third-party responding to moral violations.

Links:

<https://psyarxiv.com/c3bsj/>

<https://osf.io/yhbrc/>

Datablitz Abstracts

Lay beliefs about the sensory detection of disease

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Can you tell if a person has a cold by looking at them? What about by listening to them or smelling them? Research on pathogen detection and avoidance has suggested that people respond to a variety of sensory cues as though they indicate the presence of infection threats, sometimes resulting in accurate identification and other times creating aversion to targets only heuristically associated with danger. But what do perceivers actually believe about the effectiveness and use of specific sensory modalities for infection detection? Lay beliefs can influence behavior and illuminate how people mentally conceptualize information, making an understanding of these beliefs potentially important for evaluation of existing pathogen avoidance models as well as for generating new hypotheses. In two studies, over 1400 participants reported their perceived effectiveness and likelihood of using each of the major senses to identify infection threat in two types of targets: people and food. Results revealed sensory patterns specific to each target type. We evaluate support for several possible explanations of these patterns, including prioritization of “safer” senses (those involving less close proximity to targets) and apparent base rates of available sensory cues.

Who is the loudest in the communication jungle? An evolutionary perspective on mobile instant messaging

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A world without smartphones and mobile instant messaging (mim) via texting or voice messaging (vm) is unthinkable. While texting has already been investigated (e.g., Sultan, 2014), vm has not. It can be assumed that both channels fulfil different purposes. Taking an evolutionary perspective, sex differences in channel choice, motives, and target groups are assumed. Generally, women should use more mim (especially vm) with only one exception: Men should send more vm to the opposite sex. Two online studies were conducted (Study 1: N=317, 232 f; Study 2: N=307, 197 f). Study 1. Women used more mim ($d=0.30$) and liked texting ($d=0.23$), and vm more ($d=0.22$). No sex differences emerged on frequency or length of vm/texts. Study 2. Women used more vm ($d=0.26$), but not more texts. They texted relatives ($d=0.70$), family ($d=0.34$), and same-sex friends more ($d=0.72$) and scored higher on several motives (e.g., intimacy motive in vm, $d=0.41$). Men sent vm more to opposite-sex friends ($d=-0.51$; all $ps < .05$, one-tailed). Our study is the first empirical study that gives insights into sex differences in channel choice of mim from an evolutionary perspective. Further differences (e.g., personality) will be presented at the conference.

Pathogen disgust sensitivity changes according to the perceived harshness of the environment

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Much research has explored behaviours that are linked with disgust sensitivity. Few studies, however, have been devoted to understanding how fixed or variable disgust sensitivity is. We therefore aimed to examine whether disgust sensitivity can change with the environment by repeatedly testing university students whose environment was not changing as well as university student cadets undergoing intensive training at an army camp. We found that an increase in the perceived harshness of the environment was associated with a decrease in pathogen disgust sensitivity. Our results support the idea that disgust sensitivity is malleable depending on the environment. More specifically, we propose that in a harsh environment, where survival may be more difficult, pathogen disgust sensitivity may decrease to allow the consumption of available resources.

People prioritize expected growth over expected value

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How should people make decisions? A voluminous literature dating back to Bernoulli suggests that people should maximize expected utility. According to this theory, we should prefer an investment that, at every time step, either grows by 40% or shrinks by 30% to an investment that grows by 10% or shrinks by 5%. But while the former investment offers a higher average return over time, the latter investment is expected to grow over time at a faster rate, as characterized by the geometric mean of its payoffs (Peters & Gell-Mann, 2016). Given that this growth rate will largely determine which people or traits survive over evolutionary time, we hypothesized that people's investment decisions would prioritize this quantity over the more familiar expected value. In a first experiment, we show that people prefer a 'safe' investment to its riskier, but higher expected-value, counterpart when this safe investment has a faster growth rate. However, when the riskier investment has a faster growth rate than the safer investment, this pattern reverses: people are more likely to take the risk. These findings provide initial evidence, consistent with evolution, that people may rationally prioritize the long-run growth of a process over simple expected value.

A functional affordance-management approach to stigma-by-association: Does stigma transfer depend on type of stigma?

Jarrold Bock, Jaimie Arona Krems <jarrod.bock@okstate.edu>

Social psychological descriptions of stigma-by-association suggest that, because we devalue and/or dislike stigmatized people, we will devalue and/or dislike their traditionally non-stigmatized associates. However, functional approaches to stigma imply that people hold qualitatively distinct prejudices—rather than generalized devaluation or dislike—which are underlain by the qualitatively distinct threats that stigmatized people are perceived to afford. For example, whereas we might equally stigmatize them, we may perceive Black men as threats to physical safety and religious fundamentalists as threats to freedoms. We ask: If different stigmas represent different, specific threats, (1) which stigmas are transferred and (2) do all stigmas transfer equally? Across three experiments, participants read one of several vignettes describing an average White male (Brad), Brad and a similar friend (control), or Brad and a stigmatized friend (e.g., African-American male, religious fundamentalist), reporting the extent to which Brad—and/or his friend—evoked various threats and affective reactions. We investigated the prediction that, whereas, (1) the generalized stigma might be transferred to Brad when he has a stigmatized friend, (2) the specific stigmas transferred to Brad—and their affective reactions (e.g., fear, anger)—will vary as a function of the specific threat Brad’s friend is perceived to afford.

On the balance: Cultural versus biological legacies

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Bandwidth for the transmission of information via culture is increasing exponentially, and has been for some time. How might begin to think about the tradeoff between one’s cultural and genetic legacies? Shannon information provides some traction. Through the stories of two notably successful figures, Joseph Smith and Genghis Khan, I develop a framework for estimating the amount of information created and transmitted by an individual via the written word versus via DNA. Analysis of this model yields a notable result: the novel information contained in approximately one book is order-of-magnitude equivalent to the Shannon information endowed to a child via DNA. However, in both the case of culture and for DNA, the vast majority of information either medium transmits is not original: it is information that is highly conserved and inherited by the individual in question. We must control for this inheritance. In the case of DNA, this is a solved problem. In the case of culture, I put forward an application of Shannon’s original method of measuring entropy in English prose which allows us to control for the subject’s cultural inheritance. Conservative

estimates for model parameters yield results over a few generations that are orders of magnitude apart.

Sexual risk-taking when sexually aroused

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Sexual arousal is a motivational state that prioritizes mating opportunities and minimizes perceived risks associated with sex. Due to gender asymmetries in evolved sexual psychology, sexual arousal may differentially motivate men and women. Arousal is predicted to motivate men to achieve copulation, whereas women are predicted to remain highly discriminating about sexual partner choice even while aroused. Previous studies show that men are more likely to endorse engaging in morally questionable behaviors and view contraceptives as less important when sexually aroused. However, these underpowered studies have typically only examined arousal in men. We extended previous research by including women and men in a study of experimentally-induced sexual arousal's effect on perceived willingness to engage in risky sexual behaviors. Preliminary analyses revealed that 1) there was a significant difference in levels of arousal between experimental and control conditions, but no differences in levels of arousal between sex; and 2) that men were more likely to endorse participation in risky sexual behaviors regardless of condition, but sexual arousal did not mediate perceived willingness to engage in these behaviors. Discussion centers on hypothesis refinement and future directions for research on the relationship between sexual arousal and sexual risk-taking.

Moral opportunism: A unique genetic grounding associates lesser guilt from perpetrating injustice with greater sensitivity to being the victim of it.

Nikolai Haahjem Eftedal, Thomas Haarklau Kleppestø, Nikolai Olavi Czajkowski, Jonas Kunst, Espen Røysamb, Olav Vassend, Eivind Ystrøm, Lotte Thomsen
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People vary in their general propensity to perceive and react to injustice. However, moral rules of justice may be gamed through selective endorsement depending on one's own role as victim or perpetrator. Here, we demonstrate a unique genetic grounding for this latter strategy (as well as for injustice sensitivity in general). The Justice Sensitivity (JS) scale distinguishes between four sub-types of injustice sensitivity. A perceiver of an injustice can either be a victim, an observer, a beneficiary, or a perpetrator to this injustice, and sensitivity to these facets correlate robustly. We use a genetically informative sample of 544 monozygotic- and 736 dizygotic twin pairs

to estimate the etiological sources of these associations, analyzing the underlying factor structure while separating the contributions of genetic- versus environmental influences. We find evidence for two substantially heritable latent traits influencing responses across the JS-facets: 1) a generalized injustice sensitivity factor leading to increased sensitivity to injustices of all categories, and 2) a moral opportunism factor causing increased victim sensitivity combined with a decreased propensity to feel guilt from being the perpetrator. This latter moral opportunism factor shares further genetic underpinnings with social dominance orientation.

The influence of acetaminophen on psychological adaptations: A double-blind placebo-controlled study

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Recent studies have shown that the painkilling drug acetaminophen (paracetamol, Tylenol), which is the most widely used medication in the United States, can diminish forms of psychological pain and distress by altering neural activity in the cerebral cortex. Despite a growing interest in this area, there is limited research examining the range of psychoactive effects produced by this drug. The current study intersects with the fields of evolutionary psychology and psychopharmacology by investigating whether acetaminophen modulates responses to stimuli that vary in ancestral and evolutionary relevance. In particular, we assess how acetaminophen alters the (1) evaluation sensitivity to images of snakes and spiders vs. syringes and guns, and the (2) visual disengagement from faces displaying neutral and happy vs. angry emotional expressions. It is hypothesized that the prewired neural substrates controlling responses to ancestrally relevant fear-related stimuli (e.g., snakes, spiders, and angry faces) will be less susceptible to the generalized dampening of affective and cognitive processing produced by acetaminophen. Data collection is ongoing, but we propose that similar psychopharmacological techniques could provide a robust method for testing various evolutionary hypotheses of human behavior.

Be fair: Do explicit norms promote fairness in children?

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Children have an early-emerging expectation that resources should be divided fairly amongst agents (e.g. Sommerville et al., 2013), yet their behavior does not begin to align with these expectations until later in development. This dissociation between knowledge and behavior (Blake, McAuliffe, & Warneken, 2014) raises important

questions about the mechanisms that encourage children to behave how they know they should behave. Here we tested whether explicitly invoking fairness norms encourages costly fair decisions in 4- to 9-year-old-children. We examine children's responses to unequal resource allocations in the Inequity Game (Blake & McAuliffe, 2011) by varying the direction of inequity (advantageous vs disadvantageous inequity) and normative information (to be fair or to act autonomously). Our results show children are more likely to reject advantageous allocation in the fairness norm condition than in the autonomous choice condition, but we do not see this difference when children are presented with disadvantageous allocations. This study showcases children's costly fairness norm enforcement as a flexible process, one that can be brought in and out of alignment with their knowledge of fairness by shining a spotlight on how one ought to behave.

Religion causes decreases in women's provocativeness of dress

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Long-term mating strategies are associated with greater religiosity and studies demonstrate that exposure to religious stimuli down-regulate traits associated with short-term mating strategies in men. Based on tentative evidence that women might also occasionally pursue short-term mating strategies, we evaluated the effects of religiosity on a trait associated with women's mating strategies: Provocativeness of dress (POD). We predicted that women's baseline religiosity would be negatively correlated with their POD (measured via skin exposure) on the premise that POD is typically associated with women's short-term mating strategies. We also predicted that women who completed a religious writing task would illustrate less skin exposure than their peers when asked what they would wear to a hypothetical social gathering with attractive members of the opposite sex in attendance. In a sample of 817 participants, women who classified themselves as highly religious exposed less skin in their day-to-day lives. Likewise, women who completed a religious writing task illustrated less skin exposure than did their peers. A significant religiosity by writing task condition assignment interaction indicated that the religious writing task was more effective in reducing skin exposure for highly religious participants than it was for less religious participants.

Kicking the tires on the WTR task: Psychometric validity and a new measure of the precision of interpersonal valuation

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Optimizing fitness in social situations requires weighing one's own needs and preferences against others'. How are these decisions made? Welfare tradeoff ratio theory proposes a specialized mental function that integrates disparate variables (such as kinship and reciprocity value) to compute a person-specific value: a welfare tradeoff ratio (WTR). The higher this WTR, the more an individual values the other's welfare, and the more likely they will be to sacrifice on the other's behalf. Over a decade of progress has been made using the WTR construct, however, there remain fundamental questions about how best to measure and analyze interpersonal valuation. This series of studies (with U.S. and Indian samples) replicates and extends prior WTR findings with the goal of identifying what presentation factors and low level task features, if any, influence expressed WTR. In addition, we introduce a new tool to analyze data generated in tradeoff tasks. Currently, tradeoff decisions are analyzed on two dimensions: WTR, defined as the switch-point, and consistency, the proportion of participants' choices that deviate from the WTR. Our new dimension – error – measures the degree to which participant's choices deviated from their WTR allowing more fine-tuned inferences given the same data. We conclude with data-driven suggestions for other researchers who use the WTR method.

Links:

<https://osf.io/rkhtx/>

Resource accessibility and intrasexual competition: Does a lack of direct access to resources drive covert strategies?

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Males are thought to compete directly in same-sex competition while females are thought to compete more indirectly (Campbell, 1999). By using a covert approach, women can often compete with rivals (undetected) through gossip and reputation derogation. Men, however, often risk retaliation for the possible status benefits - leading to a potential increase in reproductive success. (Campbell, 1999). Research has yet to investigate if traditional sex differences in competitive strategies are influenced by whether resources can be acquired directly or indirectly. We hypothesized that individuals will endorse covert tactics when resources can be obtained indirectly and overt tactics when resources can be obtained directly. To assess this, participants read vignettes that described a summer internship with direct access or indirect access to one post-internship job and answered questions to assess competition strategies. When this opportunity was attainable indirectly through another individual, we predicted that

both men and women would use more covert tactics. On the other hand, when the opportunity was directly attainable based on individual performance, we expected both men and women to use more overt tactics. Our results could have implications for the reduction of harmful workplace behaviors and misperceptions (i.e., men confusing women's competition tactics for mating signals).

Life history strategies and eating disorder symptomology

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Recently, life history theory conceptualisations of psychopathology have been proposed to account for and explain the aetiological trajectory of various mental health disorders; however, to-date there has been limited empirical research investigating psychopathology through the lens of life history theory. The current experimental study investigated the associations between various markers (e.g., pubertal timing, fecundity, number of siblings) and traits of life history strategies (i.e., the K-SF-42), and a number of factors known to be precursors to developing eating disorders (e.g., body image concerns, body appreciation, self-compassion), aiming to answer the research question: to what extent do life history strategies and expectations (i.e., potential mismatch) influence the effect of being exposed to "ideal" body images and can variations in life history strategies predict those people who are more likely to develop eating disorders? Participants were randomly allocated to view either travel images, or images of fit and overweight males and females. Participants assigned to the people condition were asked to rate their level of body satisfaction, appreciation, and self-compassion after viewing images. All participants completed pre- post- body image concerns measures as well as measures and indicators of life history strategies and expectations about their environment. Data are still being collected.

What are rules for? Fundamental motives of social rules

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What do people think social norms for? At the group level, mutually agreed upon rules or expectations of appropriate social behavior serve to solve coordination problems and maintain order in society. At the individual level, people may perceive norms to facilitate achieving desired outcomes in various life domains, which leads to increased probability of reproductive success. We examined how people construe social norms in terms of their relevance to fundamental social motives. In the first study, U.S. participants free-listed ten social rules they considered important, and then rated how

relevant each rule was for achieving positive outcomes in the fundamental social motive domains. In subsequent studies, rather than generating their own rules, participants were given a well-known set of rules in society to rate. Across these studies, we consistently found that rules on average were rated as being most relevant for affiliating with a group, followed by avoiding exclusion, achieving/maintaining status, and kin care.

Do humans have cognitive adaptations for reasoning about threat? Evidence from the Wason selection task.

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Rational choice theory says people think about and respond to future costs and benefits using a single optimization algorithm. However, cost-benefit optimization is ill-suited for situations where future costs and benefits are the conditional promises of other social agents. In these situations, one must not only weigh the promised costs and benefits, but also assess their sincerity. This task poses unique computational problems, requiring unique cognitive solutions. Interestingly, the problems and solutions are different depending on whether the conditional promise is a benefit (social exchange) or a cost (threat). Heeding conditionally promised benefits makes one vulnerable to cheating. This problem is solved by cognitive adaptations that detect cheaters. Heeding conditionally promised costs makes one vulnerable to bluffs. This problem should have selected for cognitive adaptations to detect bluffs. To test for the existence of a hypothesized bluff detection mechanism, I conducted an experiment using the Wason selection task to compare people's ability to infer conditional rule violations for rules framed as threats with rules framed as social exchanges and natural hazards. Experimental results provide evidence that a specialized bluff detection mechanism exists, which is dissociable from cheater-detection and is only triggered by conditional costs deriving from a social agent.

Indirect intergroup bargaining: An evolutionary psychological theory of microaggressions

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The microaggression concept has been discussed in the academic literature and in public discourse but the nature - and even existence of - microaggressions remains controversial. Here, we introduce an evolutionary psychological theory of how microaggressions may result from an evolved cognitive architecture for intergroup bargaining. On this theory microaggressions constitute a form of low-cost, indirect intergroup aggression used in contexts of perceived inter-group power equilibria

featuring advantageous inequality. The behavioural output of the system in this context is predicted to be indirect, because more direct communication should readily create common knowledge on the part of the marginalized target group, thus risking a compensatory outrage response. We propose that this behavioural output is mediated by a specific emotional-computational program: contempt. This approach helps explain the cross-cultural variance in which microaggressions have been remarked upon and where they have not, individual differences in endorsement of the microaggression concept, features of the psychological response to microaggressions, and the selective deployment of bargaining tactics such as the maintenance of group dominance hierarchies. We present results from a cross-national survey experiment testing these predictions.

Can mating market competition shift socio-political attitudes? An experimental test

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Socio-political attitudes, such as preferring progressive or conservative social norms, markedly vary among individuals. Here we investigated whether these attitudes are influenced by the characteristics of the mating market one is engaged in. In two studies, we manipulated the attractiveness or income of same-sex competitors in an individual's local mating market. In Study 1, a between-subjects design randomly allocated single participants (N = 151 women and 229 men) to experimental conditions where the same-sex peers in their local county were attractive, average-looking, or unattractive, or to a control group. In Study 2, a between-subjects design randomly allocated single participants (N = 173 women and 234 men) to experimental conditions where the same-sex peers in their local county had high incomes, average incomes, or low incomes, or again to a control group. Results showed that same-sex competitors' attractiveness influenced women's, but not men's, attitudes concerning benevolent sexism and traditional family values. Same-sex competitors' income affected both men's attitudes towards wealth redistribution, and women's attitudes towards traditional family values. We interpret these results in light of the costs and benefits of holding specific socio-political attitudes given the degree of romantic competition in the local mating market.

The evolution of innovation and economic complexity

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Evolution causes biological diversity through adaptation to environmental conditions. With a dataset comprising 122 nations, I explored ecological and demographic predictors of global variation in innovation and economic complexity. The results show that economic complexity is higher in countries with colder winters ($r = .58$, $p < .00001$), an effect mediated almost completely by intelligence. Economic complexity is constrained by population-level adolescent fertility rates ($r = -.75$, $p < .00001$), showing a tradeoff between early reproduction and investment into economic development and innovation. Population density is another demographic variable that significantly predicts global variation in economic complexity ($r = .27$, $p < .003$). A four-factor model of intelligence, adolescent fertility, population density, and atmospheric cold demands predicts 64% of global variation in economic complexity in 1995 and 72% of the variation in 2016. With the exception of adolescent fertility rate, these results remain robust even after controlling for per capita GDP, population size, and trade distance from Europe. This research sheds light on the ways in which evolutionary processes shape human adaptation to local environments. The results indicate that these adaptive processes occur both at the level of psychological traits (intelligence, innovative capacity) and realised behaviours, indexed by global variation in reproductive timing, innovation, and economic complexity.

Links:

<https://doi.org/10.1007/s40750-018-0103-6>

<https://doi.org/10.1007/s40750-019-0109-8>

Exploratory, evolutionary analysis of use and understood meaning of “motherfucker”: U.S. sample

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If “motherfucker” usually is an insult but sometimes a compliment, and does not refer to incest, this cross-culturally present word may mean one having illicit sex with a mother (i.e., potential cuckold). 382 adults ($n = 243$ female) were recruited via U.S. online snowball sampling, and surveyed for their understanding and target(s) of “motherfucker”, and how and to whom they have heard it used. More participants reported using it as an insult than as a compliment. A lesser proportion reported ever hearing any of “father-”, “sister-”, “brother-”, “son-”, and/or “daughterfucker”. When using as compliment, men rated “Would have sex with someone else’s partner” as more applicable to a “motherfucker” than did women, while women rated “Kind and understanding” as more applicable. Participants tended to consider the typical

“motherfuckers” as male, adult, and heterosexual. Reported “motherfucker” attributes and typical target were consistent with “cuckolder”.

Do pathogens and disgust influence extrapair mating?

James B. Moran, Marjorie Prokosch, Damian Murray <jamesmoran320@gmail.com>

Pathogens have historically exerted a large selective force on human survival and reproduction. For example, short-term infection threats provoke more sexual cautiousness, longer-term infection risks may foster increased sexual variety seeking, especially among those most vulnerable to infection (Hill, Prokosch, & DeIPriore, 2015). Increased sexual opportunism may offer people with poor immunity a way to preserve genetic fitness in pathogen dense ecologies by increasing subsequent offsprings' genetic variability (Hamilton, 1980). Here, we propose that sexual infidelity may be one specific form of sexual opportunism that is promoted in pathogen-dense environments, where for some, the offspring genetic benefits to be gained from extrapair mating may outweigh the potential social costs. Participants (N=530) completed various surveys to assess their attitudes and intentions toward infidelity. Results revealed the perceived infectability, and germ aversion do not predict higher attitudes towards infidelity or intentions. However, moral and sexual disgust negatively predicts attitudes and intentions to cheat. Exploratory analysis revealed that childhood sickness, predicted higher attitudes towards infidelity. Further analyses are being investigated to investigate how relationship status, location, and current health affects attitudes and intentions to cheat.

Links:

<https://osf.io/5apmt/>

Do humans reason about cultural group identities as if they were fixed?

Cristina Moya, Richard McElreath, Joseph Henrich <moya@ucdavis.edu>

In some societies people expect children will inherit social group identities from their birth parents, even in their absence. This belief in intergenerationally inherited and fixed identities is puzzling given the importance of socialization for membership in most cultural groups. We meta-analyse results from over 3000 decisions made by children and adults from different societies in switched-at-birth vignette studies. In these, participants must decide the group identity of a hypothetical child who is born to parents from one group, but raised by parents from a different group. We compare these to studies where people were asked about the species identities of animals in a similar scenario. We find that across development beliefs about species identity beliefs homogenize towards notions of identity being stable, whereas social identity beliefs

diversify and tend to move towards beliefs that identities are not fixed at birth. This diversity of beliefs is patterned, with groups marked by status differences being associated with more fixed notions about identity. Importantly, phenotypic differences are not particularly likely to trigger essentialist inferences in children or adults. These patterns suggest that the cognitive mechanisms used for reasoning about human cultural groups are qualitatively different than those used for reasoning about species.

Pathogen sensitivity shapes preference for romantic and sexual partner health

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Ecological contexts have long influenced romantic and sexual partner choice, such that specific partner traits may be especially valued in contexts where they help to mitigate or solve a salient adaptive problem. The current research examined how the adaptive problem posed by pathogens shapes people's preference for health when selecting mates. We hypothesized that people who report high vulnerability (infectability, sickness history) and sensitivity to pathogens (germ aversion, disgust, current pathogen threat) would emphasize health when selecting potential romantic and sexual partners. Participants (N = 365) reported their standards and desire for 9 different partner traits (including health) when choosing a mate, followed by self-report measures of pathogen vulnerability and sensitivity. While results did not support the notion that vulnerability to infection is related to increased desire for healthy partners, they did reveal a positive relationship between pathogen sensitivity and partner health. Further, there was a main effect of pathogen sensitivity, such that highly sensitive people were exacting in their preferences for a variety of partner traits beyond health. Implications of these results will be discussed.

Links:

https://osf.io/4smp6/?view_only=dfc749b9130448748d0da6afe336e2c7

Environmental stress and human life history strategy development in rural and peri-urban South India

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Few studies have examined the role of early vs. later environment in the development of life history strategies (LHS), whether age at sexual debut mediates LHS development, or whether life history indicators contribute to levels of environmental stress experienced in adulthood. In the current study, we addressed these gaps using structural equation modeling and data from peri-urban and rural South India (n = 355). Peri-urban and rural findings were consistent with psychosocial acceleration theory in that early environmental stress forecasted earlier sexual debut and lower educational

attainment. However, with the exception of its effect on age at sexual debut, no effects of early environmental stress were consistent between the samples. Moreover, no associations with current environmental stress were consistent across samples. Although age at sexual debut appeared to function as a life history mechanism in translating early environmental stress into greater numbers of children and current environmental stress in the peri-urban and rural samples, respectively, it was associated with different outcomes between the samples and forecasted adult environment only in the rural sample. More research is needed to determine whether the developmental cascade suggested by most applications of LHT to humans generalizes across cultures or rural and peri-urban environments.

~~Behavioral prophylaxis? Evidence for food aversions among pregnant U.S. women [cancelled]~~

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Evolutionary perspectives on food aversions and food taboos during pregnancy suggest that avoiding meat and bitter-tasting plants may be an adaptive mechanism for protecting mother and fetus from harmful microorganisms and teratogens. Using dietary recalls from the National Health and Nutritional Examination Survey (NHANES) of 1038 pregnant and 3217 non-pregnant women, we find that pregnant women consume meat and green vegetables at lower-levels than non-pregnant women, controlling for age, income, and ethnicity. These effects are strongest during the first trimester--the period in which developing fetuses are most vulnerable to teratogens. While these results are consistent with a 'behavioral prophylaxis' model, the effect sizes are small relative to individual differences in food choice.

Self-promote or self-efface?: Strategic coordination of self-assessment biases with behavioral strategies

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Self-promotion—signaling to oneself or others that one has more social value or bargaining power than one actually does—can maximize one's claim to social benefits such as status and influence. However, since people often dislike self-promoters and prefer those who self-efface, engaging in self-promotion can be costly. The current research applies error management logic to develop hypotheses about the coordination of self-assessment biases with behavioral strategies. For individuals pursuing a strategy organized around acquiring status and resources, it is less costly to err on the side of self-promotion. For individuals motivated by the avoidance of social threats, self-

effacement is the less costly error. To test these ideas, we used three data sets (N = 721) containing measures of subjects' (1) biases in self-assessment of physical strength and attractiveness (computed as a difference between objective measures and self-assessments), and (2) variation in behavioral strategies. Consistent with hypotheses, self-promotional biases were linked with behavioral strategies organized around status acquisition (e.g., high Extraversion, high Personal Sense of Power, low Honesty-Humility). Additionally, behavioral strategies associated with threat avoidance (e.g., high Fearfulness) tended to self-efface. These findings suggest that self-evaluative biases are functionally coordinated, per error management logic, with strategic behavioral variation.

Electoral fortunes reverse, mindsets do not

Theodore Samore, Daniel M.T. Fessler, Colin Holbrook, Adam Maxwell Sparks
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Conservatives and liberals have previously been shown to differ in the propensity to view socially-transmitted information about hazards as more plausible than that concerning benefits. Given differences between conservatives and liberals in threat sensitivity and dangerous-world beliefs, correlations between political orientation and negatively-biased credulity may thus reflect endogenous mindsets. Alternatively, such results may owe to the political hierarchy at the time of previous research, as the tendency to see dark forces at work is thought to be greater among those who are out of political power. Adjudicating between these accounts can inform how societies respond to the challenge of alarmist disinformation campaigns. We exploit the consequences of the 2016 U.S. elections to test these competing explanations of differences in negatively-biased credulity and conspiracism as a function of political orientation. Two studies of Americans reveal continued positive associations between conservatism, negatively-biased credulity, and conspiracism despite changes to the power structure in conservatives' favor.

Links:

<https://osf.io/v8n6g/>

<https://osf.io/bd6ju/>

The effects of evolutionary and modern threats on delayed gratification

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Research shows that evolutionary threats activate different brain regions compared to modern threats. On the other hand, while our evolutionary past is more characterized by immediate-return foraging, modern farming and industrial societies

seem to be more delayed-return. We hypothesized that exposure to evolutionary threats (e.g., snakes and spiders) will affect delayed gratification differently compared to modern threats (e.g., guns and car accidents). We had participants (N=244; and data collection is continued) rate photos of evolutionary or modern threats in terms of valence and arousal and then complete Delayed Gratification Inventory (DGI). Participants primed with evolutionary threats reported more ability to delay gratification while participants in modern-threat group scored lower on DGI. While possible mechanism of the reported effect needs further investigation, we will further examine the effect of neutral modern and evolutionary stimuli, predicting to get the results in the opposite direction.

Toddlers prefer those who win but not when they win by force

Ashley J. Thomas, Lotte Thomsen, Angela F. Lukowski, Meline Abramyan, Barbara W. Sarnecka <athomas@g.harvard.edu>

Social hierarchies occur across human societies, so all humans must navigate them. Infants can detect when one individual outranks another, but it is unknown whether they approach others based on their social status. This paper presents a series of seven experiments investigating whether toddlers prefer high- or low-ranking individuals. Toddlers aged 21–31 months watched a zero-sum, right-of-way conflict between two puppets, in which one puppet ‘won’ because the other yielded the way. Of the 23 toddlers who participated, 20 reached for the puppet that ‘won’. However, when one puppet used force and knocked the other puppet down in order to win, 18 out of 22 toddlers reached for the puppet that ‘lost’. Five follow-up experiments ruled out alternative explanations for these results. The findings suggest that humans, from a very early age, not only recognize relative status but also incorporate status into their decisions about whether to approach or avoid others, in a way that differs from our nearest primate relatives.

Women perceive men with lower waist-to-chest ratios (WCRs) as more attractive, and more evolutionarily fit.

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Due to androgen men primarily store fat from the waist up. So, the Waist-to-Chest ratio (WCR), plays a significant role in the perceived attractiveness of men. However, no research has examined how the WCR affects the evaluations of other evolutionarily relevant traits for men. Using images developed via 3D graphical modeling software, controlling for body size, and body composition, the present

research examined how 122 women perceive men with WCRs of .60, .70, .80 and .90 in terms of: attractiveness, other evolutionarily relevant traits, short term mate potential, and long term mate potential. The .70 WCR male was expected to receive the highest ratings for: attractiveness, dominance, status, masculinity, health, intelligence, success, good mate potential, social competence, and short term mate potential. The .80 and .90 WCR males were expected to receive higher ratings for: affectionateness, age, nurturance, friendliness, femininity, good parent potential, and long term mate potential. The results were primarily consistent with the hypotheses. However, the .70 WCR male also received higher ratings for long term mate potential. These findings are discussed in terms of prior research.

A data-driven study of Chinese participants' social judgments of Chinese faces

Hongyi Wang, Chengyang Han, Amanda C. Hahn, Vanessa Fasolt, Danielle K.

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Social judgments of faces made by Western participants are thought to be underpinned by two dimensions: valence and dominance. Because some research suggests that Western and Eastern participants process faces differently, the two-dimensional model of face evaluation may not necessarily apply to judgments of faces by Eastern participants. Here we used a data-driven approach to investigate the components underlying social judgments of Chinese faces by Chinese participants. Analyses showed that social judgments of Chinese faces by Chinese participants are partly underpinned by a general approachability dimension similar to the valence dimension previously found to underpin Western participants' evaluations of White faces. However, we found that a general capability dimension, rather than a dominance dimension, contributed to Chinese participants' evaluations of Chinese faces. Thus, our findings present evidence for both cultural similarities and cultural differences in social evaluations of faces. Importantly, the dimension that explained most of the variance in Chinese participants' social judgments of faces was strikingly similar to the valence dimension previously reported for Western participants.

Links:

<https://osf.io/j7ah3/>

Ideology, attachment, and life history strategy: Cultural conservatism may be an ontogenetic product of high-predictability niches

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Attachment theory and life history theory may offer useful tools for investigating the psychological bases of ideological commitments. Thornhill and Fincher (2007) found that conservatives exhibited more secure attachment styles than liberals and reported more positive childhood memories, suggesting that liberal orientations result from relatively unpredictable childhood environments that produce personality types optimized for short-term relationships, risk-taking, novelty, and creativity. Conservatives, by contrast, may be suited for stable surroundings with low risk payoffs. However, other studies have questioned these results (Koleva and Rip 2009; Gaziano 2017). Therefore, we set out in a preregistered study to conceptually replicate Thornhill and Fincher's 2007 findings in light of life history theory (Del Giudice, 2009). Individuals with "fast" life histories pursue low-investment reproductive strategies. "Slow" LH strategies are characterized by more parental and relational investment. In a sample of >600, we found that certain kinds of ideological conservatism – specifically cultural conservatism – were strongly associated with stable childhood backgrounds and with slow life-history variables, corroborating Thornhill and Fincher's interpretation. However, the association between conservatism and attachment style held only for female subjects. Conservatism may be an adaptation for stable cultural niches, but attachment style may not be the critical variable.

From the distal to the proximate: Determining mechanisms of risk-taking

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Distal and proximate mechanisms (e.g., cognition, development) increase the likelihood of risk-taking; however, little is understood about how these mechanisms are associated with benefit perceptions of risk-taking. Participants ($n = 295$) completed self-report measures assessing distal mechanisms (i.e., ACE, RFUS, Mini-K), proximate mechanisms (i.e., CDS, Levenson's Locus of Control Scale, NGSE, SECS, DES) and risk-taking (DOSPERT-R). Benefit perceptions of risk-taking are strongly associated with all proximate mechanisms ($r = .16$ to $.35$, $p < .001$) and early environmental harshness ($r = .31$, $p < .001$). Surprisingly, life history orientation was associated with risk attitudes but not benefit perceptions of risk-taking. Hierarchical multiple regressions indicate early environmental harshness accounts for significant incremental change in benefit perceptions of risk-taking $F(12, 271) = 9.04$, $p < .001$, $R^2 = .29$; while, early environmental harshness and unpredictability account for significant incremental changes in risk attitudes $F(12, 271) = 5.27$, $p < .001$, $R^2 = .19$. Path analyses models were also conducted to test possible relationships between distal and proximate

mechanisms and benefit perceptions of risk-taking. Results of this study address key knowledge gaps and have important implications for the ontogeny of benefit perceptions of risk and its association with risk attitudes.

Heterosexual men's memory for low-pitched male voices is enhanced by cues of intrasexual competition and trait aggressiveness

Jinguang Zhang, Bin-Bin Chen, Carolyn Hodges-Simeon, Scott A. Reid, Steven J. C. Gaulin <jzhang6@hawaii.edu>

Heterosexual men tend to remember lower-pitched male voices better than higher-pitched male voices, and this is believed to facilitate fight-or-flight responses because male voice pitch signals dominance. However, flight-or-flight responses are differentially beneficial depending on context (e.g., whether there is competition) and individual differences pertinent to threat potential (e.g., trait aggressiveness). As predicted, using a signal-detection task, Experiment 1 (N = 210) showed that heterosexual single Chinese men higher in trait aggressiveness were more accurate (i.e., made fewer false alarms) in remembering low- than high-pitched male voices under a sexual (but not a happiness) prime. Experiment 2 (N = 194) showed that heterosexual Chinese men lower in socio-economic status remembered low-pitched male voices better than high-pitched voices under a high- than low-intensity status-competition prime (e.g., competing for a well-paid job). Further, we replicated the positive correlation between trait aggressiveness and low-voice memory accuracy under the low-intensity status-competition prime. The enhanced low-voice memory accuracy by more aggressive men under primes of intrasexual competition likely facilitates aggression whereas increased false alarms by less aggressive men facilitate avoidance (e.g., managing errors). These findings extend research on voice pitch and remembering rivals and reveal novel aspects of the receiver psychology of vocal dominance signaling.

Poster Abstracts

Women's trust and cooperation with Sex and the City characters

Cristina Acedo-Carmona, Ania Grant, Maryanne Fisher, Ana María Fernández, Oriana Figueroa, Patricia MacEachern-Fee, Lucie Kocum <cristina.acedo@unileon.es>

This study examines how women's mating strategies affect other women's willingness to trust and cooperate with them. We asked 228 Canadian women to read descriptions of four females based on the protagonists of the hit television series Sex and the City. The descriptions contained information about the characters' varying attitudes to heterosexual love, sex and relationships but no other discriminating factors. Participants were asked to 1) assess the characters' interest in and suitability for a range of heterosexual relationships, such as casual sex, formal date or marriage; and 2) to choose one of these characters in a range of hypothetical situations requiring varying degrees of trust and cooperation, for example: Who would you lend \$500 to? Who would you share a secret with that contains information that could socially harm you? We also correlate participants' preferences with their relationship status. We expect that participants will be more willing to trust and cooperate with those characters that are perceived to be more suitable for committed, long-term relationships. This preference should be strongest in the case of participants in long-term monogamous relationships because of the perceived risk of mate poaching.

Phenotypic and motivational predictors of cost-benefit tradeoffs in the pursuit of status

Cristian M. Acevedo, Aaron W. Lukaszewski <cristian_ace15@csu.fullerton.edu>

High social status is typically seen as a straightforwardly beneficial outcome, given that relative status regulates access to contested resources (e.g., food, mates, influence). However, reciprocity-based theories of status imply that high status can also be costly. According to these theories, status is allocated and maintained based on a social contract between higher- and lower-ranking group members, wherein high-ranking individuals are obligated to perform costly services that benefit the group (e.g., leadership, conflict arbitration, warriorship), and receive in return high status in the minds of others. However, the fact that some individuals accrue net benefits from pursuing and maintaining high status suggests between-person variation in the magnitudes of costs incurred and benefits accrued. The current study employed a survey about real social groups to test the hypotheses that (1) phenotypic determinants of bargaining power and (2) status-linked motives each moderate the magnitudes of cost-benefit tradeoffs associated with high rank. Results provided limited support for the moderation of costs and benefits by phenotypic features (e.g., formidability), but suggest that status-linked motives predict the cost-benefit tradeoffs of status.

Discussion focuses on possible methodological improvements that could help quantify the costs and benefits of status more accurately in future research.

What do people think diseases look, smell, sound, taste, and feel like?

Josh Ackerman, Wilson Merrell, Soyeon Choi <soyeonc@umich.edu>

Humans have basic five senses: sight, smell, sound, taste, and touch. These five senses help us perceive and navigate the world, enabling us to approach potential rewards and avoid imminent threats. In this study, we examined how people believe they use the five sensory modalities to detect an important environmental threat, the risk of infectious diseases. Using a fully within-subjects design, 300 participants read a scenario where they imagined a flu outbreak and thus needing to determine whether another person was sick or not. Participants ranked the five senses (sight, smell, sound, taste, touch) in terms of perceived effectiveness in detecting infection and how likely they would be to actually use each of the senses. Rankings of effectiveness and likelihood of use were similar, in the descending order of sight, sound, touch, smell, and taste. Participants' expected emotional reactions, confidence in their disease-detection abilities, and individual differences in pathogen disgust and perceived vulnerability to disease were also examined. While the existing research has mainly focused on direct and indirect consequences of disease detection, this study provides interesting insights into people's lay beliefs of the detection process itself.

Would you like a side with your main course? Differential motivations for engaging in extra-pair affairs

Lora E. Adair, Brett Andersen, Katie Dick <ladair2@uca.edu>

Two leading hypotheses on the evolved functions of female infidelity are the dual-mating hypothesis and the mate switching hypothesis. While previous research has looked at personality and contextual predictors of female infidelity in general, there is no work that differentiates predictors of female infidelity based on the inferred evolved underlying motivation behind that infidelity (e.g., mate switching vs. dual-mating). We are currently collecting data from women who are already engaged in infidelity, have engaged in infidelity, or are looking for an affair partner. Our aim is to identify personality and contextual factors that differ between women who are likely to be pursuing a mate-switching strategy and those pursuing a dual-mating strategy. Participants are being recruited from online forums and a large Southern University, answering a series of surveys assessing their sociosexual orientation, mate value, personality (i.e., Dark Triad) and their partners' (committed and extra-pair) personality traits and mate value. We anticipate that women engaged in mate switching strategies

will be more likely to have higher mate value than their current partner and have a partner low in “dad” traits. Women engaged in dual-mating strategies will be more likely to report unrestricted sociosexuality and report high levels of Dark Triad traits.

Observers can accurately assess self-reported male health from facial photographs

Graham O. Albert, Jessica K. Hlay, Zeynep Senveli, Brian M. Bird, Steven A. Arnocky, David A. Puts, Carolyn R. Hodges-Simeon <grahama@bu.edu>

Men’s faces may serve as a cue to health. To date, studies investigating physical cues of health have primarily tested how aspects of the human face affect observers’ attractiveness ratings. However, these studies do not often obtain indices of health from the photographed individuals before they are rated on health and attractiveness. In order to determine if faces accurately signal health, it is also necessary to quantify the health of the photographed individuals. The present study aimed to fill this gap by investigating observer accuracy in estimating health, attractiveness, and dominance of men whose health was already known. We predicted that the faces of men who self-reported higher physical health would also be rated as 1) healthier, 2) more attractive, and 3) more dominant. One-hundred-twelve men reported their age, completed a well-validated single item measure of general health status, and had their facial photographs taken. One-hundred twenty-nine (59 men, 70 women) raters were recruited via Amazon’s Mechanical Turk. All raters rated the health and disease likelihood of the photographed men. Women rated the attractiveness, and men rated the dominance of each man. Men who indicated better general health status were rated as appearing healthier, more attractive, and more dominant.

The gossip face: how facial responses to gossip regulate behaviour

Bronagh Mairéad Allison, Gary McKeown <ballison01@qub.ac.uk>

Exchanging social information, or gossip, is a fundamental communicative process in human society that can help to establish and maintain individual relationships. Exchanging gossip about mutual acquaintances or celebrities is a powerful tool for developing social bonds. Consequently, gossiping appears to involve associated facial expressions, the principal one of which we have labelled the gossip response face. We argue that a display of the gossip response face is a social pay-off that signals to the sender of information that they have successfully read another’s mind. The gossip response face is a social interaction display signalling that senders of gossip can know which relationships they can maintain and deepen. We will also argue

that the expression of surprise—the jaw-dropping movement found in the gossip response face—as a correct response to an interesting piece of information illustrates gossip’s function as a form of social learning. We will show images of a social interaction with a classic Ekman surprised face in a gossip context. These FACS-coded audio-visual images will be taken from the ILHAIRE Laughter Database, and will illustrate expressions traditionally related to surprise in relation to social interactions.

Pathogen disgust predicts discriminatory punishments against Black immigrants -- but only for purity violations.

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In a previous study using a mock jury design, we found that pathogen disgust sensitivity among White participants was related to more severe punishments against a Black African immigrant ($r=.55$, $p<.001$), but not against a White immigrant, a Black American, or a White American. The crime in this previous study was forcible rape. Because disgust sensitivity has been shown to be a greater predictor of moral condemnation of purity violations (moral infractions that violate the sanctity of the mind/body), and because rape is clearly a purity violation, it is not known whether disgust-mediated discriminatory punishments will extend to non-purity violations. In order to find out whether pathogen disgust sensitivity predicts discriminatory punishments for non-purity violations, we presented participants with two scenarios. One detailed a purity violation, an assault in which the assailant spits in the defendant’s face. The other scenario detailed a non-purity violation, a battery where there was no direct physical contact. As predicted, pathogen disgust was correlated with punishments against the Black immigrant in the purity-violation, but not the non-purity violation condition. Unexpectedly, however, all domains of disgust predicted punishments in the non-purity White immigrant condition.

Female social networks more extensive than male networks among matrilineal Mosuo of Southwest China

Gabrielle Dawn Baca, Adam Z. Reynolds, Meng Zhang, Chun-Yi Sum, Siobhán M. Mattison <gabrielledbj@gmail.com>

Kinship is hypothesized to structure access to social support, yet how it does so remains unresolved. Kin are more readily available to women with uxorilocal residence than with virilocal residence and vice versa for men, which should be associated with differences in social support networks. In particular, gender-biased residence patterns might be expected to favor a reversal, with women exhibiting more extensive

networks in matriliney and men exhibiting more extensive networks in patriliney [H1]. Alternatively, in humans, men may place greater emphasis on alliance building than women, suggesting that [H2] men have more extensive networks in both contexts. Here we compare these hypotheses using tools from social network analyses and data on men's and women's social networks in matrilineal and patrilineal Mosuo. In support of the reversal hypothesis [H1], we find that women's networks are more extensive than men's networks in the matrilineal community, and that men's networks are more extensive than women's networks in the patrilineal community. Both matrilineal men and women have more ties outside of the community than in patriliney. These results support the idea that the access to kin affects social support networks, which may have important consequences for health and well-being.

PsychTable.org: The taxonomy of human evolved psychological adaptations

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PsychTable.org, the web-based taxonomy of human evolved psychological adaptations (EPAs), has in recent years raised questions about the evolutionary behavioral sciences' need for empirical rigor, open science for all, interdisciplinarity, peer evaluations of evidentiary breadth and depth, and international research collaborations. This paper examines opportunities, risks, and lessons learned in taxonomic activities, since the evolutionary behavioral sciences community is both increasingly defending the field and trying to make better sense of the literature to date. Newly-strengthened mechanisms for evaluating evidence for EPAs and special design are described for quality control purposes, in addition to new ways that scientists, educators, students, contributors, and the general public can interact with the growing global body of knowledge about evolved behavioral taxa. Guiding principles for increasing efficiency and access to PsychTable.org without sacrificing empirical quality are also discussed.

Links:

<https://link.springer.com/article/10.1007/s12052-012-0428-8>

<https://www.psychtable.org/>

Can't or won't? Do good intentions mitigate violations of reciprocal altruism agreements?

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Many seemingly altruistic interactions occur with an understanding of reciprocity, and when person break this understanding of reciprocal altruism (RA) it can damage

interpersonal relationships. Whereas considerable research supports the basic phenomenon of RA in humans, relatively little has established its emotional levers. Recent research (Brase, 2017) empirically established a number of the emotional reactions theorized to be related to RA violations (aggression, suspicion, and guilt) and to successful RA interactions (gratitude and trust). Building from that research, the current study asked participants to estimate their emotions towards another person as they engaged in a hypothetical RA interaction, with one or both parties failing to reciprocate. In contrast with previous studies, external forces caused the reciprocation failures rather than willful intent and this changed the emotional profile of reactions (relative to both baseline reactions and to prior findings); the current study also added the emotional reactions of pride, sadness, shame, and surprise. Preliminary analysis found that one's own inadvertent failure to reciprocate nevertheless led to increases in guilt, anxiety, shame, and sadness, whereas a similar failure on the part of the friend still led to decreases in gratitude and trust. These results held despite the reciprocation failures being unintentional.

~~What drives friendship jealousy? Comparing evolutionary and self-evaluation maintenance accounts~~

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Friendships make us happy, keep us healthy, and can even bolster fitness. Thus, we should strive to maintain these friendships and their benefits, protecting them from third-party interference (e.g., as when best friends' new friends or romantic partners). Friendship jealousy may help us achieve this. An evolutionary account holds friendship jealousy is evoked by cues that friends' new partners threaten to replace us (and motivates intentions to counter such threats; Krems, Williams, Aktipis, & Kenrick, under review). In contrast, DeSteno and Salovey's (1996) self-evaluation model (SEM) for romantic jealousy holds that self-evaluation threats evoke jealousy. On this view, jealousy is evoked when rivals outperform us on a self-relevant domain (e.g., intelligence, athletics), regardless of that domain's role in our friendship. In two experiments, we pit a functional account against an SEM one. Using methods similar to DeSteno and Salovey's (1996), we investigate whether replacement threats or self-evaluation threats evoke greater friendship jealousy. Results (a) suggest that self-evaluation threats may evoke friendship jealousy because they cue replacement (i.e., outperforming rivals may pose heightened replacement threats), indicate that (b)

replacement threats trump SEM ones, and, overall, (c) support an evolutionary account of friendship jealousy.

Links:

<https://osf.io/86yaq/>

Opposite-sex peer forced sexual contact in a community sample of high school students: Factors associated with men's perpetration and women's victimization

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We examined factors associated with opposite-sex peer men's perpetration and women's victimization of forced sexual contact among high school students. Last year prevalence rate of forced sexual contact perpetration in men ($n = 560$) was 7%. Comparably, 30% of women ($n = 751$) reported forced sexual contact victimization (kissing, touching or intercourse without consent). Path analyses (PLS-SEM) suggest that sociosexuality affected men's perpetration indirectly through risky sex, frequently getting drunk, porn exposure and sexual rejection that in turn increased the risk of being the target of undesired sexual solicitation from women and increased undesired solicitation behavior directed toward women. Rape stereotypes had some effect on men's perpetration, but there was no effect of hostile attitudes toward women nor token resistance beliefs. For women, sociosexuality had a significant impact on being sexually forced. This effect was mediated by sexual risk behavior, getting drunk, and being sexually misperceived by peers. These factors in turn increased the risk of being subject to sexual derogation from female peers and undesired sexual solicitation by male peers. Prior sexual abuse affected victimization indirectly. Results are discussed within the framework of the confluence model of sexual aggression.

Accurate cue-based estimates of residual reproductive value regulate assessments of women's bodily attractiveness

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Although it is well-established that women's bodily attractiveness is influenced by particular anthropometric features (e.g., waist and hip circumferences), the adaptive function(s) of such preferences has remained unexplained. With several prominent hypotheses having recently been falsified (e.g., that attractive features indicate current health and fertility), evidence has accumulated in favor of a longstanding alternative: that attractive bodily features are valid indicators of residual reproductive value (RRV; expected future fertility). In this research, we extended prior work by (1) collecting standardized photographs and anthropometric measurements from 103 women wearing

swimsuits who vary substantially in age (14-70 years) and parity (0-5 offspring)—two key determinants of RRV—and (2) having these photographs evaluated by blind raters, who estimated RRV parameters (e.g., age, parity) and rated body attractiveness. Results demonstrated that actual RRV was correlated with estimated RRV, which was in turn almost perfectly correlated with body attractiveness judgments. Additionally, these associations were mediated by anthropometric measures, especially waist-to-stature ratio. Overall, the findings suggest that cue-based estimates of RRV are accurate and that they regulate assessments of women's bodily attractiveness.

Links:

<https://osf.io/kg73x/>

Do sex ratio changes impact experimental economic decision making by males?

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Within the framework of evolutionary biology and psychology, many studies have been conducted with respect to how changing operational sex ratios motivate and influence behaviours such as risk and altruism amongst subjects within that environment. Unfortunately, economics' understanding of how changes in the sex ratio impact decision making is often overlooked and quite limited, even within the sphere of behavioural economics, implying a serious gap that needs addressing. To date, experimental research has focused on key sex differences in behaviour, without exploring or understanding how changes in the sex of those around us impacts behaviours like risk, altruism and cooperation. This study used a cross-disciplinary approach by using evolutionary psychology normative constructs to answer economic decision making questions. It did this by implementing a unique experimental laboratory design to explore how changes in the sex ratio impact male decisions and behaviour. Also, by changing the sex of the experimenter present in the laboratory, the study was able to explore how key changes in all male or mixed sex populations were impacted when the sex ratio was artificially manipulated. Key findings of this study showed that sex differences are present in some of the games participants played, particularly when males only were compared across varying sex ratio environments. We also found that the sex of the experimenter may subconsciously influence male's altruistic tendencies in a positive direction when we observed all-male samples. As understanding symmetrical and sex differentiated interactions is critical to key specialisation of economic and psychological research (namely, labour economics, education and household behaviour) further research is warranted in to how changes in the sex ratio impact male decision making and behaviour, both in the lab and the field.

The rough stuff: Understanding aggressive consensual sex.

Rebecca L. Burch, Catherine Salmon <rebecca.burch@oswego.edu>

Research on sexual behavior often characterizes rough sex as sexual aggression and as violent or abusive in nature. In a sample of male and female undergraduates, we examined the extent of rough sexual acts in romantic relationships, the triggers for those acts, and how rough sex differs from 'typical' sex. Participants were asked their definition of rough sex, questions regarding sexual aggression and behaviors during rough sex, and abusive behaviors in the relationship. Findings indicate that rough sex is triggered by curiosity and a need for novelty, and that both males and females often initiate rough sexual behaviors. Consensual rough sex results in little violence and only superficial injuries such as scratches, bruises and welts. Rough sex does not correlate with violence in the relationship or abuse. However, rough sexual behaviors were increased in situations that involved male sexual jealousy. Being separated from a sexual partner was the second most common trigger for rough sex, particularly for men. Aspects of rough sex, such as increased semen displacement and decreased latency for female orgasm will be discussed.

When one is not enough: Sex differences in extra-pair copulations.

Rebecca L. Burch, Gordon G. Gallup, Jr. <rebecca.burch@oswego.edu>

We examined frequency of extra pair copulations in college couples, how these differ from intercourse with their committed partners, and how knowledge of the committed partner is affected during an extra pair copulation. Over 25 percent of both men and women reported engaging in one or more extra pair copulations. Those who cheated reported greater arousal, but the duration of intercourse was not affected. Both sexes reported achieving greater sexual satisfaction from extra pair copulations. When males engaged in intercourse with women they knew were in committed relationships, males reported thrusting quicker, deeper and with more vigor. Males also reported a more intense orgasm and attempting to prolong intercourse for as long as possible when having sex with someone in a relationship. Females did not. Differences in various parameters of extra pair orgasmic experiences (latency to orgasm, frequency of orgasm, intensity of orgasm, and orgasm duration) were consistent with predictions based on sex differences in fitness maximization.

Infants' conflicting expectations and attitudes toward the wealthy

Melody Buyukozer Dawkins, Renee Baillargeon <melodibuyukozer@gmail.com>

Why do adults tolerate so many economic inequalities, despite their sense of fairness? Here we explored the possibility that two conflicting evolutionary tendencies, both already present in infants, might contribute to humans' attitudes toward the wealthy. Specifically, we examined whether infants (a) might expect wealthy individuals to receive smaller resource allocations than poor ones, based on a concern for fairness, but also (b) might prefer and trust wealthy individuals more than poor ones, based on a tendency to confer greater respect on high-status individuals. In project-1, which used violation-of-expectation tasks, 21-month-olds expected a distributor to consider recipients' pre-existing resources when dividing new items. Thus, when the recipients had unequal pre-existing resources, infants expected the wealthier recipient to be given a smaller allocation. In project-2, which used action tasks, 24-month-olds were first introduced to two individuals who differed in their pre-existing resources. When asked which individual they preferred or trusted to be more knowledgeable, infants consistently selected the wealthier individual. Infants thus expect wealthy individuals to be given fewer windfall resources, but they also prefer and trust wealthy individuals more. This striking contrast, and the evolutionary tendencies that support it, may contribute to our tolerance for wealth inequalities.

Transparent liars; Sex, psychopathy and the ability to deceive.

Angela Carolei, Laura K. Dane, Peter K. Jonason <angela.carolei@hotmail.com>

Across 3 samples, we investigated whether psychopathy and sex predicted deception ability. Fifty-six (half male, half female) targets each were videotaped telling both a true statement and a false statement about themselves. In study 1, 123 participants judged which of 2 statements (truth/lie) was a lie for the 2 male and 2 female targets who scored highest and lowest on a Dark Triad composite. Male target's lies were less often detected than the female target's lies but this was qualified by an interaction with Dark Triad scores. In study 2, 56 video statement pairs (truth/lie) were judged by 356 participants, who chose which statement they thought was a lie. Male targets were again found to be better at lying, particularly when being judged by females. Targets higher in psychopathy were better at deceiving all judges (and females judges in particular). In study 3 (data collection underway), new judges rated a subset of individual truth or lie statements (not seeing the same target twice). We expect this new

data to replicate findings from study 1-2. Those higher in psychopathy (particularly men) tend to be better deceivers.

Links:

<https://osf.io/yjsk8/register/5730e99a9ad5a102c5745a8a>

Sex-specific effects of harsh childhood environment on psychometrically assessed life history strategy: No mediation through developmental timing or embodied capital

Kristine J. Chua, Aaron W. Lukaszewski, Joseph H. Manson <kchua1110@ucla.edu>

Life History Theory (LHT) explains within-species variation by positing that various physiological and psychological parameters are calibrated in response to an individual's mortality risk across development. Somewhat more controversially, LHT has also been proposed to explain human variation in psychological characteristics such as risk aversion and conscientiousness. Debate regarding the relative merits of these two approaches (biodemographic vs. psychometric) is ongoing. To contribute to the resolution of these issues, we tested (N = 370 U.S. undergraduates) a model in which effects of early life adversity on psychometrically assessed indicators of the pace-of-life continuum are mediated by biometrically assessed indicators (e.g., developmental timing; somatic state). The complete model was not supported, although several significant direct and mediated effects were consistent with theory-driven predictions. Best fitting models differed by sex, such that males' adult psychometric pace-of-life was predicted by childhood neighborhood stress, father closeness, and somatic state (telomere length), whereas females' adult psychometric pace-of-life was predicted by father closeness and developmental timing. We conclude that an integrative approach to the assessment and modeling of the pace-of-life continuum holds substantial promise for future research.

Is food learning shaped by unconditioned stimulus valence or content?

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We tested a prepared learning hypothesis in the food domain to see if disgust-associated stimuli shape food impressions more differently than other negative stimuli. We tested to see if food type (meat versus plants, with the former being a more likely candidate for prepared learning) and the nature of the food (raw vs. cooked, with the former also being a more likely candidate) would further moderate this effect. Participants (N=515) went through an online evaluative conditioning (EC) procedure and saw twelve (of 48 possible) foods paired with either neutral images or negative images, which were either disgust-associated or fear-associated, and then rated expected

enjoyment in eating these food products. Linear mixed effect models revealed that people anticipated less enjoyment from eating foods paired with negative images relative to images that were paired with neutral images. However, this effect was not moderated by the type of image (disgust-eliciting vs. fear-eliciting) or food type (meats vs. plants). Although the study revealed an evaluative conditioning effect in the food domain, it did not reveal a specialized evaluative conditioning effect.

Paternal biobehavioral influence on the family: Preliminary data from the D.A.D.I.O. Project

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While research on maternal influence on the family unit has increased in recent years, assessment of the paternal influence remains sparse. The goal of this research was to increase our understanding of paternal influence on the biobehavioral dynamics of the family unit. Participants consisted of 40 family units recruited between 28- and 36-weeks' gestation. Participants completed 6 monthly questionnaires and an in-home visit when the infant was 4 months of age, during which parents and infants completed semi-structured interaction tasks and provided saliva samples. Saliva was assayed for testosterone, progesterone, and cortisol. Results revealed that fathers' testosterone was associated with father-infant synchrony ($p = .03$), mother-infant synchrony ($p = .02$), and marginally with partner synchrony ($p = .08$). Maternal progesterone responses were correlated with father-infant synchrony and marginally with couple satisfaction ($p = .08$). Finally, Infant cortisol was inversely correlated with alloparental support ($p = .003$). Together, results suggest that a more muted testosterone response is associated with maternal sensitive responding, that maternal progesterone and paternal testosterone may serve similar functions in the familial context, and that alloparental support facilitates infant HPA response selectivity.

Effects of cash in hand and cognitive cue inputs to a computational opportunity cost mechanism

Mark D. Cloud, Ashlee M. Power, Jaime M. Cloud <mcloud@lockhaven.edu>

Evaluating opportunity costs when making a purchase requires consumers to evaluate options that are not explicit. Any cognitive resources required to make those options explicit could be used for alternative means that may have a more immediate adaptive utility. To overcome this adaptive problem of simultaneity, evolved computational mechanisms prioritizing use of cognitive resources should be sensitive to inputs that can calibrate the use of those resources (Kurzban et al., 2013). Frederick et

al. (2009) found that explicit opportunity cost cues decreased participants' willingness to purchase a more expensive item. We replicated their cue manipulation study and added an endowment effect manipulation (Thaler, 1980). Participants were told they had an extra \$1,000 and faced a decision to purchase one of two iPads or neither. Some participants were given a cue highlighting the opportunity cost in purchasing the cheaper iPad ("leaving you an extra \$100 in cash") while others were not. Also, some participants paid the experimenter for their iPad with real-looking currency, while others did not. We successfully replicated the findings of Frederick et al. (2009) and established new patterns related to the endowment effect manipulation and the interactive influences of individual differences in Need for Cognition and Tightwad-Spendthrift assessments.

Gossipers who punish social norm violators are evaluated positively

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Studies have shown that about 65% of human conversation is occupied by gossip. Although gossipers often are scorned, Wilson et al. (2000) predicted and found that gossipers are evaluated positively if the gossip, in response to a social norm violation, is third-party punishing rather than self-serving. In this systematic replication, we expected to find similar results recruiting participants with a broader range of backgrounds. We also added a potential moderating variable – individual differences in tendency to gossip. Using TurkPrime across two experiments, we recruited 266 participants (M age = 40.17; 53% female). For both experiments, participants read different versions of a scenario involving a social-norm violation (e.g., cattle breaking a neighbor's fence) in which a gossip either responded in a group-serving or self-serving manner. Subsequently, participants rated their feelings toward the gossip and completed a tendency to gossip questionnaire. We replicated the effects found by Wilson et al. (2000) in which group-serving gossipers were evaluated positively and self-serving gossipers were evaluated negatively and further found evidence for the interactive effects of tendency to gossip and participant age on those evaluations. These findings are consistent with the notion that gossip often serves as a form of third-party punishment.

The role of oxytocin in social support during pregnancy

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Childbirth poses an exceptionally high mortality risk for human females compared to non-human primates. Assisted childbirth is, therefore, a ubiquitous feature of human

populations, with assistance most often provided by other women. We propose that this feature likely played a critical role in shaping human sociality and may have been mediated by women's ability to detect and respond to the hormonal status of other women. To test this hypothesis, we designed a pilot study in which we measured oxytocin response in pregnant and non-pregnant women. Participants were nine pregnant women, six paired with a close female friend and three paired with a female stranger. Participants provided information about their reproductive histories, social networks, their relationships with their study partner, and their current pregnancy, and participated in a childbirth education class practicing birth positions and support. Oxytocin was measured in saliva, obtained from all participants at four times during the study. Results suggest that while both pregnant and non-pregnant women exhibited an increase in oxytocin levels, the greatest increase was observed among pregnant women participating with a close friend. These results will be discussed in conjunction with a survey study assessing the role of close female relationships on pregnancy, health, and experience.

A test of the kin selection hypothesis among same-sex attracted and transgender individuals in Thailand

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Previous research in non-Western cultures has found support for the kin selection hypothesis of the evolution of male androphilia. No studies to date have examined kin-directed altruism in females in relation to gender identity and/or sexual orientation. In Thailand, *sao praphet song* are transgender birth-assigned males who are recognized as a "third" gender group. Other "third" gender categories exist for transgender birth-assigned females, recognized as *toms* and *dees*. Avuncular/materteral tendencies and general interest in children were used to measure kin-directed altruism. Across all avuncular/materteral tendencies subscale items, heterosexual women did not differ from lesbian or bisexual women, but were significantly more willing to allocate resources to nieces and nephews than either *toms* or *dees*. On scale items related to time investment, gay men were more willing to allocate time to nieces and nephews than any of the other birth-assigned male groups, including the *sao praphet song*. Elevated kin-directed altruism observed in our sample of gay men constitutes support for the kin selection hypothesis in another non-Western culture. Because *toms* and *dees* were less willing to allocate resources to kin compared to heterosexual women, kin-selection appears to be an unlikely mechanism for the evolution of female gynephilia.

Validity of the mate guarding scale in women

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Mate guarding encompasses a variety of tactics including keeping partners committed, eliminating competitors, and keeping partners from leaving the relationship (Buss, 2002). Few scales exist that assess mate guarding and of those scales, the psychometric properties are mostly unknown. The current study set out to assess the psychometric properties of the Mate Guarding Scale. Previous analyses showed that the Mate Guarding Scale has six subscales: confronting rivals, publicizing the relationship, escorting partner, covert tactics, monopolization, and aggression. We collected data online from 1069 women. Results show that women who reported more overall mate guarding towards their partner had in turn been mate guarded more by their partner, were more invested and controlling in their relationship, and felt their relationship had more costs. Results showed that the more controlling and invested the women were, the more they engaged in mate guarding overall as well as confronted rivals, publicized their relationship, escorted their partner, used covert tactics, monopolized, and were aggressive. Women who resisted mate guarding, measured with the Resistance Behavior scale, engaged in more mate guarding overall, confronted rivals, escorted their partner, used covert tactics, monopolized, and were aggressive. These analyses show that Mate Guarding Scale has high validity.

Masculinity and dating confidence

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Physical features shape perceptions of a man's masculinity. Many of the traits socially perceived as "masculine" are associated with testosterone level and/or are sexual dimorphic. Men with relatively high levels of these traits are represented as prestigious in the popular media, which reinforces the message that these traits are desirable, that men should strive to embody these traits, and that women find these traits attractive. These social expectations increase pressure on men to display these traits, and can lead to body dissatisfaction and lower confidence seeking mates when they do not. Heterosexual adult men (N = 441) recruited through Mechanical Turk self-reported their satisfaction with masculine traits (height, strength, athleticism, muscularity, erect penis size, flaccid penis size, face, hair, weight) and also how they felt they compared to the average man. These were used as predictors of comfort with engaging in romantic and sexual activities (e.g., asking a woman on a date). After controlling for the other predictors, perceptions of relative strength and erect penis size were the only significant predictors of dating confidence. The same was true for

satisfaction with these traits. The findings suggest these two factors are particularly important in men's mating strategies and behaviors.

Keep calm and lie on? Hormonal correlates of deception ability

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Individuals who are concealing knowledge or lying may experience elevated levels of stress and anxiety. Previously, we found that men higher in certain Dark Triad traits showed decreases in cortisol and increases in testosterone after telling two truths and a lie on video (Dane, Jonason & McCaffrey, 2017). The current study investigates if hormone changes in targets are predictive of judges being able to correctly detect whether the targets are lying or telling the truth. Participants were asked to judge a subset of 112 true and false audio-visual statements from 56 targets (half female/half male). Each participant viewed 14 true and 14 false statements from unique targets, and was asked to judge if each statement was a lie. We predict that a) targets whose cortisol increased (higher stress response) after the two truths and a lie video task will have more of their lies correctly identified (lower deception ability), and b) targets whose testosterone increased (rising to the social challenge of lying) will have fewer of their lies detected (higher deception ability). We also investigate whether the relationship with testosterone is moderated by sex.

Links:

<https://osf.io/tn6y3/register/5730e99a9ad5a102c5745a8a>

Disagreeable men produce higher-quality ejaculates

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Some research has found relationships between personality dimensions and ejaculate quality, but this research has limitations. In the current study, we investigated the relationships between six major personality dimensions and several ejaculate parameters. Forty-five fertile men provided two masturbatory ejaculates and completed a measure of major personality dimensions. Agreeableness was the only personality dimension consistently associated with ejaculate parameters after controlling for participant age, Body Mass Index, and abstinence duration. In short, disagreeable men produced higher-quality ejaculates. The current study adds to previous evidence documenting that psychological attributes—such as disagreeableness—are associated with ejaculate quality. We highlight limitations of the current research and identify directions for future research.

Do high mate-value males adopt a less restricted sociosexual orientation? A meta-analysis

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Due to sex differences in obligatory parental investment males, relative to females, have the potential to benefit more from short-term, pluralistic mating. Yet not all men enact such a mating strategy. Both Sexual Strategies Theory and Strategic Pluralism Theory together suggest that mate value is one important individual difference factor that should directly influence the adoption of longer-term versus shorter-term mating. It has previously been hypothesized that high mate value men should be most likely to adopt a short-term mating strategy. Yet evidence to support such a link has been mixed. We conducted a meta-analysis with all available data in order to obtain a better representation of the true nature of the relationship between self-perceived mate value and sociosexual orientation scores and to determine whether there may be a publication bias regarding this link. Although explained variance in SOI-R ranged as high as 39% in individual studies, a meta-analysis suggested that self-report mate value accounts for roughly 6% of the variance in men's sociosexual orientation. Findings provide compelling evidence that men's mate value is an important factor affecting their tendency to engage in short-term mating: High mate-value men were more likely to adhere to a short-term pluralistic mating strategy, as demonstrated by their higher SOI-R scores.

Friend or foe: How familiarity of the competition affects female intrasexual competition

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Evolutionary psychologists have studied female intrasexual competition, but there has been little research investigating specific contextual factors that affect women's degree of intrasexual competitiveness. In the current study, female MTurk users (N = 203) between the ages of 18 and 25 read a vignette describing an upcoming party and chose an outfit they would potentially wear to it. Within the vignette, we manipulated the presence of a male crush, the familiarity of a female party companion (close friend or acquaintance), and the relative attractiveness of the companion and measured the sexiness and revealingness of clothing choices. We calculated overall revealingness and sexiness scores for each outfit by averaging ratings obtained from a separate sample (N = 100). As predicted, women told to imagine attending the party with a close friend chose the same degree of revealing clothing, regardless if their crush

would be present at the party or not. However, women asked to imagine attending the party with an acquaintance chose significantly more revealing clothing if a crush was present than absent. These findings indicate that women's intrasexual competition mechanisms are complex and appear to take into account both familiarity of rivals and presence of potential mates.

Do likes really attract? Sexual strategies in human mate choice

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Two influential theories have described the rules governing human mate preference. Sexual Strategies Theory (SST) hypothesizes that individuals select for indicators of reproductive potential, with women emphasizing traits associated with wealth and resource-holding potential and men emphasizing traits associated with fecundity. Likes-Attract (LA), which is not mutually exclusive, posits that individuals of both sex prefer others like themselves. Here, we leverage heterogeneity across U.S. undergraduate samples to ask whether the relative influence of LA versus SST changes in association with student demographic characteristics. We anticipate finding greater support for LA than SST within US universities, yet hold we will find stronger support for SST in college campuses that are more diverse given an anticipated increase in future discounting among associated students. We will test these hypotheses through online surveys measuring qualities people prefer in prospective mates, as well as how they perceive themselves in terms of those same qualities. Demographic and relationship history data will be collected. Demographics such as ethnicity, religious affiliation, and socio-economic status will help us understand how people form mate preferences, pointing to the extensive variability in WEIRD student samples.

The association of auditory threatening stimuli and neutral images: Involuntary adaptive memory

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Human memory encodes and retrieves survival-related information more readily than other types of information. In the current study, we ask whether survival-related auditory stimuli lead to more involuntary visual memories than neutral auditory stimuli. We hypothesize that survival-related sounds will give an encoding and retrieval advantage to neutral pictures compared to the neutral sounds. In the encoding phase, participants rated the attractiveness of neutral pictures presented along with three categories of sounds: Ancient threats (e.g. predator calls), modern threats (e.g. gunfire,

close-passing vehicle noise) or neutral (e.g. bird song, water dripping). After a filler task, participants will engage in an attention task while they are hearing sound stimuli from the encoding session in addition to novel sounds and will be asked to stop the experiment if sounds remind them any image and fill out the memory phenomenology form. We predict that participants will involuntarily retrieve the pictures paired with ancient-threat sounds more than the pictures paired with modern-threat or neutral sounds. Finally, participants will complete recognition task. We predict that ancient-threat associated pictures will lead to better recognition than modern-threat and neutral sound-associated pictures. We will discuss in the context of the proximate mechanisms that underlie the survival processing effect.

Cross cultural intuitions on ownership

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Property and ownership claims and the array of ways in which they are operationalized comprise a large portion of our cognitive attention; on a day to day basis there is a need to know what to buy, sell, share, borrow, dispute over, and render away. Contemporary work in psychology suggests that intuitions of ownership emerge early in childhood, independently of acculturation; first possession claims to items by children as early as 9 months old. There remains much that is not yet known about the psychology of ownership and how it plays out in particular cultural settings. To evaluate how different possible domains considered to be owned are morally assessed, Achuar speakers from Amazonian Ecuador and English speakers from the United States were given a set of vignettes designed to assess how judgments of ownership depend on the type of resource in question, and how it came to be acquired. These vignettes were designed to be minimally culturally laden and of similar cross-cultural interest. Initial analyses of how domains of ownership are morally assessed are presented, emphasis being placed on rights, duties, and obligations of the (potential) owners across different domains of ownership.

Context-specific effects of facial dominance and trustworthiness on hypothetical leadership decisions

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Social judgments of faces predict important social outcomes, including leadership decisions. Previous work suggests that facial cues associated with perceptions of dominance and trustworthiness have context-specific effects on leadership decisions.

Facial cues linked to perceived dominance have been found to be preferred in leaders for hypothetical wartime contexts and facial cues linked to perceived trustworthiness have been found to be preferred in leaders for hypothetical peacetime contexts. Here we sought to replicate these effects using images of women's faces. Consistent with previous work, a linear mixed effects model demonstrated that more trustworthy-looking faces were preferred in leaders during times of peace and more dominant-looking faces were preferred in leaders during times of war. These results provide converging evidence for context-specific effects of facial cues on hypothetical leadership judgments.

Links:

<https://osf.io/q54nm/>

A temporal analysis of cover art on Harlequin romance novels

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We present an analysis of Harlequin romance novel cover images that we used to determine women's evolved mating behaviours, as well socio-cultural change in issues such as gender norms. We analyzed 500 covers from the 1950s until 2014. Our findings show that as time progresses, the covers focus more on the couple (at the exclusion of other individuals), and portray stronger intimacy as indicated by more reclining poses, more physical contact, more interaction, and increased direct eye gaze between the couple. We contend that although the covers have always addressed female mate preferences and interests due to the fact that the overwhelming majority of readers are women, the covers have become increasingly explicit in terms of sexuality and intimacy given shifts in socio-cultural permissiveness. Therefore, Harlequin romance novel covers represent an innovative way to examine evolutionary and socio-cultural forces pertaining to women's sexuality and mating interests.

Recalibrating the hormonal contraceptive congruency hypothesis: Longitudinal changes in hormonal contraceptive congruency status predicts women's sexual satisfaction

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Despite prior work demonstrating evidence in support of the hormonal contraceptive (HC) congruency hypothesis—the notion that changing HC use after relationship formation has consequences for long-term relationships—a recent, high-powered, study was unable to reproduce such effects. However, past research on HC congruency often relied on cross-sectional research designs that can only examine between-person implications of women's HC-congruency status. Using longitudinal data

from two, independent studies of newlywed couples we isolated the within-person associations between wives' HC-congruency status and their sexual satisfaction, and demonstrated that wives' sexual satisfaction is predicted by longitudinal changes—but not cross-sectional differences—in HC-congruency status. These results suggest that it may be premature to conclude that previous reports of HC congruency effects are based on spurious results. Rather, we suggest that the best tests of HC congruency effects would utilize longitudinal and analytic techniques that allow researchers to capture within-person changes in HC-congruency status.

Female leadership in an egalitarian society

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Female leadership is receiving increased attention from researchers across the social and biological sciences, including evolutionary scholars. Very few studies, however, have systematically investigated female leadership or sex/gender differences in leadership among small-scale, gender-egalitarian societies. Evolutionary theories of leadership, which draw heavily on studies of contemporary hunter-gatherer and other small-scale societies, have proposed numerous traits that putatively characterize leaders in domains of sociality, productivity, reproduction, dominance, and cognition. We tested preregistered hypotheses and investigated many such traits among elected female leaders among the Chabu, an Ethiopian population of former hunter-gatherers who now subsist on hunting, gathering, horticulture, and cash crops. There were strong positive correlations among most traits, which, in turn, were positively associated with elected leader status among women. One clear exception to this pattern was dominance, which seemed to preclude women from leadership positions. Despite a history and relative persistence of egalitarianism, including gender-egalitarianism, Chabu women face constraints in their ability employ dominance-based leadership strategies that men do not, a pattern consistent with broader political institutions cross-culturally, especially among Western societies. Revised evolutionary theories of leadership must account for the importance of women leaders and the strong covariation of traits.

The curious link between politics, religion, and bullying behavior

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In the current stratified political and religious era, many accusations of who is more likely to engage in bullying behavior have been tossed about. Conservatives and religious populations claim that liberals and secular populations engage in more, and

vice versa. In this study, demographic data from all 50 US states were analyzed to find relationships among ideology and bullying behavior. The predictor variables of poverty, church attendance, and political ideology were entered into a linear regression model with bullying behavior as the outcome variable. The results of the model indicated that while all predictors were associated with bullying behavior, only state wide conservative political ideology could account for state variation ($R^2 = .406$, $F(1,46)=28.67$, $p<.001$). At least superficially, conservative political and religious ideology is thought to be associated with rule following and morality. However, in this analysis of the data, quite the opposite was found at least in relation to bullying behavior. It will be suggested that in-group preferences of conservative political and religious populations may react to the increasing diversity of the US population with bullying behavior.

Fertility status in visual processing of men's attractiveness

Ray Garza, Jennifer Byrd-Craven <ragarza@okstate.edu>

Physical characteristics, such as a v-shaped torso and body hair, are visually salient information that reflect a potential mate's immunocompetence, status, and reproductive potential (Dixson, Grimshaw, Ornsby, & Dixson, 2014; Singh, 1994), and are thus often desired by women. Recently, the use of eye tracking in attraction research has demonstrated that visual patterns are behavioral indices of interest in a potential mate. Two studies investigated women's visual perception of men's attractiveness across different phases of the menstrual cycle (i.e., Low vs. High Fertility) while manipulating hair distribution across waist to chest ratios. In study 1 (N = 83), men with low (0.7) waist to chest ratios were rated as more attractive, and women focused most of their visual attention to the upper region of the body (i.e., head & midriff). There were no differences in visual attention as a function of fertility status. Study 2, (N = 53) replicated the findings from study 1 and found support for visual differences across the menstrual cycle using progesterone. Women viewed the head region (i.e., face) longer and took more time viewing men in general during the fertile phase of their menstrual cycle (low progesterone) compared to the non-fertile phase (high progesterone). Study 2 also showed that visual attention to the head and chest region were influenced by short-term mating orientation. The findings add to the existing literature on visual attention and attraction, and they contribute new findings in determining differences in visual perception across the menstrual cycle and mating orientation in women.

The potential role of testosterone as a relationship protection mechanism

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Testosterone has oft been described as a mating effort hormonal mechanism, and is generally conceived of as promoting promiscuity. However, the environment can at times favor monogamy. The field of social psychology has long recognized a host of relationship protection mechanisms that are activated by threats to one's pair-bond (e.g., devaluation of attractive alternatives). To the degree that testosterone functions to promote mating effort writ large, we hypothesize that it should sharpen these relationship protection mechanisms. To test this hypothesis, we employed a placebo-control double blind between subject design in which men either received testosterone (Natesto®) or placebo (N = ~300) before interacting with an attractive female confederate. About half of the men were already in a committed relationship allowing us to test both the effects of testosterone on mate seeking and its effects on fidelity. Behavioral coding of the videos will be undertaken to ascertain men's mate seeking behaviors, operationalized as self-presentation, behavioral mimicry, attention fixation, and self-reported interest.

The bargain-hunting hypothesis

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Thriftiness is paradoxically costly. According to our hypothesis, thriftiness is expected to (a) require conscientiousness, intelligence, and self-control, (b) be positively associated with a long-term mating strategy, (c) be negatively associated with a short-term mating strategy and infidelity, and (d) be engaged in and signaled to others more so by females than males. Moreover, targets described as thrifty and people personally known by participants to be thrifty, compared to counterparts who engage in conspicuous consumption, are expected to be perceived as higher in the aforementioned traits (e.g., conscientiousness) and predilections (e.g., long-term mating). Results from four studies (two correlational, two experimental) support these predictions.

Dominance versus prestige in romantic fiction

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Women are said to prioritize resources and status in mates. Indeed, most popular romantic stories include a rich and culturally successful hero. However, the appeal of social dominance, in life and in fiction, is not straightforward. I analyse a range of popular romantic narratives and argue that, when choosing their partners, romantic

heroines make an important distinction between dominance-based and prestige-based status. While prestige often depends on capacity to generate cooperation, dominance involves antagonism and exploitation (Henrich & Gil-White, 2001) and is arguably the most dangerous form of free-riding (Boehm, 2012). Romantic heroes often start off as arrogant and domineering, with enough physical strength and socio-economic power to be sexual and social bullies. The initial rejection of the hero by the heroine and by her social circle serves to suppress status differences and attempts at undue dominance. It prompts the hero to reconsider the source of his romantic appeal and his social status. He is chosen only after he can demonstrate his generosity and prosociality. In short, romantic fiction encourages female preference for prestigious rather than dominant men, which is conducive not only to women's individual reproductive success but also to more equitable, cooperative gender and social relations.

Female competition and cooperation in romantic fiction

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Although women are generally not as aggressive as men, they often compete for status, resources and mates using a range of strategies, such as self-promotion, competitor derogation and competitor or mate manipulation. I examine female intrasexual competition by comparing competitive strategies of female protagonists and antagonists in romantic fiction. The novels of Jane Austen are ideal test cases because of their enduring and cross-cultural popularity. Austen's female antagonists illustrate just how fiercely competitive women can be: they flaunt their beauty, derogate their rivals, spread malicious rumors and manipulate others. In contrast, Austen's heroines never contrive deceptive schemes but they do take advantage of the competitive situations orchestrated by their rivals to expose their shortcomings and selfishness. They also repeatedly demonstrate their physical, intellectual and moral superiority. These indirect tactics prove more successful: heroines attract better husbands and build long-lasting, supportive coalitions with other women. Such happy endings have often been disparaged as escapist fantasies. Undoubtedly, they contain elements of wish-fulfillment but cross-cultural empirical research suggests that they also reflect important aspects of human psychology and sociality: being able to compete is important but being able to identify and capitalize on opportunities for cooperation may be even more crucial.

Likelihood of break-up following imagined sexual or emotional infidelity: The contribution of perceived threat, attribution of blame, and forgiveness

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Infidelity is a major threat to relationships, often resulting in the dissolution of the dyad. Despite this, the process from infidelity to potential break-up is not well understood. In this study we examined factors affecting the likelihood of break-up following partner's imagined infidelity. Coupled women and men (N = 92 + 92) responded individually to questionnaires concerning hypothetical infidelity scenarios (sexual and emotional). Measurements included relationship quality, threat of transgression to the current relationship, attribution of blame, forgiveness (operationalized as keeping distance and wanting revenge), and likelihood of break-up. SEM analyses of couple data for both sexual and emotional infidelity suggest that for both men and women the level of threat was the main predictor of likelihood of break-up. Following imagined infidelity, this effect was partly mediated by the keeping distance aspect of forgiveness. No such mediation of wanting revenge was found. For emotional infidelity blame was associated with break-up, but fully mediated by keeping distance. Unlike previous studies, we found no associations between relationship quality and forgiveness following hypothetical infidelity. The findings are discussed in relation to the dyadic forgiveness model.

Is altruistic punishment altruistic?

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The aim of this investigation is to determine if altruistic punishment in social dilemmas is a robust phenomenon or an artifact of the standard experimental designs, as some authors have suggested (Carpenter and Matthews 2012; Pedersen, Kurzban, and McCullough 2013). To this end we have designed a variant of the public good game with peer punishment. In our public good game, a group of subjects is partitioned into subgroups that play a one-shot public good game. After the game finishes the subjects can punish free riders, even if they belong to other subgroups. Unlike standard social dilemma experiments, our experimental design allows to discriminate altruistic punishment (for the sake of the group) from self-interested punishment (for the sake of the individual who punishes). We hypothesize that the selfish and altruistic (if there is any) motivations will combine in the PG case (N=4) where no subgroups are created, so punishment in this case will be greater than selfish punishment with respect to the case in which experimental subjects participate in two simultaneous prisoner dilemma

games. In addition, our experimental design eliminates several artifacts of standard experiments, such as demand characteristics and the preclusion of the bystander effect.

Home is where the nature is: A content analysis of apartment complexes

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Natural selection resulted in human's evolved preferences and motivations to seek landscapes that provide lush resources while avoiding life-threatening risks (Orians, 1980). These evolved preferences may influence several aspects of modern-day society—including how we manipulate our urban environment. In our study, we explored the relationship between evolved landscape preferences and naming conventions of new constructions—specifically apartment complexes. We hypothesized there would be more nature words in apartment complex names than non-nature words. A content analysis of 2,364 names of apartment buildings was conducted utilizing a program that makes use of Google Maps to gather names from each of the 48 contiguous states of the United States of America. Each apartment name was rated as having nature words (e.g., river, arbor), nature-analogous words (e.g., summer, ranch), or non-nature words (e.g., 4th street, Washington). Sixty percent ($n = 1428$) of apartment buildings contained nature words, 6% ($n = 158$) contained nature-analogous, and only 32% ($n = 807$) contained non-nature words ($\chi^2(2, 2364) = 606.550, p < 0.001$). Results supported our hypothesis that there are statistically more nature words than non-nature words in the names of apartment buildings. Our landscape preferences may affect how developers name our homesteads—exploiting our biophilia.

Value of species and the evolution of conservation ethics

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The theory of evolution by natural selection can help explain why people care about other species. Building upon recent insights that morality evolves to secure fitness advantages of cooperation, we propose that conservation ethics (moral beliefs, attitudes, intuitions and norms regarding other species) could be adaptations that support cooperation between humans and non-humans. We present eco-evolutionary cost-benefit models of conservation behaviors as interspecific cooperation (altruism towards members of other species). We find that an evolutionary rule identical in structure to Hamilton's rule (which explains altruistic behavior towards related conspecifics) can explain altruistic behavior towards members of other species. Natural selection will favor traits for selectively altering the success of members of other species (e.g. conserving them) in ways that maximize inclusive fitness return benefits.

Conservation behaviors and the ethics that evolve to reinforce them will be sensitive to local ecological and socio-cultural conditions, so will assume different contours in different places. Difficulties accurately assessing costs and benefits provided by other species, time required to adapt to ecological and socio-cultural change and barriers to collective action could explain the apparent contradiction between the widespread existence of conservation ethics and patterns of biodiversity decline globally.

Links:

<https://royalsocietypublishing.org/doi/full/10.1098/rsos.181038>

Want to get with this? - You'd better commit: High mate value women enact a longer-term mating strategy

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Previous research on female mate value and sociosexual orientation (SOI: short term mating vs long term mating strategies) is mixed. There are two working theories on this relationship: 1) Females who are more attractive (have a higher mate value) can benefit more from a short term mating strategy because of the opportunity to obtain more resources and mate with higher quality mates, and 2) Females who have a higher mate value might be better able to employ a long term mating strategy because they can enact their sex-typical mating preference more readily than can women with lower mate value. The current study examined the relationship between mate value and the subscales of the SOI-R in a female student sample from Ontario, Canada. Even though Mate Value and Global SOI-R were not significantly correlated, mate value did negatively correlate with the behavior subscale of SOI-R. Females with higher mate value scores were less likely to have casual sexual intercourse. Mate value correlated with neither the attitude nor desire subscales of SOI-R. These results suggest that higher mate value females are more likely to enact a long-term mating strategy.

Chimpanzees hesitate more in uncertain social situations than in uncertain nonsocial situations

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Uncertainty can arise both in interactions with social partners and in interactions with non-living objects. Humans display higher aversion to uncertainty that arises from social interactions compared to interactions with objects, possibly mediated by betrayal aversion. Here, we investigated whether chimpanzees likewise differentiate between

social and non-social forms of uncertainty. Subjects participated in two studies, which involved a social and non-social condition. In both studies, choosing the safe option resulted in access to low-quality food for the subject. Choosing the uncertain option could result in access to high quality food for the subject, but only if the partner (social condition) or a machine (non-social condition) proved trustworthy. In Study 1, where chimpanzees had no prior information on rates of reciprocation (i.e. uncertainty), chimpanzees were more hesitant to choose the uncertain option when they interacted with a partner rather than a machine. In Study 2, where chimpanzees had prior information on reciprocation rates (i.e. risk), chimpanzees did not distinguish between social and non-social forms of risk. These results suggest that chimpanzees are more hesitant to engage in situations when the agent of uncertainty is a conspecific rather than a machine; when confronted with a risky choice, chimpanzees show no such tendency.

Predictors of perceptions of sexual images

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Much of the debate over pornography has focused on whether it is inherently degrading toward women. Previous work has examined this question through content analysis of heterosexual and homosexual pornography, demonstrating no significant differences between these two genres (other than the sex of the participants). However, the question remains that some individuals perceive pornographic images differently than others and some evidence suggests that men perceive such images quite differently than women. Some of this difference may be due to sex differences in disgust, in particular, disgust related to pathogen avoidance. There is a large literature that focuses on how pathogen avoidance has shaped human behavior from political ideology to in-group/outgroup behavior to sexual risk taking/avoidance. This study examined sex differences in perceptions and how they are influenced by the emotional context of the image as well as participant variables including disgust sensitivity, mate value, and sexual behaviors and attitudes. Males tend to have more positive perceptions of female sexual images whereas females tend to have more positive perceptions of male sexual images. The exception being when there is a negative emotional context in the male sexual images. Further analyses predicting perceptions and their implications will be discussed.

Beyond competitor derogation: Investigating the contraposition effect

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Condemning a person—as when we gossip about our rival’s transgressions—can have major, long-lasting impacts on that person’s reputation. But might individuals enjoy additional benefits from condemning others over and above those gleaned from effectively derogating possible rivals? Here, we provide evidence for our Contraposition Effect, whereby condemning a target causes social perceivers to view the condemner as less likely to share behavioral tendencies or other characteristics with the target. Whereas this effect may exist across contexts, we explore it here in the test case of women’s gossip, which features prominently in female competition. Participants (N = 456; 235 female) were randomly assigned to read one of four scenarios in which two female coworkers (Amanda, Brooke) either condemn or merely remark on a third (Claire)—specifically, Claire’s sexual promiscuity or height. When Amanda condemned (versus merely remarked on) Claire’s sexual promiscuity, people perceived Amanda as significantly less sexually promiscuous ($d = .047$; but not any shorter/taller). When Amanda condemned (versus merely remarked on) Claire’s height, people perceived Amanda as significantly shorter ($d = .036$; but not any more/less promiscuous). Results provide evidence for the Contraposition Effect in the test case of women’s gossip.

The relationship between disgust levels and sexual behaviors as moderated by self-perceived pathogen exposure

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Many studies have tested if environmental pathogen load affects mating behavior. Here we investigate if: (1) self-perceived pathogen load predicts pathogen and sexual disgust; (2) disgust variables predict respondents’ sociosexual attitude and desire; and (3) sociosexual attitude and desire predict behavior. We analyzed responses from 322 participants (160 women and 162 men) recruited through Amazon’s online platform, MTurk. Respondents reported information on environmental pathogen load, sexual and pathogen disgust, general health, and sociosexual desire, behavior, and attitude. We conducted a structural equation model and interpreted the regressions and correlations between latent variables, as well as between latent and observed variables. Self-reported pathogen load, along with general health, significantly predicted levels of sexual disgust, but not pathogen disgust. Those with a significantly higher level of sexual disgust had more conservative sociosexual attitudes and lower levels of sociosexual desire. Individuals’ sociosexual attitude and their levels of sexual disgust, but not sociosexual desire, positively predicted sexual behavior. These results support a growing body of literature on the behavioral immune system, as individuals who

perceive themselves to be more exposed to pathogens experience higher rates of sexual disgust and alter their sociosexual behavior, perhaps as a means to prevent infection.

Tinder v eHarmony: An assessment of sociosexuality among online dating users and platforms

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Mating strategies are perhaps the most salient evolved psychological sex differences between men and women. Not only have these sex differences in mating behaviors emerged in face-to-face (i.e., physical) speed-dating experiments (Finkel & Eastwick, 2009)—where men, generally, take the actions to maximize the amount of potential mating opportunities more so than women—these differences are also emerging in virtual (i.e., online) social environments. Among contemporary research on online dating, sociosexuality has become a dominant predictor of using of online dating platforms (i.e., mobile applications and websites; Carpenter & McEwan, 2016); additionally, sociosexuality is a significant feature of mating behavior that manifests differently between the men and women (Simpson & Gangestad, 1991; Penke & Asendorpf, 2008). It is suggested that certain online dating platforms are short-term-dating oriented (e.g., tinder) relative to other dating platforms, such as eHarmony. To assess sociosexuality (via SOI-R) across the sexes and across various online dating platform users, an online questionnaire was developed and administered via social media. Additional measures include: HEXACO60, Mate Value, Busyness, Rejection Sensitivity, Fear of Being Single, Attitudes Toward Online Dating, Weekly Computer Usage, and Sexual and Romantic Partner History.

Developing methods for more ecologically valid face stimuli in kinship research

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Previous studies on the effects of kinship cues in prosocial/sexual contexts have often used images manipulated to resemble the observer by globally transforming face shape. Here, we test in an adult sample of full biological siblings whether sibling resemblance is a global trait and/or driven by specific facial dimensions, and whether face-morphological measures predict accuracy of third-party kinship judgments in a matching task. From a database of 3D face images of relatives and non-relatives, we algorithmically chose the maximum number of sibling pairs where both siblings were aged 18+ and an age- and sex-matched foil image was available. 3D face models were

subjected to a principal component analysis of shape, and two similarity measures derived: global distance in 3D face space, and distance on individual face dimensions (shape PCs). Preliminary analyses suggest that sibling faces are closer in 3D face space than foil pairs, although global distance did not predict accuracy of kinship judgments. Similarity on one of the extracted shape PCs was found to both predict relatedness as well as accuracy of kinship judgments. Our results are a first step towards creating stimuli specifically manipulated in dimensions linked to actual relatedness as well as reliably eliciting kin recognition.

Experimental evidence for sex differences in sexual novelty preferences

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We examined sex differences in preferences for sexual novelty to explore whether the Coolidge Effect plays a role in human sexuality. In an experimental task, participants were asked to play a hypothetical dating game and select between novel and familiar faces as short-term dating partners. Participants were presented with two facial images on a screen and were asked to select the person they would prefer to date short term. The presentation software was response-adaptive, and depending upon participant choice, the next pairing included a presentation of their previously selected photo with a novel photo. We found that men were more likely than women to select a novel person to date. Further, when participants selected a repeated picture over a novel picture, men took longer to make this decision than women. It seems women exhibited greater cognitive ease than men when selecting a familiar individual to date, whereas men needed more time to deliberate between selecting a familiar mate over a novel mate. These findings lend support to the idea that sex differences in preferences for sexual novelty are a salient sex-specific evolved component of the repertoire of human mating strategies.

Sociosexual orientation predicts trait, but not state aggression in women

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In order to enact a short-term mating strategy, an individual must ostensibly compete more vigorously for varied mating opportunities. Accordingly, much research has indicated that males with a more unrestricted sociosexual orientation (SOI) display more aggression compared to men lower in SOI. Although short term mating is considered a male-typical mating strategy, human females have shown to enact short

term mating strategies. However, to date, no research has examined whether women exhibiting a short term mating orientation are also more intrasexually aggressive than their conspecifics who are lower in SOI. The current study examines if scores on the Revised Sociosexual Orientation Inventory (SOI-R) predicted (1) self-reported trait aggression using the short-form Buss-Perry Aggression Questionnaire (BPAQ) and (2) in-vivo measures of intrasexual aggression: the Point Subtraction Aggression Paradigm (PSAP) in a student sample of 119 Canadian females. Results showed that SOI-R was unrelated to aggression in the PSAP, however, SOI-R was related to trait aggression. Specifically, global SOI-R positively related to overall BPAQ score and all four subscales. Results suggest that like men, women who are oriented toward short-term mating are more aggressive than women who exhibit a longer-term mating orientation.

Is there phylogenetic continuity in emotional vocalizations?

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Vocal signals linked to emotions (e.g., laughter, screams) are in part conserved among phylogenetically related species. Such shared evolutionary roots of emotional vocalizations may yield cross-species recognition of affective information from vocalizations. We draw on two main approaches to phylogenetic continuity in emotional expressions, and test whether human listeners can identify 1) the context in which chimpanzee vocalizations were produced, and 2) core affect dimensions (arousal and valence) from chimpanzee vocalizations. In a laboratory experiment, participants (N = 310) listened to 155 chimpanzee vocalizations produced in 10 different behavioral contexts. Listeners judged the context in which they thought each vocalization was produced and indicated the extent to which they thought the individual who produced the vocalization was feeling negative/positive and aroused. The results show that listeners were able to accurately recognize the levels of arousal (high, medium, low) and valence (positive, negative) from the vocalizations, but not the production context. Judgments of arousal level and valence of vocalizations produced in negative contexts were more accurate compared to vocalizations of positive contexts. The greater cross-species continuity in information transfer might be linked to evolutionary mechanisms that cross-species emotion recognition is more successful for negative contexts bearing high survival costs.

Links:

https://osf.io/mkde8/?view_only=55c61b406eb44714bc723643ae7c94c0

The mystery of low sexual concordance among heterosexual cisgender females

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Sexual concordance (SC) refers to matching of self-reported sexual orientation (SO) and genital response when introduced to erotic stimuli (audio, visual, audiovisual, etc.). Men of all SO demonstrate high SC (i.e., near 100%) when exposed to erotic stimuli (Mustanski, Chivers, & Bailey, 2002; Chivers, 2005, 2017; Chivers et. al, 2004; Chivers & Bailey 2005;). Queer cisgender women and transgender women across the SO also match reported sexual orientation to genital response with high SC (Chivers, 2017; Chivers et. al, 2004, 2015; Lawrence et. al, 2005). Cisgender heterosexual Females (CHF), however, show relatively low SC in comparison to cisgender queer, transgender women and men. Furthermore, CHF show slight genital lubrication response to nonhuman mating videos (Chivers, & Bailey, 2005). Genital response and arousal in CHF is marked by vasocongestion in the clitoris and vagina, vaginal pulsation measured by vaginal photoplethysmograph, and by lubrication released from the Skene's and Bartholin's glands. Low SC in CHF is analyzed by both the preparation hypothesis (byproduct hypothesis) and the greater variability in sexual rewards among androphilic women hypothesis (adaptation hypothesis) (Sushinsky & Lalumiere, 2004; Chivers, 2017); more research is required to better understand female sexuality and perhaps discourage misdiagnoses of sexual dysfunction in CHF.

~~Mortality as a predictor of risky sexual decisions~~

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Examinations of population-level birth rates and mortality have reliably shown that reductions in mortality rates precede, following a delay, reductions in birth rates (e.g., Omran, 2005). The lag between these adjustments leads to population booms in industrialized nations. However, individual-level decisions driving these population-level trends have not been thoroughly examined. An analysis of individual decisions used data sets from United States Census and Center for Disease Control and Prevention (i.e., Youth Risk Behavior Survey) to determine if changes in mortality rates influence risky sexual decisions (i.e., not using a condom or birth control during intercourse) in adolescents. Preliminary findings show that adolescents in areas with higher mortality rates, calculated based on population estimates one year prior to data collection, are less likely to use any form of birth control during sexual intercourse. A follow-up analysis to account for mortality rates 10 years prior to data collection (i.e., during participants' early childhood) is planned and is hypothesized to better predict risky sexual decisions based upon findings in Griskevicius et al. (2011). Hypothesized findings may suggest

that the solution to reducing unplanned pregnancies is multifaceted and may include health and safety improvements across socioeconomic statuses.

Proximity and time are essential for horse-human bonding: Preliminary results from a study on horse-human interactions

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Horse-human interactions have been a recurrent feature of social life. Whereas members of these different species may bond with one another, the ways in which horses form bonds with conspecifics may be different from ways in which humans do. Specifically, emerging work suggests that horses bond via proximity rather than touch; for humans, touch is a primary means of bonding. In this study, human participants were instructed to have specific interactions with several horses (scratching, patting, petting, or proximity sharing) in a pasture environment. Participants wore head-mounted GoPro cameras to record horse behavior, interaction duration, who initiated the approach (horse or human), and who ended the interaction (horse or human). Human participants were also interviewed to assess their emotional bonds with each horse after multiple interactions. Preliminary results indicate that, compared to touch, proximity leads to better inter-species bonding from the point of view of horses —and of humans, to the extent that humans' reported bonding with horses who exhibited willingness to remain in proximity them. In sum, preliminary results suggest that proximity (and time) are valued equally for both species with regards to inter-species bonding.

Internet Flaming Reveals the Difference between Moral Anger and Moral Disgust

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People often experience moral anger and/or disgust when observing someone's wrongdoings. An evolutionary psychological view suggests that these moral emotions have distinct social functions; moral anger motivates direct punishment and moral disgust motivates indirect punishment (Molho et al., 2017). However, some scholars question the discreteness of moral anger and moral disgust (Cameron et al., 2007). In this study, we collected 573 derogatory comments on a Japanese university sports team's unfair play, which were posted on the university's Facebook page. Three hypothesis-blind coders independently coded each comment in terms of expressed emotion (e.g., anger, disgust, contempt) and contents of punitive remarks, if any (e.g., the team must be disbanded). The results revealed that comments expressing anger tended to contain punitive remarks (e.g., $r = .24$ for anger and disbandment of the team;

$r = .21$ for anger and dismissal of the manager/coach of the team), while expressions of disgust and contempt were not significantly associated with punitive remarks. This association pattern supports the discreteness of moral anger and moral disgust/contempt: Moral anger is associated with the desire for punishment, whereas moral disgust and contempt may be contented by merely expressing them.

Are all threats equal? Effect of distinct threats on attention

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Humans have evolved a set of cognitive, affective, behavioral and biological mechanisms to deal with the surrounding threats that can hinder reproductive success. Besides the affective and behavioral reactions towards threats, it is well established that threats take more attention and disrupt working memory performance more (Alvarez & Cavanagh, 2004; Öhman, 1993). However, few studies have examined whether there is an attentional prioritization for distinct threats (i.e. violent and pathogenic) as they elicit different emotional and behavioral reactions as well as impose distinct affordances. The current study investigates how attention is distributed among qualitatively different threats (e.g. violent and pathogenic) by using a working memory paradigm. We found that threatening images take more attention comparing to neutrals, thus replicating previous findings ($N = 21$, $p < 0.01$). We have not find a significant difference between pathogenic and violent threats as of now but this may be due to a low sample size.

The effects of strength and attractiveness on anger: What matters when?

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The recalibration theory of anger posits that anger is an evolved psychological mechanism for imposing costs or withholding benefits as a way of raising the welfare tradeoff ratio of another towards the angered party. Given that men's strength and women's attractiveness would have been important determinants of the extent to which one could impose costs or withhold benefits ancestrally, a key prediction of the recalibration theory is that stronger men and more attractive women should anger more easily. In the present research, we extend the recalibration theory by varying qualities of the target: to what extent does the strength or attractiveness of the harming party affect the anger of the harmed party? In a series of experiments on MTurk, we will present subjects with vignettes that vary the attractiveness and physical strength of the harming party. How exactly do subject and target strength and attractiveness interact with anger? Is the Napoleon complex real? Are men and women generally angrier at smaller, stronger, more attractive, or less attractive others? By beginning to answer some of these questions, this research hopes to further elucidate the human anger mechanism and how it operates.

The development of sex differences in distress to sexual and emotional infidelity scenarios

Per Helge Haakstad Larsen, Mons Bendixen, Trond Viggo Grøntvedt, Leif Edward Ottesen Kennair <phlarsen@stud.ntnu.no>

Sex differences in jealousy responses to sexual and emotional infidelity are robust in samples of adults. However, there have been no previous investigations of when and how these differences emerge developmentally. We applied two forced choice infidelity scenarios in a community sample of high school students (age 16–21, $N = 1,311$). In the total sample, adolescent men found the sexual aspect of infidelity more distressing than adolescent women did ($d = 0.55$). There was no effect of age. Age did not moderate the sex difference. There were no effects of two covariates (having had first sexual intercourse; being in a committed romantic relationship), either as markers of pubertal maturation or psychosocial environmental stimulus. Further research needs to investigate younger samples in order to discover when the sex difference potentially emerges.

The role of taller stature in human female attractiveness

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Recent systematic rating studies suggest that a low waist/stature ratio is the most important determinant of human female body attractiveness, which is also linked with a low BMI and waist/hip ratio. Likewise, highly attractive women such as Playboy models, adult film stars, and beauty contest winners are substantially taller (1.1-1.8 standard deviations) than normative American young women, with modes of 66-68 vs. 63 inches (168-174 vs. 160-163 cm). Using large samples of American women, we show that for women with the same BMI, those who are taller have lower waist/stature, hip/stature, and waist/hip ratios, higher levels of body fat, and a higher ratio of gluteofemoral to abdominal fat, indicating greater stores of fatty acids critical for brain development. Thus, it is easier for taller women to attain the highly attractive values of body shape most common in teens. Taller mothers also have heavier infants with lower mortality and a reduced chance of operative deliveries compared with shorter mothers with the same BMI. Studies also show that taller women have lower mortality and, in non-western populations, and greater lifetime reproductive success.

Why do women gain weight after their teens?

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Except for populations with very limited nutrition, women typically increase their BMIs during their reproductive years, from 19-21 during their teens to 25 by age 45. One consequence is that mothers who are heavier when they conceive have heavier newborns. Using a sample of 4 million US births, we show that the mother's BMI, along with weight gain during pregnancy, is a strong determinant of their infant's birth weight. We also find that the optimum BMI is 20-24 for infant outcomes (normal pregnancy, birth weight, gestation, and vaginal delivery) for women with one or more previous births compared with a BMI of 15-19 for first births, controlling for other factors. Higher birthweights also lead to better growth in children. In a sample of 9,300, children <12, we show that birth weights are a strong predictor of age specific stature and weight. Children who were heavier at birth are taller and heavier. Studies also show that higher BMIs in mature women are also associated with better health.

What is the stress response system really for? How stress accounting mechanisms mediate the social regulation of reproduction in the context of status hierarchies

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Although the toxicity of high or chronic stress is widely attributed to physiologically damaging allostatic loads, recent theorizing proposes evolution also shapes stress response systems to enhance INDIVIDUAL FITNESS through life history acceleration and/or inducing plastic traits that better meet demands of stressful environments. However, from a multilevel evolutionary perspective, INCLUSIVE FITNESS suggests that toxic stress may also serve to promote phenoptosis, the rapid or gradual self-removal of affected individuals to improve the fitness prospects of others. As William Hamilton noted, "...a foetus or baby that has detected in itself some fatal physiological flaw is expected to decide for itself to die at the earliest opportunity..." This leads to the hypothesis that in sexually reproducing social species, stress response systems have been evolutionarily tuned to literally damage individuals with relatively lower fitness prospects while boosting the well-being and reproductive chances of higher status individuals with higher fitness prospects. These processes are at the core of dominance and prestige hierarchies as well as social/sexual selection through the operation of distress-eustress accounting mechanisms (epigenetics, telomeres, gut microbiomes, immune system), in humans enabling autodomestication in environments of evolutionary adaptiveness and creating today's pervasive social gradients of health rooted in social status self-comparisons.

Empowered or entitled to lead? An evolutionary perspective of how managers navigate structural empowerment

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Research to date has advanced opposing viewpoints on whether or not structural empowerment will psychologically empower managers and enhance group functioning. The aim of this paper is to provide a more nuanced view of the downstream consequences of how managers navigate structural empowerment through the lens of evolutionary psychology. I developed a comprehensive model of how evolved motives for social influence—prestige and dominance—and situational constraints—resource scarcity and outcome interdependence—guide managers' cognition and behavior in the context of structural empowerment. To test my arguments, I utilized experimental (Study 1) and field survey (Study 2) methodologies. My paper contributes to the literature in three important ways: 1) I complement the predominant focus on the link between structural empowerment and psychological empowerment by providing accounts for an unintended consequence of structural empowerment, namely entitled managers; 2) my focus on managers' external resource acquisition and sharing as outcomes of structural empowerment expands conceptual boundaries of the role of leadership in the literature; and 3) my study provides an example of how insights from evolutionary psychology can be leveraged to gain a better understanding of why managers do what they do within contemporary organizational structures.

Distinguishing between sexual attraction and sexual desire: The case of asexuality.

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Sexual attraction and sexual desire are often conflated, by both academics and the general public. However, the existence of asexuality suggests that these are separate phenomena. Asexuality is the sexual orientation defined by a low frequency of sexual attraction, but not necessarily desire. By analogy, for food, it is important to differentiate between appeal of individual foods and metabolic hunger. Likewise, for sex, it is important to differentiate between sexual attraction and sexual desire. The present research aims to address this and provide information about differences in the mating psychology of asexuals and individuals of other sexual orientations. We are in the process of collecting survey data from two samples, one gathered from an online service (Prolific; $n = 400$) and one from the asexual community ($n = 100$). Participants will provide information about their sexual orientation, experiences, and desires. Focal analyses will (1) compare different measures of sexual attraction and sexual desire in

order to distinguish them, (2) construct valid measures of each, (3) assess interrelationships among sexual attraction, sexual desire, and mating orientation, and (4) assess differences between sexual orientation groups, including asexuality. We seek to illuminate a currently murky area of the psychological architecture of sexuality.

Children's time allocation to work and play in twelve full- and part-time forager societies

Sheina Lew-Levy, Rachel Reckin, Stephen M. Kissler, Adam H. Boyette, Alyssa N. Crittenden, Renée Hagen, Randall Haas, Karen L. Kramer, Jeremy Koster, Matthew O'Brien, Ilaria Pretelli, Koji Sonoda, Todd A. Surovell, Jonathan Stieglitz, Bram Tucker, Helen Davis, Noa Lavi, Kate Ellis-Davies <Sheinalewlevy@gmail.com>

Children participate in economic activities from an early age, even if they are not net producers until much later. Furthermore, children invest in future learning through play. In populations that rely fully or partially on foraged resources, children's participation in work and play is largely dependent on age and sex. Societal variation in ecology and sexual division of labour may also explain why children's participation in economic activities ranges from rare to extensive. Here, we investigated covariates for children's participation in food production work, domestic work, childcare work, and play using observational data from twelve full- and part-time foraging societies. We found that children's time allocation to play traded off with all three work activities. Across societies, children worked more, and played less, with age. Strong sex differences in time allocation by adolescence were also found, with males participating in more food production and play than females, and females participating in more childcare and domestic work than males. Boys participated in less childcare and more food production in societies where men did a majority of the food production work. Children worked less in colder environments. Results are discussed in light of current debates regarding the evolution of childhood.

Environmental harshness, early childhood health conditions, and life history of adolescents in Northern and Southern China

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Environmental harshness shapes life history (LH) trade-off strategies. The present study explored the effects of such environmental harshness cues as high mortality rates, the lack of medical facilities, and high probabilities of natural disasters on adolescents' LH trade-off strategies as well as their somatic conditions such as birth weight and health status. Based on a probabilistic sample of 2564 adolescents aged 10

to 15 and their parents from 28 provinces of mainland China (China Family Panel Studies, 2014), the structural equation modeling results showed that environmental harshness was positively associated with fast LH (beta= .37) and negatively associated with childhood somatic conditions (beta= -.61) and fast LH and somatic conditions were negatively associated (beta = -.31). In addition, some systematic differences were found between northern and southern China (demarcated by the Yellow River) characterizing the former as following faster LH.

Priming mate abundance increases women's expectations for engagement ring size and cost

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Women face the adaptive problem of obtaining the resources necessary for offspring survival. Engagement rings signal a man's current financial status and willingness to invest. If primed to believe that mates are abundant rather than scarce, females should increase expression of preference for male resource investment. Griskevicius et al. (2012) tested this hypothesis by priming men and women with pictures depicting skewed sex ratios, which led both men and women to expect men to spend more money on an engagement ring when women were ostensibly scarcer. Unfortunately, lack of a proper manipulation check made it unclear whether the effect was due to perceived mate availability. Priming studies without manipulation checks have been shown to be difficult to replicate. We attempted to replicate the results in females while including a manipulation check for our perceived mate scarcity. Using an experimental mate-availability priming paradigm (based on well validated fictitious magazine articles) women (N = 206) were primed with either mate-scarcity or abundance and subsequently reported expectations for engagement ring size expectations. Women primed with the belief that mates are abundant in the population reported expecting a statistically-significantly larger and more expensive engagement ring relative to women primed with mate-scarcity.

The origins of charisma

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Studies in psychology show that charisma—a persuasive communication style operationalized as a set measurable rhetorical tools—has powerful effects on individual and group behaviors. Whereas social scientists have extensively studied the proximate mechanisms behind charismatic communication, ultimate questions about the nature of

charisma remain to be examined. Why do we feel so attracted by charismatic individuals? Linking psychological and anthropological literature, I claim that charisma served the adaptive function of persuading others during group discussions and of coordinating group efforts in ancestral times. Over time, however, personal charisma was substituted by formal leadership positions and institutionalized enforcement mechanisms typical of complex political systems. Thus, I test the hypothesis that ethnographically-measured political complexity shaped current preferences for charismatic leaders. Merging secondary data measuring the charisma of United States presidential candidates with ethnographic observations, I show that individuals whose recent ancestors come from societies with simpler (versus more complex) traditional political systems currently prefer more (versus less) charismatic political candidates. The statistical effect of traditional political complexity survives the inclusion of a large set of covariates and fixed effects, is robust across different specifications, and remains sizeable even when correcting for self-selection of individuals into the voters' pool.

Gluttons for punishment? Experimentally induced hunger unexpectedly reduces harshness of suggested punishments.

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Many societies aspire to objective judgment in criminal justice. However, humans are not impartial, and ostensibly irrelevant factors may influence sentencing decisions. Indeed, there is evidence that visceral states such as hunger could play a role in judicial decision-making processes, with some research suggesting that hunger leads to harsher sentencing. Exploratory findings based on self-reports from four pilot studies also suggested a positive relationship between hunger and moral judgment. The main study examined the relationship of hunger with judicial sentencing and moral judgments in a controlled experiment. Hunger was manipulated by asking 226 undergraduates not to eat for at least four hours before the study. Participants in the satiated condition received a snack before taking questionnaires, while those in the hungry condition were given cookies after the questionnaires. We predicted hungrier individuals would be in favor of harsher punishments and would express stronger moral judgments. Contrary to predictions, participants in the hungry condition recommended more lenient punishments, while the manipulation had no effect on moral judgment. We discuss possible explanations for these findings. While unexpected, these results provide tentative evidence that hunger can influence punishment and sentencing decisions.

Rape avoidance across the menstrual cycle using a virtual paradigm

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Rape has been a recurring problem for women throughout evolutionary history. Because rape circumvents female mate choice, it is particularly costly for women at high fertility due to the risks of allocating parental investment to undesired offspring of unknown genetic quality. Consequently, women may have evolved psychological mechanisms to motivate behaviors that would reduce risk of rape, particularly at high fertility. Indeed, previous research has identified a suite of rape avoidance behaviors (e.g., avoiding strange men, defensive preparedness) that are more common at high fertility compared to other points in the ovulatory cycle. In addition to the Rape Avoidance Inventory (RAI), the present study used a virtual reality (VR) task to assess within-subject differences (N=23) in threat-assessment and rape avoidance behaviors at estimated points of high and low fertility. Preliminary analyses suggest that participants assessed more threat in their virtual environment (indicated by heightened perceived presence of non-existent agents during the VR task) at high versus low fertility, although this effect fell short of significance. Participants reported less avoidance of appearing sexually receptive subscale of the RAI at high versus low fertility, which may indicate a general increase in sexual motivation. Presented results are preliminary and data collection is ongoing.

Digital deception: Sex differences in upset lies about status and attractiveness in an online dating context

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This study examined sex differences in response to deception in online dating. We hypothesized men would be more upset than women regarding deception about attractiveness (H1), women would become more upset over deception regarding occupation (H2), and there would be no sex differences in deception regarding altruism, represented by volunteerism (H3). In the first study, a hypothetical dating scenario was given to participants with one of three deception conditions; deception regarding attractiveness, occupation, or volunteerism. Participants then reported how upset they were about the lie and how likely they were to cancel their date. Results from study one indicated that women were more likely than men to cancel the date if the deception involved volunteerism or occupation. Study two used the same hypothetical dating scenario but included a forced choice paradigm in which participants were required to rank order deception in attractiveness, occupation, and volunteerism as most to least upsetting (with 1 = most upsetting and 3 = least upsetting), and how likely they were to

cancel the date. Results from study two supported findings from study one: women ranked deception in occupation as more upsetting than men, and men ranked deception in attractiveness as more upsetting than women.

The mate expulsion inventory and the psychology of relationship termination

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Mate retention tactics have been well-documented in literature using an evolutionary perspective. These tactics function to deter romantic partners from defection and fend off potential alternative partners. However, when individuals are in a relationship where the costs outweigh the benefits mate expulsion, not retention, may be functional. The present set of studies were designed to identify mate expulsion tactics and examine their relationship with mate retention and relationship satisfaction. In Study 1 (N = 103) participants nominated mate expulsion behaviors and in Study 2 (N = 141) participants rated the frequency with which they employed these behaviors in their real break-ups. This resulted in an inventory of 54 mate expulsion behaviors. In Study 3 (N= 500), participants currently in relationships will complete the Mate Retention Inventory, a relationship satisfaction measure, and rate the frequency with which they employ the mate expulsion behaviors in their current relationships. We will examine the factor structure of the Mate Expulsion Inventory and hypothesize that mate expulsion will be negatively related to relationship satisfaction and only weakly correlated with mate retention. Our results demonstrate that human mating psychology includes mechanisms that function to terminate relationships and expulse mates unique from mate retention mechanisms.

He writes a lot, she gets to the point - sex differences in bathroom graffiti

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Graffiti might be seen as a special kind of art or vandalism, but they are a special way of communication. Public bathrooms are most suitable for research on graffiti as they offer privacy and shield from the influence of other persons. Earlier research on graffiti showed that women are not as likely as men to create graffiti. Robin Dunbar claimed that the content of gossip is based on evolutionary strategies. Therefore, females tend to talk about social interactions and support, whereas men are more likely to verbally intimidate possible competitors. We examined 165 bathrooms in restaurants and bars and classified 4747 graffiti. We picked locations of high variability to ensure high social and educational diversity of visitors. Data analysis revealed a number of sex

differences. Graffiti conveying social information and sexual content are found more often in ladies' bathrooms, but generally, more graffiti are found in men's rooms. The results partially support earlier findings but also raise new questions: The fact that women wrote more graffiti with sexual content might be explained by the SIDE-model which states that breaking with social norms is easier in groups or in situations of total anonymity.

Does the method of delivery affect the punchline? An evaluation of priming effects and survey responses across three methodological conditions.

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To address increasingly complex research questions, we often adapt and integrate methods from other disciplines. However, it is important to attend to the efficacy of these methods within new research environments. As anthropologists, we explore how socioecological factors influence reproductive decision-making using surveys, focus groups, and vignettes. While our findings show strong evidence of correlation, collinearity issues among socioecological factors limit clarification of causal pathways. To address this, we explore utilizing a method common to social psychology, priming. However, priming is used predominantly with WEIRD populations in laboratory settings. To fully address our questions, we would utilize priming outside laboratory settings and with non-WEIRD populations. To begin assessing the efficacy of priming methods outside of their traditional environment, we compare variation in prime effect across three survey delivery methods, with two university populations: online at home (N=164), using a laboratory computer (N=90) and one-on-one interviews (N=86). Initial results suggest no variation in prime effect among survey delivery methods (Wald Chi-Square=3.92, df=2, p=.141), despite variation by campus (Wald Chi-Square=6.30, df=1, p=.012). We are left questioning the validity of priming across sites and the ethics of taking methods grounded in deception to non-WEIRD populations where they may be seen as locally inappropriate.

Conspicuous consumption of experiential goods

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Can experiential goods act as mating-relevant signals? Research on conspicuous consumption suggests that displaying wealth and status through luxury spending can act as sexual signals in mate-seeking contexts. However, the literature has thus far focused solely on luxury material goods. There is a broad line of work

suggesting fundamental differences between material and experiential goods in terms of purchase satisfaction, shareability, and centrality to self. With these differences in mind, it is fruitful to understand the signaling value of experiential purchases within and beyond the context of traditional sexual signaling frameworks of material goods. In a pilot study, 200 participants reported an experiential purchase they made in the past five years. They then indicated relevant features of the experience, such as price, visibility, and social motivation, and individual differences, such as sociosexual orientation and personality. Results revealed that people with higher status and mate-seeking motives during the experience reported more conspicuous experiences. This pattern provides preliminary support for a link between conspicuous consumption of experiences and mating contexts, and sets the stage for further exploration into the signaling power of material and experiential goods.

Why love only the one you're with? Sexual motivations and sexual behavior in consensually non-monogamous individuals

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Sexual motives and sexual risk-taking behaviors have been linked to important relationship outcomes (e.g., quality, duration) within monogamous relationships. However, little research has investigated differences in sexual motives or sexual behavior in consensually non-monogamous (CNM) relationships). In the present study, we expand on previous work in this area by using an expansive measure of sexual motives to investigate differences between participants in monogamous (n = 322), open (non-exclusive relationships with one current partner; n = 40), and CNM (non-exclusive relationships with more than one current partner; n = 87) relationships, as well as differences in performances of sexual acts. CNM participants were more motivated to have sex for pleasure, experience-seeking, revenge, and resources compared to participants in monogamous, but not open, relationships. CNM participants were more likely to perform certain risky sexual behaviors with their primary partners (e.g., unprotected anal sex, unprotected anal penetration) compared to monogamous participants were with their partners, but CNM participants engaged in similar sexually risky behaviors with both their primary and secondary partners. These results suggest that individuals in CMN relationships have distinctive motivations and desires that may impact the types of relationships they maintain and pursue.

Life history strategies within monogamous and consensually non-monogamous romantic relationships

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Life History Theory predicts that organisms adaptively vary in how they allocate time and resources toward growth and reproduction. Here, we compare measures of pubertal development (Petersen, Crockett, Richards, & Boxer, 1988) and life history (i.e., the Mini-K and HKSS; Figueredo et al., 2006; Giosan, 2006) between men and women who are currently in monogamous ($n = 560$), open ($n = 97$), and consensually non-monogamous (CNM; $n = 129$) romantic relationships. Women in CNM relationships reported earlier puberty relative to their peers than women in monogamous and open relationships. Men reported similar pubertal timing across all three relationship types. Furthermore, those within CNM and open relationships reported lower scores on life history measures (i.e., a faster life history strategy) than monogamous individuals. These results suggest that pursuit of consensual non-monogamy is associated with a faster life history strategy, particularly among women. We speculate that moral stigma toward CNM (see Moors et al., 2013) may, in part, stem from aversion to the high-risk behaviors, unrestricted sociosexuality, and competitive interpersonal strategies that are characteristic of a faster life history (see Figueredo & Jacobs, 2010; Griskevicious, Tybur, Delton, & Robertson, 2011; Kruger, 2010; Wang, Kruger, & Wilke, 2009).

Breakup sex and infidelity: Sex differences and sexual strategy theory

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Breakup sex is post-breakup behavior in which the individuals of the terminated relationship agree to have sexual intercourse one last time (Moran, Wade & Murray, under review). Prior research suggests that men and women experience different benefits from breakup sex. That is, men tend to feel better about themselves afterward, whereas women feel better about the relationship that ended. Although there are observable sex differences, there is no research investigating the situations that will facilitate breakup sex. These studies examined how infidelity affects the decision to have breakup sex. Prior research (Shackelford, Buss, & Bennett, 2002) suggest that men rate sexual infidelity as more upsetting; however, based off sexual strategies theory (Buss & Schmitt, 1993) men more than women report wanting sexual access. Therefore, it would behoove researchers to understand how breakup sex is being affected. Study 1 ($n = 102$), revealed no sex difference for having breakup sex in the future; however, a significant sex difference revealed that men endorse having breakup sex if their partner emotionally or sexually cheated. Study 2 ($n=158$) replicated these findings using a hypothetical situation, revealing that men may be acting on a sexual

strategy framework, rather than based on their emotions after an instance of infidelity. Study 3 is currently being conducted, and data should be completed by HBES2019.

Envy mediates the link between women's appearance comparison and mate retention

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Previous research has highlighted the respective roles of social cognition and emotion in organizing behavioral outputs to mating challenges. Specifically, Arnocky et al. (2012) proposed that among women, upward social comparisons on an important mate-value dimension (physical attractiveness) promote emotional reactions meant to motivate compensatory action to bolster one's standing along these dimensions. The present study tested a mediation model whereby upward physical appearance comparisons made by women were expected to predict indirect aggression toward other women, as well as perpetration of both cost-inflicting and benefit-provisioning mate-retention. These links were hypothesized to be mediated by envy as an emotion designed to orchestrate behavioral output resulting from social comparisons. In a sample of 120 undergraduate females, results showed that upward appearance comparison predicted indirect aggression toward other women, as well as both cost-inflicting and benefit-provisioning mate-retention effort. When entered into the models, envy mediated each of these relationships. Together these findings suggest that women hold cognitive and emotional mechanisms that work together to promote compensatory action in response to information suggesting that they fall shorter than intrasexual rivals on important mate-value dimensions, such as physical attractiveness.

Aggressive mimicry as a human hunting strategy

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The expansion of human cognition is a major question in the science of human origins. Several hypotheses have been proposed for its evolution, primarily the Foraging Brain and the Social Brain Hypotheses. Thus far, the Social Brain Hypothesis has much support based on its explanation for the evolution of Theory of Mind (ToM) in which social group size led to the development of adept mind-reading in the human species. Alternatively, I propose a potential pathway for the evolution of human deceit independent of sociality: that of hunting techniques. Utilizing cross-cultural data gathered from the Human Relations Area File, I have identified numerous (n=164) cross-cultural cases of the application of ToM in non-social hunting contexts. Through

these data and by comparing similar behaviors in other species which utilize a hunting strategy known as aggressive mimicry, I suggest a pathway through which the evolution of lying may have taken place whereby shifts in the environment of evolutionary adaptedness (EEA) and the plastic dietary niche of humans led to a reliance on novel ways to find food. Rather than ToM developing from sociality, I suggest social applications of human mind-reading could have theoretically followed the development of Theory of Mind in foraging contexts.

A community's practice motivates individuals' voluntary disaster mitigation action

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Tsunami is a major threat to many coastal areas. The success of an evacuation strongly depends on how quickly people starts evacuation. However, behaviors to pick families or neighbors up and to return home for bringing their important things out delay evacuation. This study focused on a solution, “a box of individual emergency reliefs” developed in Kuroshio, a local community in Japan. It is common that people put items for emergency, such as food, clothing, and medicines into a box at individual house in advance. However, a uniqueness is that they did it by the community and store them in a common warehouse on higher ground. Moreover, they replace contents of the box at community’s social event such as traditional festival as a maintenance opportunity. Author’s fieldwork revealed two meanings in their collaborative practice. First, it promotes individual voluntary action: each member stick to disaster reduction action constantly for a long time. Second, it raises mutual trust among members. They know that another member has prepared for evacuation each other because they have prepared collaboratively. Though an anxiety that another member may not evacuate causes picking up behavior, the mutual trust may reduce it, and reduces loss of evacuation time.

Biased vocal sex ratios influence ejaculation parameters in healthy human males (Homo sapiens)

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Adult sex ratios in a local environment influence a wide variety of reproductive behaviors in humans and other animals. Unbalanced sex ratios cause the majority sex to face increased competition for mates and become more likely to adopt the sociosexual preferences of the minority sex. Listeners can accurately perceive human vocal sex ratios after only a brief exposure to simultaneous male and female voices,

and exposure to simultaneous voices that contain a low percentage of opposite-sex voices makes subsequent individual opposite sex voices sound more attractive. Moreover, under different social conditions, males can differentially allocate sperm and seminal fluid. Here, we examined whether the auditory perception of biased vocal sex ratios might also impact ejaculation parameters. Healthy male participants provided an ejaculate sample after listening to a 3-minute audio clip of either male-biased or female-biased simultaneous voices. We found that sperm concentration was significantly higher when participants heard female-biased vocal sex ratios. We also observed a trend indicating that the percentage of motile sperm was higher when participants heard male-biased vocal sex ratios. The results suggest a promising potential behavioral method to increase male fertility.

General Mate Value Scale (GMVS): Creation and assessment

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Existing mate value (MV) scales have failed to achieve widespread use within the field of evolutionary psychology, even though MV represents an important concept in human mating. Our goal was to create a short trait-based MV scale by incorporating items from existing measures of MV along with new items we created to fill previously unaddressed concepts and traits. We asked 383 participants to rate 71 statements we hypothesized could be associated with MV (i.e., physical attractiveness, personality, etc). From the subsequent factor analysis, two factors emerged -- a 6-item Desirability subscale and a 5-item Effort and Commitment subscale -- which we combined to form the 11-item General Mate Value Scale (GMVS). We will also present data from a study we are currently conducting in which pairs of friends will rate themselves and each other on the GMVS to assess reliability and validity and examine hypotheses regarding sex differences in perceptions of MV.

~~Punitive sentiment and aerial bombing in the Vietnam War~~

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Why do states engage in aerial bombing so often, when it has been shown to rarely achieve the political outcome sought? This raises an important question: what is it that decision-makers seek when they order aerial bombings? This paper draws on research on the evolved psychology of punishment to help illuminate this puzzle. Punishment is considered a human universal, yet despite its ubiquity, the psychology of punishment is far from straightforward. Research demonstrates that people tend to give

consequentialist justifications for punishing, whereas in fact their decisions are motivated by deontological factors, specifically retribution. This paper introduces this important aspect of decision-making into the analysis of military conflict operations, using United States' bombing campaigns during the Vietnam War as a case study. Existing analyses of bombing decisions have focused almost entirely on the strategic reasoning which is thought to underlie bombing campaigns. However, instrumental reasoning fails to account for instances where bombing campaigns were authorised when goals were unlikely to be achieved. This paper argues that an evolutionary framework can make sense of the mismatch and provide unique predictions about when greater and lesser punitive responses are likely.

Individual differences in mate retention strategies based on health and romantic jealousy

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Physical health status carries important information about an animal's mate-value. However, few researchers have examined how perceptions of health status may correspond to the strategies that individuals use to vie for and to retain desired mates. In the current study, we asked 314 young adults to self-report their perceived severity and frequency of a range of physical health symptoms, feelings of romantic jealousy, and engagement in two domains of mate retention behavior (benefit-provisioning and cost-inflicting). Both higher health symptom severity and frequency were found to positively predict jealous feelings. Higher health symptom severity and frequency also positively predicted enactment of cost-inflicting but not benefit-provisioning mate retention. Romantic jealousy was found to mediate the relations between health symptom severity/frequency and cost-inflicting mate retention. Despite the absence of a direct relation between health symptom severity/frequency and benefit-provisioning acts, a significant indirect effect was supported between these variables through romantic jealousy. Results point to the importance of perceptions of physical health status in impacting mating tactics and strategies among humans.

Shape up or get out: The threat of social exclusion as a behavior modification tool

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Group living provides numerous benefits but also potentially imposes costs, including free riding, cheating, and other behaviors that disrupt group functioning. How do groups manage individuals who impose such costs? Social psychological research has tended to focus on social exclusion—kicking these individuals out of our groups. But group members are valuable, so immediately removing them is costly. Research from an evolutionary perspective has tended to focus on punishment—especially removing economic resources from these individuals. But directly punishing or even scolding has costs as well—punished members may become defensive or reciprocate punishment. To manage the potential costs of actual punishment and exclusion, group members may more typically threaten exclusion in subtle, indirect ways in an attempt to induce behavior reform and thereby gain future benefits without assuming the initial costs of punishment or exclusion. Preliminary qualitative evidence (N=311) suggests that a) people use indirect behaviors to threaten exclusion and b) people—especially women—are able to detect these threats of exclusion. Ongoing studies assess the behaviors people use to threaten disruptive group members, and the extent to which these behaviors are identified as such by targets and thereby lead them to alter their behaviors to become more prosocial.

Object clusters or energy? Manipulating phase and amplitude spectra to determine visual discomfort in trypophobic images

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Trypophobia refers to the visual discomfort experienced by some people when viewing small clusters of holes or similar objects. Trypophobic images deviate from the commonly observed $1/f$ amplitude spectra characterizing natural images by containing excess energy at mid-range spatial frequencies (e.g., 1 to 8 cycles per degree), and adaptive interpretations of Trypophobia have been proposed regarding detection of poisonous animals and infectious diseases. Recent work provides partial support for the idea of excess energy causing visual discomfort in trypophobic images, but a full manipulation of image phase and amplitude spectra has yet to be conducted. Here, we independently manipulated the phase and amplitude spectra of 31 Trypophobic images using standard Fourier analysis. Observers rated both the original and manipulated images (phase-scrambled and/or amplitude spectrum shaped to $1/f$) for levels of visual discomfort. Images with original phase spectra (with either original or $1/f$ amplitude)

produced the greatest discomfort. However, images with their original amplitude spectrum and randomized phase were rated lower in discomfort, comparable to 1/f noise images. We conclude that the phase spectrum of the image, which determines the pattern of small clusters of objects, plays a much larger role than the amplitude spectrum in causing visual discomfort.

A virtual reality foraging study

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Our previous research suggests that the hot hand phenomenon, a tendency to perceive illusory streaks of clumps in sequences and grids, is a human universal tied to humans' evolutionary history of foraging. In past experiments, we showed that the hot hand phenomenon helps to explain the difficulty people have in reasoning about randomness in situations like gambling and games of hide and seek. In this new study, we examine the behavior and decision strategies made by humans in simulated foraging scenarios. By having participants search for carrots in a virtual reality environment, we will gain insight into how people decide where to search and when they give up searching at a local site. Recorded time and movement data will allow us to capture search patterns when foraging for resources in different statistical patterns as well as what changes in search tactics occur when participants respond to the presence and absence of resources. Baseline cognitive tasks such as the Vandenberg Mental Rotation Task and the Money Road Map Test will be administered to account for variation in cognitive ability.

Factors influencing children's cooperative decision-making in a social dilemma

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Human cooperation is characterized by social dilemmas, situations in which self and group interests are in conflict. While work with adults has advanced our knowledge of human cooperation, little is known about how children solve social dilemmas. We present a series of studies on children's decision-making in the Prisoner's Dilemma Game (PDG), focusing on three socially relevant factors that we hypothesized would promote cooperation in the game. In our first study, children communicated their intended decision prior to their actual choice, compared with a version in which they could not. In a second ongoing study, children play with in-group as opposed to out-group members. In a third study, we investigated how selecting a fair or unfair partner

influenced children's behavior in the PDG. Our findings suggest that communication does not increase cooperation, nor does choosing to play with a fair partner. However, preliminary findings from Study 2 suggest that children are more likely to cooperate with in- than out-group partners. Taken together, this set of studies marks an important step towards understanding how children solve cooperative problems in socially relevant contexts and, by extension, sheds important light on the developmental origins of cooperative decision-making.

Laughter as an honest signal of group affiliation

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Laughter is an enduring and universal human behavior. However, there is not yet a consensus regarding its function. Among the ultimate explanations of laughter exist two recurrent ideas. The first is that laughter is a signal. The second is that the transmission of this signal can facilitate prosocial behavior in receivers. Here, we test both ideas. Participants viewed a brief video clip of a confederate responding to a joke told at the expense of an opposing group (Experiment 1) or of an allied group (Experiment 2) with either a neutral expression or laughter. Participants then decided whether to cooperate with the confederate in an incentivized sender-receiver game. In Experiment 1, participants were more likely to cooperate in response to the laughing clip in comparison to the neutral clip. In contrast, Experiment 2 found that participants were less likely to cooperate in response to the laughing clip in comparison to the neutral clip. Taken together, these findings suggest that laughter directed toward an opposing group may signal an affiliation with an allied group. Additionally, the lack of laughter directed towards an allied group may signal an affiliation with that group. These context-specific effects suggest laughter may function to signal group affiliation.

Sociosexuality and infidelity in the big five model: Relationships to domains and aspects

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The Sociosexual Orientation Inventory (SOI; Simpson & Gangestad, 1991; Kardum, Gračanin & Hudek-Knežević, 2006) was developed to assess a willingness to engage in casual sex with the revised version forming 9-items which parse into three factors: attitudes, behavior, and desire; Penske & Asendorf, 2008). We also included the Intentions Toward Infidelity Scale (Jones, Olderbak, & Figuerdo, 2011). Infidelity and sociosexuality, both of which indicate the use of short-term mating practices and are consistent with a fast life history, can foster instability in monogamous relationships and

lead to divorce. Previous findings by Moore, Brosius, and Ross (2017) indicate moderately strong relationships for the Dark Triad traits with sociosexuality and infidelity. In a sample of 268 participants, we examined the contribution of Big Five domains and aspects to sociosexuality and infidelity. Overall, findings emphasize generally robust relationships between sociosexuality and infidelity with Big Five Agreeableness and Conscientiousness domains, both negatively. BFAS Compassion and Politeness were most negatively correlated sociosexuality. Infidelity, specifically, was most negatively related to BFAS Compassion ($r = -.47$) and Politeness ($r = -.24$). These findings further add validity to the construct of sociosexuality as well as the 10 mid-level BFAS dimensions within an evolutionary context.

A functional perspective on everyday sadism

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Everyday sadism predicts aggressive behavior independently of the effects of the Dark Triad of personality. It is, however, a poorly operationalized personality trait with no field-wide consensus on measurement. Additionally, it has yet to be examined from an explicitly evolutionary or functional perspective. With the goal of reaching a meaningful understanding of everyday sadism (i.e. its etiology, function, and social consequences) I suggest a functional hypothesis consistent with its known behavioral correlates. I conceptualize everyday sadism as one manifestation of aggression enjoyment and propose a second manifestation I call “prosocial sadism”. I developed and tested a novel scale, the Prosocial Aggression Motivation Scale (PAMS), and corresponding vignette measures for this scale and the Short Sadistic Impulse Scale (SSIS) to determine to what extent these purported types of sadism differ. I then compared relationships between sadism types and social motivational variables dominance striving and prestige striving. These analyses provide preliminary evidence in support of my hypothesis that the enjoyment of aggression promotes social status attainment, and that it does so through different means in different social contexts. More specifically, they suggest that everyday sadism is more positively associated with dominance striving than prestige striving, and vice versa for prosocial sadism.

Links:

<https://aspredicted.org/gv6sa.pdf>

Managing costly generalisation errors: the food and danger domains

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Cognitive systems appear designed to minimize costly errors, and these findings have been used to explain learning and decision-making biases for evolutionarily

relevant domains such as food and danger. Due to asymmetries in the cost of generalisation errors in these domains— overgeneralising edibility may result in more costly mistakes than undergeneralising—there may also be bias in generalisation. Specifically, we predict humans will overgeneralise danger information and undergeneralise edibility information. The present study tests this prediction in 4- to 6-year-olds and adults by comparing generalisation rates across three different information conditions: danger, edibility, and a neutral control (e.g., ‘grows in summer’). Participants are shown an image of one fruit and told it has a property (e.g., Papaya = edible), and another that does not (e.g., Snakefruit = not edible). They are then shown a morph of the two fruit images, taken from a sequence transforming one fruit into the other, and asked if this morph has the property. This procedure is repeated with four different fruit pairs, and the five different stages of morph within each pair. The number of items from the morph sequences that participants identify as having the target feature is the measure of generalisation.

Reputation of punishment according to group conditions

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If a punisher can benefit from his actions rather than the cost of the punishment, the punishment can evolve along with individual selection. The results of prior experimental studies that measure cooperative punisher' benefits as voluntary, favorable behavior toward the punisher often show contrasting results. Therefore, in this study, we are going to set up public goods games with options for punishment in one-time and long-term groups to see if people change their behavior in short-term and long-term groups, especially if the pattern of interaction with the cooperative punishers is altered. We will also divide the way people interact with the punishers into dictator games and ultimatum games to identify voluntary and non-voluntary favors. The hypothesis that we want to verify in this experiment is that the cooperative punisher is more likely to receive involuntary favors (a more generous distribution in the UG) in interactions with other members, voluntary favors (a more generous distribution in the DG) in recurring conditions, and lastly, in the context of group competition, the punisher is preferred as a group leader. This study will show that the punishment of free-riders can result in benefits and, therefore, can evolve along with individual selection.

Spontaneous attention and psycho-physiological responses to others' injury and pain in chimpanzees

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Humans tend to experience negative emotions, i.e. empathic pain, when seeing contextual cues of others' pain such as injury, even without seeing behavioral expressions of distress. We tested six chimpanzees (*Pan troglodytes*) to explore experimentally their reactions to others' injury and pain. First, we used eye-tracking to examine if they spontaneously attend to injured conspecifics more strongly than non-injured ones. We confirmed that they did so, and that this was independent of the conspicuous color of injury. Second, we used thermal-imaging to investigate chimpanzees' psycho-physiological responses to others' injury; specifically, we measured drop in nasal skin temperature as a signature of arousal with negative valence. We presented chimpanzees an injury in real-life: a familiar human experimenter with a makeup of a scar and running blood. Chimpanzees, especially adult females, exhibited larger temperature drops in response to the injury than to the control stimulus. Finally, we presented a familiar experimenter stubbing a (fake) thumb with a needle without running blood. Chimpanzees did not physiologically distinguish this stimulus from the control. These results suggest that chimpanzees can infer the cause of pain from contextual cues, although they have some difficulty in understanding situations without explicit cues such as blood.

~~Prevalence of HIV and disease predict legal eradication of same-sex sexual behavior cross-culturally [cancelled]~~

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The salience of disease should increase desires to avoid contamination and stop disease-spreading behaviors. Given gay and bisexual men's stereotypical association with disease, we wondered whether disease prevalence (here, operationalized as historical indicators of disease prevalence and HIV prevalence) predicted the existence of laws banning same-sex sexual activity cross-culturally. We coded country-level disease prevalence from Murray & Schaller's (2010) historical indicators of nine diseases (leishmaniasis, schistosomes, filariae, leprosy, malaria, trypanosomes, typhus, dengue, and tuberculosis). We also coded country-level adult HIV prevalence from the CIA World Factbook 2016 HIV. We then coded the prevalence of laws prohibiting same-sex activity for each country (no laws: $n = 121$; laws: $n = 72$; ILGA, 2016). To test predictions, we conducted two logistical regression analyses predicting likelihood of laws banning same-sex sexual activity from disease and HIV prevalence. Both predicted an increased probability of having laws banning same-sex sexual activity

(disease prevalence: $b = 1.46$, $p < .001$; HIV prevalence: $b = .10$, $p = .033$). This suggests that the salience of disease avoidance mechanisms engage an eradication response toward individuals perceived to pose disease threats, vis-à-vis laws prohibiting same-sex sexual behavior.

Gender, sexual desire and testosterone – A pilot ecological momentary assessment study of the associations of gender, strength of sexual desire and testosterone

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In the current literature, studies repeatedly show that men report a higher strength of sexual desire than women while testosterone is assumed to be paramount for experiencing sexual desire. However, most studies use questionnaire and interview settings that are susceptible to bias and do not address the contextual nature of sexual desire. Therefore, this pilot study used ecological momentary assessment (EMA) to test whether men report a higher strength of sexual desire than women, whether testosterone is associated to the strength of sexual desire and whether women and men differ in their testosterone-desire associations in a naturalistic setting. Participants ($N = 20$) were young and healthy university students that underwent seven time-based measurements and additional event-based measurements in case of sexual activity for 14 days. Analyses with hierarchical linear modelling could not support any of the stated hypotheses. Women and men showed no significant differences in their reports of strength of sexual desire and testosterone showed neither a relevant, significant association with sexual desire nor was it higher in women or men. Results are discussed considering possible explanations but also challenging the current understanding of the associations of gender, strength of sexual desire and testosterone.

Behavioral dynamics in romantic jealousy and friendship rivalry

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The present study tested whether different psychological mechanisms are defending threats to romantic relationships and close friendships using a scenario consisting of four stages. Stages 1 to 3 increased the threat to a romantic relationship or same-sex friendship posed by a potential rival. Stage 4 provided a happy ending to the scenario to reduce the potential emotional distress caused at the preceding stages. After each stage, participants had to rate their behavior towards the rival and the

romantic partner/best friend on 11-point rating scales ranging from -5 (very aggressive) to +5 (very friendly). Increasing the relationship threat from Stage 1 to Stage 3 increased aggressive behavior in the romantic relationship condition. In the friendship condition, friendly behavior decreased from Stage 1 to Stage 3 without reaching aggressive levels. Additionally, the happy ending at Stage 4 caused a more pronounced behavioral change towards friendly behavior in the romantic relationship condition. Contrary to our prediction, in the romantic relationship condition, men did not differentiate between aggressive behavior directed at the partner and the rival, whereas women reported more aggressive behavior towards the partner than the rival. Men and women in the friendship condition failed to differentiate between rival- and friend-directed behavior.

Perception of facial attractiveness requires some attentional resources from women, but not from men.

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The perception and processing of physical attractiveness is often seen as an evolutionary adaptation. One criterion for an adaptation is automaticity, i.e. a process is automatic (and capacity-free) if it operates independent of attentional resources. In this sense, capacity-free means that there is no requirement of attentional resources and the processing of one stimulus do not suffer from the resource allocation of other processed stimuli that need attentional resources. However, it remains unclear, whether the perception of facial attractiveness is indeed capacity-free for women and men (as participants) judging women and men (as targets). We used locus-of-slack logic in a dual-task psychological refractory period paradigm. Task 1 was a speeded judgment of tone pitch (low vs. high), and Task 2 was a speeded judgment of whether a face was attractive or unattractive on two difficulty levels. In two studies (N = 159) male and female participants judged the attractiveness of opposite-sex (Study 1) or same-sex (Study 2) targets in this paradigm. Results indicate, that women need attentional resources to perceive attractiveness, but men not. The findings are discussed through an evolutionary adaptation perspective and mating strategy theory.

The psychometric evaluation of the intrasexual competition scale

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The Intrasexual Competition Scale (ICS) measures intrasexual competition as an attitude. This attitude concerns the extent to which individuals view contact with same-sex others in competitive terms. Although this measure is frequently used in studies

investigating individual differences in mating behavior, to the authors' knowledge the factor structure of the ICS has never been validated using confirmatory factor analysis (CFA). Moreover, no study has used multiple group confirmatory factor analysis to test for item equivalence between the sexes. In Study 1, we report the results of an exploratory factor analysis conducted on participants' responses to the 12 items of the ICS. In Study 2, we conducted CFAs on an independent sample of men and women. A two-factor solution yielded the best fit, replicating Study 1. The two factors reflected respondents' feelings of frustration when intrasexual competitors are better than they are, and respondents' enjoyment of being better than intrasexual competitors. Partial measurement invariance held across the sexes. In Study 3, we tested the concurrent validity of the ICS via its associations with constructs such as sociosexual orientation, mating effort, and respondents' sexual behavior. Results suggest that the ICS is a valid measure of individuals' attitude towards intrasexual competition.

Say What?! The effects of fertility and speech content on men's hormonal responses to women's voices.

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Previous research has demonstrated that during ovulation women's voices elicit physiological (Shoup-Knox & Pipitone, 2015) and hormonal (Ostrander, Pipitone & Shoup-Knox, 2018) effects among listeners. These and other studies used neutral statements to demonstrate differential responding to fertile versus non-fertile voices. The current study examined the effects of statement content by recording voices from 26 women at ovulation (confirmed by LH testing) who returned during their late luteal phase. In both sessions the women were recorded making three statements: accepting a hypothetical date, rejecting a hypothetical date, or a neutral statement. Males then listened to each recording, blocked by statement and cycle phase (e.g.: Block 1 contained all 26 recordings of ovulating women accepting a date.) Block presentation was counterbalanced across participants. At baseline and approximately 10 minutes following each block, a saliva sample was collected and later analyzed for testosterone and cortisol. Results showed elevated testosterone in response to blocks containing ovulating women's voices compared to luteal phase voices or baseline measures of testosterone. In contrast, cortisol showed a significant decrease from baseline and no differences based on cycle phase of the voice. Surprisingly, statement content effected ratings of attractiveness of each voice, but not hormonal response.

It's more than a preference for hierarchy: A life-history reinterpretation of social dominance orientation as strategy for exploitation.

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The dual process model of ideology explains political conservatism as reflecting the correlated (but distinct) processes of Right Wing Authoritarianism (RWA) and Social Dominance Orientation (SDO). Recent research drawing on life-history theory suggests these are respectively “slow” and “fast” strategies (Sinn & Hayes, 2018). Furthermore, research on leadership preferences shows SDO predicts a preference for passive, cold-hearted leaders (Sinn, 2018). Together, these results suggest that the standard interpretation of SDO as a general preference for hierarchical relations may be missing a more specific (and darker) strategy seeking exploitation opportunities. If correct, SDO should predict a preference for dark, unethical leaders willing to tolerate exploitation. As expected, the present study (n = 255) shows that SDO predicts a preference for leaders with dark personalities (i.e., higher in Machiavellianism, psychopathy, and sadism), who embrace dark tactics (e.g., deception and dishonesty), and who strongly oppose ethical restrictions (e.g., procedural justice and the ethical guidance of subordinates). These results suggest the typical interpretation of SDO as a preference for hierarchy is inadequate, missing its fundamental nature as an exploitation strategy. More broadly, the results demonstrate the ability of evolutionary theory to refine and sharpen theories of political ideology.

Selective malleability in personality traits

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Personality traits are considered to be constant over time and situations. However, as observed in this experiment, many personality traits are very malleable as a result of exposure to certain stimuli. The purpose of the present study was to assess the potential of certain images and auditory backgrounds to influence compassionate behaviors in individuals. Three different PowerPoint slide shows, each with its own accompanying auditory background, were created to comprise three different groups. The three categories of stimuli were labeled the Inspirational, Despairing and Neutral Control groups. A total of 311 undergraduate students were randomly assigned to one of the three different groups. While the slides were continuously playing through a loop, the participants completed the HEXACO personality inventory. Analysis of the resulting data revealed that three of the six personality factors differed significantly as a function of the media exposure associated with the group. As put forth by the evolutionary theory of environmental contingency, personality traits fluctuate depending on the environment, in this case the media images. The pattern of responding suggests that the personality traits adjust in such a way as to increase the probability of survival.

The emergence of evolutionary psychiatry: Resistance to incorporating evolutionary science into psychiatry.

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We now have a critical mass of knowledge in psychiatry, neuroscience, biological anthropology, biochemistry and genomics to where we can combine them in a multi-disciplinary way to yield clinically and theoretically useful modern psychiatry, as well as the modern "Science of the Mind". But we do not have a critical mass of cross-trained practitioners. The dynamic balance between specialization and generalization continues. The American Psychiatric Association and organized psychiatry have much more resistance to incorporating evolutionary thinking than is generally appreciated. I will review the history of this, present data from interviews, and analyze it in terms of the intertwined effects of conscious, unconscious, and institutional resistance. I am a board-certified psychiatrist, have a Ph.D. in biochemistry, and am a member of HBES.

Perceptions of sexual orientation from facial cues: Testing the accuracy of categorization in different distributions

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Previous research suggests that people can accurately identify a person's sexual orientation from facial cues alone. However, many of these studies have relied on images collected from various online sources that may contain other contextual cues to sexual orientation. Additionally, heterosexual and homosexual individuals are typically presented using a 50/50 distribution, which does not accurately reflect the real-world distribution of faces we encounter. The current study aims to investigate whether people are more accurate at identifying sexual orientation from facial cues when the distribution of images presented more accurately reflects the real world distribution of straight and gay faces. Standardized face images of gay and straight men were collected in the Czech Republic. Participants completed a 2AFC task whereby they reported the perceived sexual orientation of the person pictured. They were randomly assigned to complete this task with either a 50/50 or 7/93 gay/straight presentation condition. Data collection is underway, however, we hypothesize that a by-participant analysis will show that accuracy will be greater in the 50/50 condition compared to the 7/93 condition. Facial images have also been analyzed for morphometric differences using PCA. We will run by-face analyses to determine if morphological differences affect perceived sexual orientation.

~~Measuring mental state talk across languages~~ [cancelled]

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Mindreading has been suggested to be a human universal. Given the strategic importance of mindreading in social interactions, there are reasons to suspect that natural selection has shaped this to be a reliably developing ability. However, even with substantial shared underlying competence, there may be variation in how theory of mind is actually deployed across individuals and cultures. One potential area of variation lies in how people talk about the mind: linguistic anthropologists have suggested that there is cultural variation in explicit talk about the mind, and developmental psychology research shows large differences in performance between verbal and non-verbal mindreading tasks. To assess variation in spontaneous talk about the mind across cultures, an elicited narration task was designed wherein Achuar speakers from Amazonian Ecuador and English speakers from the United States were asked to describe a set of video stimuli of human social interactions. These stimuli were designed to be minimally culture-laden, interpretable without audio, and of similar cross-cultural interest in virtue of their fitness-relevant content. Initial analyses of similarities and differences in talk about the mind across these languages are presented, focusing in particular on frequencies and types of mental state terms across different types of social interaction.

Psychological pain and life history: Examining predictors of postpartum depression in the National Health and Nutrition Examination Survey (NHANES)

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Parental psychology has been shaped by natural selection. One model, the Psychological Pain Hypothesis (PPH) theorizes that mechanisms have evolved that function to detect signals relating to the investment risk in a given reproductive scenario and cue parents to either 1) alter their investment or 2) bargain for additional investment from social partners (Hagen, 1999; 2002). The purpose of this study was to examine relationships implicated by the PPH between factors including parity, age, health and socioeconomic risk factors, and postpartum depression (PPD). The study utilized publicly available data collected for the National Health and Nutrition Examination Survey (NHANES) from 2005–2016. Data from 2005–2008 were used for exploratory analyses, and promising models were then tested in confirmatory analyses using data from 2009–2016. Results supported previous literature that indicates poverty, unpartnered status, illness, and disability are risk factors for PPD. The study also produced mixed evidence that parity interacts with risk factors to increase the risk of

PPD. Finally, the study showed no difference of the effect of these risk factors on depression during the postpartum period versus at other times for reproductive-aged women (20–44), supporting the use of PPD as a model for general depression.

The optics of fairness: When do we punish friends and forgive the trespasses of enemies?

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Efforts to appear fair might actually lead us to act unfairly. For example, when workplace decisions are public, we are more likely allocate bonuses to mere colleagues over deserving friends, presumably to avoid the appearance of partiality (Shaw, Choshen-Hillel, & Caruso, 2018). Here, we investigate whether concerns with appearing fair might also drive biased condemnation—causing us to punish the trespasses of friends and forgive those of rivals. In Experiment 1, participants publicly or privately fired one of two technicians at their start-up, choosing between a friend and a mere colleague (friend condition) or between a rival and a mere colleague (rival condition). People chose to fire their friends more frequently when decisions were public (50%) than private (30%), and chose to fire their rivals less frequently when decisions were public (45%) than private (85%). In a planned second experiment (pre-registered: osf.io/bx2wm/), participants read about workplace friends, rivals, or mere colleagues pilfering company property and make a public or private decision about how severely to punish that target. Results further explore whether our concerns about fairness optics can influence the fairness of our actual behavior, with implications for the functions of moral phenomena.

A Korean sample of perceptions of sex differences in deception

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Perceptions about which sex engages in more deception or is more skilled at deception can have nuanced but pervasive effects on social interactions. Yet little is known about such perceptions. Hence, a Korean sample of 197 student and non-student participants (91 males; 106 females), ages 19–58, completed a 12-item online survey for modest monetary compensation regarding beliefs about sex differences in deception. Neither women nor men perceived a difference regarding which sex tells more white lies. Women reported that men tell a greater number of serious lies whereas men reported no difference. Both sexes reported that: (1) women are better at deception, (2) women are more likely to lie about weight and age, and (3) men are more likely to lie about height, income, and sexual infidelity. Women reported that men are

more likely to lie about emotional infidelity whereas as men reported no difference. Results are explained as a function of the different challenges to reproduction that women versus men faced during the ancestral past.

Attachment style and reproductive strategy of the nerd and jock

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In two studies, we sought to explore whether high school labels such as “nerd” and “jock” represent different life history strategies. It was hypothesized that self-identified nerds would seek to maximize future reproductive success while the jock strategy would be aimed at maximizing current reproductive success. Study 1 utilized a mixed student/community sample from a small town (n=312, average age=31). Contrary to stereotypes, identifying as a nerd predicted a lower income and was not associated with a future orientation towards reproduction, although it was negatively associated with number of offspring. The jock label was related to a more secure attachment style, higher income, and higher perceived dominance. Study 2 employed a sample from a larger urban area (n=111, average age=26.67) and obtained similar findings. Specifically, the nerd label was negatively correlated with number of children, whereas so-called jocks had more romantic relationships, more secure attachment styles and higher dominance. We obtained partial support for Belsky’s theory of life history and attachment as the pre-occupied style was negatively correlated with number of children, parental investment, and age. Also, in line with the theory, the dismissing attachment style was related to more permissive attitudes in regards to casual sex.

~~Defeat, victory, and acceptance in relation to life satisfaction, psychopathology, and attachment~~

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From an evolutionary perspective, the experience of defeat and victory may be particularly important in determining life satisfaction and psychopathology. In line with social rank theory, we also posit that the ability to accept defeat has major implications for anxiety and depression. In Study 1, a sample of undergraduate students completed the Defeat, Victory, and Acceptance Scale (DVAS), along with measures of life satisfaction, anxiety, perceived stress, and life events. Defeat was associated with greater anxiety and stress, and lower life satisfaction. Defeat/victory emerged as a significant predictor of these outcomes, over and above a commonly used life events measure. Over two weeks, defeat/victory predicted changes in life satisfaction, perceived stress, and anxiety. Study 2 investigated the relationship between

acceptance of defeat and attachment style. Securely attached individuals accepted defeat to a greater extent and were less likely to experience involuntary subordination and depression. Those with a fearful attachment style were less able to accept defeat and were more likely to experience involuntary subordination and depression. The studies demonstrated that rather than focusing solely on perceived stress in relation to life events, future research may benefit from taking into account defeat (and its acceptance) as well as victory.

Ethnobotanical knowledge encoded in Wichi oral tradition

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Quantitative research shows that foragers depend heavily on social learning to acquire practical skills and knowledge, but the means of transmission are poorly understood. For example, many foraging peoples utilize hundreds of plant species--which demands extensive knowledge of growth habits, properties, and applications--but how they acquire this knowledge is largely unknown. Tellingly, stories about plants occur across forager oral tradition, and indigenous informants identify storytelling as an important means of knowledge acquisition. If stories transmit ethnobotanical knowledge, they should contain information useful for identifying, predicting availability of, locating, harvesting, and processing important plant resources. We tested this prediction using a collection of traditional narratives recorded among the Wichi of the Bolivian Gran Chaco. The collection was searched for stories about wild plants, yielding a sample of 43 narratives. Stories were then analyzed for information about plant characteristics, habitat, distribution, management, processing, timing, and uses, as well as associated ecological cues and prescriptions/proscriptions. Data was checked against the ethnographic record to ascertain whether the botanical information in the stories corresponded to documented practices. Results indicate that Wichi oral tradition encodes practical botanical knowledge and that, by implication, storytelling is a form of social learning in humans.

The effects of perceived partner orgasm on male self-esteem

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Men who are more satisfied and invested in their long-term romantic relationship report greater interest in their partner's orgasm (McKibbin et al., 2010). In this research, we explore the relationship between men's self-esteem and men's reports of their long-

term romantic partner's orgasm. In Study 1, men that reported a greater likelihood of their partner's orgasm at the couple's most recent copulation also reported higher self-esteem. In the context of a long-term relationship, mate value discrepancy affects perceptions of relationship stability and influences mate retention behaviors (Sela et al., 2017). In Study 2, we replicate Study 1 and test the additional hypothesis that mate value discrepancy moderates the relationship between partner's orgasm and men's self-esteem. Study 2 controls for several confounding variables, including relationship length and relationship satisfaction.

Parent-offspring conflict and bargaining in adolescence and young adulthood among the Chon Chuuk

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The interests of parents and offspring do not completely overlap (parent-offspring conflict). The literature on parent-offspring conflict focuses on conflicts in the early development when parental investment is high (e.g., pregnancy trade-offs and the weaning period). However, humans have a long period of juvenile dependence relative to non-human primates, and parents continue to invest in adult offspring, including arranging marriages and grandparental care. This study investigated the causes of parent-offspring conflict among the Chon Chuuk Pacific Islanders. I conducted retrospective interviews with Chon Chuuk (n=60) concerning conflicts with their parents during adolescence and/or young adulthood. The interviews were coded, producing binary data (presence/absence) on conflict causes, resolution strategies, and outcome. Reported conflict causes were heterogeneous ranging from mild conflicts concerning social investment and time allocation (e.g., spending time with peers vs. kin) to serious conflicts concerning mate choice (e.g., forced or thwarted marriage). Bargaining strategies ranged in severity from verbal protests to running away from home and physical assault. PCA results indicated that aggressive (e.g., yelling) and withholding (e.g., avoidance) behaviors in offspring were associated with the conflict resolving in the offspring's favor, and submission was associated with the conflict resolving in the parents' favor.

The potential adaptive significance of premenstrual syndrome

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The potential adaptive value of the premenstrual syndrome (PMS) is still poorly understood. The available hypotheses suggest that PMS can have a function of

increasing male investment. That can lead to a conclusion that the intensity of PMS could be related to the level of relationship satisfaction and the frequency of hostile behaviors towards a romantic partner. These assumptions define an objective for the present analysis. Our study group consisted of healthy Polish women (N=134) aged 19-38 (23±4 years), involved in romantic relationships (13±11 months long). We measured their PMS intensity, relationship assessment, and partner-controlling behaviors. It turned out the greater PMS intensity, the lower the satisfaction from the current relationship. Additionally, the positive association of PMS intensity and controlling behaviors was found regarding the overall result, as well as two sub-scales of the questionnaire reflecting intimidating control and economic control. No statistically significant relationship for the remaining sub-scales was found. The results showing that PMS intensity may be linked to the level of relationship satisfaction and the frequency of some controlling behaviors suggest that PMS may be adaptive. However, in order to understand the evolutionary mechanism behind the potential adaptiveness of PMS further research is warranted.

Shame is in the eye audience: An investigation of the mechanisms of social shame

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The Information Threat Theory posits that shame is an adaptation motivated to limit the leak and spread of reputation-damaging information and reconcile with others should such information become public. We will run a series of experiments to test this. First, we will perform a pilot study on MTurk (n = 410) wherein four social scenarios will be tested for their ability to elicit shame, measured as self-reported difference in shame between control and experimental conditions. The two scenarios that perform best will then be used in Study 1, where MTurk participants (n = 100) will be randomly presented one experimental scenario and one control scenario. We expect to find greater self-reported shame within-subjects in response to the experimental condition. Study 2 will be performed in-lab (n = 55) with the same methodology as Study 1 in addition to an eye tracking component. We hypothesize that participants will look to the audience in the stimuli to gauge potential for devaluation in the scenario, thus fixation count on the eyes of the audience should be positively correlated with self-reported shame. This research will investigate the role of an audience in eliciting shame and explore proximate mechanisms of feeling shameful using eye-tracking.

Sex ratio correlates with both male and female suicide rates across US counties

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Sex ratio has been linked to a variety of behaviors, such as mating effort, marriage stability, violence, and health outcomes, including sexually transmitted disease rates and depression. In this research, we examine the association of sex ratio and suicide rates across counties in the United States. Given previous research, we predicted that when sex ratios are more male-biased, we would see higher male suicide rates, and when sex ratios are more female-biased, we would observe higher female suicide rates. Using data from 1996-2016 from the CDC and controlling for mean unemployment, percent of individuals identifying as white, percent of individuals identifying as Native American, population size, and percent of veterans, we found that male-biased sex ratios are associated with reduced male suicide rates and, at the same time, higher female suicide rates. Future research should explore the mechanisms by which sex ratio is correlated with suicide rates.

Life history theory, dark triad, infidelity perception and sexual coercion in Chilean men.

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Sexual Coercion is any verbal or physical method to obtain non-consensual sexual activity from a partner. There are individual differences in the propensity to use this strategy, and the literature evidences associations between sexual coercion and personality variables, such as: a fast life strategy, dark personality triad, and suspicions of infidelity, indicating that a coercive strategy could be used to access mating resources. The aim of this research is to associate these personality variables with sexual coercion, and determining which would be the best predictors of this strategy in Chilean men. A sample of 322 men participated in the study, and answered four questionnaires: Mini K, Short Dark Triad, infidelity perception questionnaire and SCIRS. Results of correlations and hierarchical multiple regression analyses yielded Psychopathy, a fast life strategy, and suspecting infidelity as the best predictors of sexual coercion, explaining a full 33% of the variance. We discuss Psychopathy as the only profile of the dark personality triad explaining the use of a sexually coercive strategy in Chilean men.

Gratitude and the formation and maintenance of friendships

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Previous findings suggest that gratitude signals benefit reception and the intent to engage in a cooperative relationship. We propose that the evolved function of gratitude is to motivate the formation and strengthening of mutually beneficial relationships by signaling to another individual that he or she is valued, and that this plays a key role in all types of mutually beneficial relationships in humans. In the present study, we measured experiences of gratitude over a time of social transition (people's first semester of college) to test the role of gratitude in friendship formation and maintenance. 111 undergraduates listed and ranked their four closest friends, and reported on their closeness, commitment, and their welfare-tradeoff ratios (WTRs) toward each friend. Participants repeated this process approximately every two weeks over the course of the semester (up to five times), including a re-ranking of their friend list with the option of adding a new friend and subtracting an old one. Additionally, participants reported on their experiences of gratitude toward each of their friends since their last report. Here we discuss the roles that gratitude and changes in WTR played in friendship rankings, new friendship formation, and self-reported closeness and commitment toward friends.

Life history strategies and problematic use of video social network: The mediating role of time perspective and sensation seeking

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Given the booming development of video social networks, like Tik Tok and Musical.ly, problematic use online video social platform raises new concerns. The present study will take a life history (LH) approach to examine the additive use of Tik Tok that has 250 million daily active users in China. Fast LH has been linked with present time orientation, hedonistic pursuit, and sensation seeking. We therefore test the hypothesis that fast LH is associated with addiction to hedonistic and thrilling contents of Tik Tok and this relationship is mediated by present time perspectives and sensation seeking. The hypothesis will be tested based on 800 Tik Tok users recruited from an online survey. The measurement of problematic use of Tik Tok was adapted from the criteria of Internet gaming disorder in the DSM-5 (American Psychiatric Association, 2013). Fast LH will be measured by the K-SF-42 (Figuerredo et al., 2017). Participants will also answer the Consideration of Future Consequences Scale (Strathman, Gleicher, Boninger, & Edwards, 1994) and the Brief Sensation Seeking

Scale (Hoyle, Stephenson, Palmgreen, Lorch, & Donohew, 2002). The present study is now at the data collecting stage. We will present results by the time of the conference.

How trust emerges and changes within social groups: A study of naturalistic, longitudinal teams

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Developing trust is essential to maintaining cooperative relationships. It is well-established that trust promotes successful initiation, investment, and preservation of individual and group functioning. Less established, however, are the ways in which ingroup trust emerges and develops over time. Although the extant literature using behavioral measures of trust informs how trust decisions are made in dyadic interactions with anonymous strangers, little is known about trust dynamics within existing social groups. The aim of present study is to deepen the understanding of changes in trust trajectories at the individual and group levels in a naturalistic setting. Students (total N=235, 65.53% female) enrolled in a 16-week long research methods course at a North American university were randomly assigned to 64 mixed-gender project groups (with 3-5 members). Trust was measured at 4 time points—using a combination of behavioral economics as well as self- and peer-report measures of trust—to capture its emergence and change across time. By tracking how trust develops and is maintained longitudinally, the present research contributes to our understanding of the psychological foundations of trust in ecologically relevant social ties.

Potential cultural evolution of collective archetypal identities in 4 cities in China

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A 2018 research pilot assessed the archetypal associations of Beijing as a place brand by both tourists and residents (total n=340). This used a peer-reviewed archetype testing instrument (SCADAM) applying a Western Jungian model of analysis to Eastern cultural models. This further sought to assess archetypes potential universalism as a theoretical construct of analysis. This work has now been extended in two ways. In March / April 19, research completes in four cities (total n=1200) of Beijing, Shanghai, Xian and Guangzhou: the centres of power, trade, culture and manufacturing technology. Secondly, the questionnaire extends to social norms using a tight: loose framework compared with secondary measures of historical influence e.g. Shanghai's export / import trading role vs Xian internal orientation and novel measures of local regulatory compliance. Although work has been done in China in aggregate, this research seeks to capture the local nuances of how behaviour is bounded by different

city based social norms in which varying archetypal personalities might be collectively expressed. This research adds conceptual depth as the first such research to seek a link between longitudinal cultural evolutionary forces, the variance of local social norms and varying reflexive narrative identities by inhabitants.

Links:

https://www.researchgate.net/publication/331287873_Contemporary_evidence_for_the_Jungian_Collective_Consciousness_Submission_to_Cambridge_Jungian_Society

Fluid women gaze longer at the breasts of nude females

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Investigations of sexual fluidity have consistently found that women are more fluid than men. Several theories have been proposed to explain this sex difference. Two of these suggest that women are sexually fluid, in part, to satisfy male sexual behavior, either by engaging in and enhancing polygynous matings or allowing extra-pair copulations for the men with those women the men's mates select. This suggests that women, in their assessment of the attractiveness of other women, should assess female attractiveness as men do. The current study examined gaze patterns of men and women while looking at nude models of males and females. The findings replicate the common findings that women are more fluid than men and that men gaze at the breasts of nude female models more than other body areas. We also report men who believe that they are more successful at mating gaze more at male chests than less confident men and that heretosexual women do gaze at sexualized body areas of men, specifically the hips and groin. Finally, as hypothesized, more fluid women spend more time gazing at the breasts of nude female models, suggesting a male pattern of attractiveness assessment.

Churchill versus Machiavelli: Are preferences for prestigious over dominant leaders explained by the association of dominance with aggressiveness?

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Leaders are generally thought to be of two kinds, those that are dominant (e.g., physically formidable, forceful) and those that are prestigious (e.g., knowledgeable/skilled, approachable). Although both dominant and prestigious leaders are thought to be effective at solving many (but not all) collective action problems, people tend to prefer prestigious leaders over dominant ones. Why? Dominant traits are predictive of the use of physical aggression in social interactions. Might a preference toward prestigious leaders over dominant ones partially reflect a preference toward low

aggressiveness? Across two studies using undergraduate samples, we find that dominant – but not prestigious – leaders were thought to be aggressive, and to be more likely to act aggressively toward the ingroup (as well as the outgroup) and to exploit the ingroup. These results were also consistent with our finding that female leaders were slightly preferred to male leaders, as dominance and aggressiveness were less strongly associated with female leaders.

Risk taking across evolutionary domains: The relation to monetary costs

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This study explored the relationship between monetary rewards of modern life and the willingness to take risks across a set of evolutionary domains such as within-group competition, between-group competition, environmental exploration, status/power, parental investment, kinship, food selection, food acquisition, mate attraction, and mate retention. 112 participants judged their inclination towards, the benefits, and costs of behaviors like “pay one month’s worth of your sibling’s living costs so that he/she can concentrate on an academic achievement” (kinship). Actual, objective data about the current expected monetary consequences of those behaviors were obtained from various statistical databases in the United States. Results show that participants’ subjective benefits associated with engaging in risky behaviors across domains do not follow the modern-day monetary costs associated with the different behaviors across the evolutionary domains. Rather, risk taking is biased. Also, the perceived benefit of taking a risk, rather than its costs, is related to domain-specific risk taking. Respondents’ inclination to engage in risky behavior risks correlated highly with previously-established domain differences in risk propensities as measured using the Evolutionary Risk Scale. This suggests that domain-differences in human risk seeking can only insufficiently be explained by differences in the monetary rewards across domains.

The role of parents and emotion regulation strategies on stress responsivity and risk-taking behaviors

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The Adaptive Calibration Model indicates that differences in stress responsivity can be influenced by both early life ecology and biological sex, which, in turn, can lead to differences in risk-taking behavior (Ellis et al., 2011). Here, we examine how the relationship between stress responsivity and risk-taking behavior is mediated by life history factors and emotion regulation strategies. Participants (N = 150; 78 male) first

came to the lab between 1230h – 1730h and responded to questionnaires regarding to reported relationship with parents, emotion regulation, and risk-taking behavior. Next, participants were separated into experimental and control groups and given the Trier Social Stress Task (TSST; Kirschbaum et al., 1993). Twenty minutes after the TSST, participants completed the computerized balloon analogue risk-taking task to measure risk-taking behavior. To assess stress responsivity, salivary cortisol samples were collected immediately before and both 20 and 40 minutes after the TSST. Preliminary findings suggest that the relationship between stress responsivity and risk-taking behavior is influenced by suppressive emotion regulation strategies and negative relationships with parents, but that these relationships depend on participant sex.