

ISHE INTERNATIONAL SOCIETY FOR HUMAN ETHOLOGY



Book of Abstracts



Summer Institute Valparaíso & Vienna, 2025

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Organising committee

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Program committee

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Elisabeth Oberzaucher, University of Vienna, Austria
Craig S. Roberts, University of Stirling, UK
Jaroslava Varella Valentova, University of São Paulo, Brazil
Ana Maria Fernandez, University of Santiago, Chile

Book of Abstracts: Kathrin Masuch, University of Vienna, Austria

Welcome Note

Dear ISHE Summer Institute participants,

I would like to cordially welcome you to the meeting.

This year, we continue with our multilocal format – one meeting in Europe (Vienna) and another in South America (Valparaíso). The main aim is to support local students who may not be able to afford overseas travel, and to reduce the carbon footprint associated with extensive flying. The Summer Institute is a student-focused event and therefore differs in both content and structure from traditional conferences.

In Valparaíso, you can look forward to several workshops, covering both general academic skills – such as open science – and more specific ethological techniques, like eye-tracking, to name just a few. These will be complemented by plenary talks from two internationally renowned scientists: Bianca Acevedo from the University of California, Santa Barbara, on human pair-bonding, and Jaroslava Varela Valentova from the University of São Paulo, on appearance modifications. And of course, there will be plenty of student talks and posters to enjoy.

In Vienna, we've taken the workshop concept even further. Upon registration, each participant selected one of three thematic workshops. The goal is to guide you through the research process – from formulating a research question, through designing methods, collecting and analysing data, to preparing findings for publication. Each project is expected to result in a short research paper, which will be submitted to the ISHE journal *Human Ethology*. The practical sessions will be complemented by theoretical talks covering various aspects of conducting research, including ethical considerations, open science practices, data analysis, and scientific writing. These talks are scheduled for the morning hours. And once again, there will be numerous student posters to explore and discuss.

At both locations, the diverse and engaging scientific programme is complemented by a rich social programme. In Valparaíso, this includes a tour of the Concón dunes and a beer tasting tour. In Vienna, you can enjoy sunset yoga, a photo rally, a silent disco, and much more. We hope these activities will help foster networking and lasting friendships. As always at our meetings, all social interactions are expected to take place in a respectful manner, and no offensive behaviour will be tolerated.

All of this has been made possible thanks to the dedicated and tireless efforts of Ana María Fernández, María Barbato Epple and their team in Chile; Lisa Oberzaucher, Kathrin Masuch and their team in Vienna; and the programme committee.

I hope you enjoy the meeting!

Jan Havlíček, Vice Presiden

Code of conduct

The International Society for Human Ethology (ISHE) holds annual meetings to enable its membership to present and discuss research findings, to share knowledge of techniques and skills, and to build professional networks. At both its Congress and Summer Institutes, ISHE is dedicated to providing a harassment-free event experience for everyone. We do not tolerate harassment of event participants in any form. Event participants violating these rules may be sanctioned or expelled without a refund at the discretion of the ISHE Board of Officers.

ISHE is dedicated to diversity, equity, inclusion, and the free expression of ideas. The Society seeks to provide an environment in which diverse participants may learn, network, and enjoy the company of colleagues in an environment of mutual human respect. We recognize a shared responsibility to create and hold that environment for the benefit of all. Some behaviors, therefore, are specifically prohibited:

- Harassment or intimidation, including but not limited to that based on gender, race, ethnicity, sexual orientation, gender identity, gender expression, disability, age, appearance, religion, or other group status.
- Sexual harassment or intimidation, including stalking (physical or virtual) and recurring unwelcome sexual attention or physical contact.
- Sustained disruption or threatening presenters (verbally or physically).

All participants are asked to frame discussions as openly and inclusively as possible and to be aware of how language or images may be perceived by others.

Critical examination of beliefs and viewpoints does not, by itself, constitute hostile conduct or harassment. Similarly, use of sexual imagery or language in the context of a professional discussion might not constitute hostile conduct or harassment if it is necessary to the topic of discussion and presented respectfully.

Enforcement

Participants who are asked to stop any harassing behavior are expected to comply immediately.

If a participant engages in harassing behavior, event organizers retain the right to take any actions to keep the event a welcoming environment for all participants. This includes warning the offender or expulsion from the meeting with no refund.

Event organizers may take action to redress anything designed to, or with the clear impact of, disrupting the event or making the environment hostile for any participants.

We expect participants to follow these rules at all event venues and event-related social activities.

Reporting

If someone makes you or anyone else feel unsafe or unwelcome, or if you believe a harassment problem exists, please report it as soon as possible to any member of the ISHE Board of Officers or event organizers.

References

This anti-harassment policy is adapted (with permission) from that drawn up by the Society for the Improvement of Psychological Science (<https://improvingpsych.org>), using language and concepts adapted from the following sources:

Geek Feminism wiki:

http://geekfeminism.wikia.com/wiki/Conference_anti-harassment/Policy

American Library Association code of conduct: <http://alamw14.ala.org/statement-of-appropriate-conduct>

Morning Talks

-Europe-

HOW TO OBSERVE BEHAVIOR

Lena S. Pflüger, Pia M. Böhm

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ABSTRACT

Observing behavior is essential for understanding how individuals interact with their environment, navigate social challenges, and adapt to evolutionary pressures. However, behavior is a complex trait and rarely reproducible. Researchers therefore require systematic observation methods in order to collect reliable and standardized data and to draw meaningful conclusions. Using Japanese macaques (*Macaca fuscata*) as an example, we provide a comprehensive overview of established observation techniques used to study behavior in non-human primates living in large social groups. Our talk addresses the handling of field observations and video data, as well as the methodological applications on both the individual- and group level. While discussing the significance of behavioral studies and their methods, we also acknowledge limitations and challenges. Finally, we briefly introduce novel technologies, such as automated tracking systems and machine learning, which are gaining increased attention in the field of behavioral research.

HOW TO CONDUCT ETHICAL RESEARCH

Elisabeth Oberzaucher

Faculty of Life Sciences, University of Vienna, Austria
Urban Human, Vienna, Austria
Vienna Cognitive Science Hub, University of Vienna, Austria

ABSTRACT

Research on humans and other animals are regulated by the Helsinki protocol, that ensures protection of participants from negative consequences of participation in scientific studies. Ethics guidelines ensure that participation is voluntary, and if negative consequences cannot be entirely avoided, all necessary steps are taken to keep potential harm at a minimum. While acquiring ethics approval might be perceived as tedious paperwork, it is an essential building block for ethical science.

Ethical science is not limited to ethical treatment of study participants, but applies to the entire study. Transparency about hypotheses, methodology and results is essential for science to be able to evolve in a meaningful way.

The talk will cover

- informed consent and participant compensation
- data protection issues
- measures to ensure safety of participants
- transparency
- use of AI
- open access

Challenges and potential solutions will be discussed.

OPEN SCIENCE

Iris Holzleitner

Department of Social Sciences, University of the West of England, Bristol, UK

ABSTRACT

This interactive session introduces participants to open science principles and practices, with a focus on immediate application to the research projects being developed during the Summer Institute. The session considers how transparency, reproducibility, and accessibility contribute to more credible and useful research. Participants will examine the rationale behind open science, including concerns around research integrity and the reproducibility crisis. Through guided discussion and short activities, we will explore the distinction between exploratory and confirmatory research, and how preregistration can help clarify hypotheses and analysis plans—thus avoiding common pitfalls sometimes referred to as the horsemen of irreproducibility. With support, each group will draft a preregistration for their project using a simplified template.

The workshop will also address practical aspects of open data and materials sharing, including ethical considerations around consent, anonymisation, and reuse. Participants will work through typical challenges in data documentation and evaluate examples of both strong and weak transparency practices. Throughout the session, we will emphasise open science as a flexible, evolving approach to responsible research—not a rigid checklist. By the end of the workshop, participants will be better equipped to consider how open science practices can strengthen the quality and integrity of their own research. Before attending this session, please make sure you have created an account on the Open Science Framework (<https://osf.io>).

USING MICRO DATA FOR RESEARCH: INSIGHTS FROM THE AUSTRIAN MICRO DATA CENTER

Tobias Herzog, Lisa Ehrntraut

Austrian Micro Data Center (AMDC), Statistics Austria, Vienna, Austria

ABSTRACT

Learning objective: The aim of this presentation is to introduce the Austrian Micro Data Center (AMDC), a cutting-edge infrastructure that provides access to administrative and register data for a wide range of research projects across various fields. Attendees will gain a comprehensive understanding of the types of micro data available, the data protection measures in place, and how these data sets can be utilized in scientific research.

Background: The AMDC is a research facility operated by Statistics Austria, designed to facilitate research using micro data while ensuring strict adherence to data protection regulations. This facility enables researchers to access valuable data, such as administrative and register data, to explore complex questions across disciplines like economics, sociology, health sciences, and more. The presentation will provide an overview of the data available through the AMDC, its relevance to various fields of study, and the process of initiating research projects using these data.

Methods: In addition to discussing the available datasets, the presentation will outline the step-by-step process of starting a project at the AMDC. This includes the application process, the data access protocols, and the necessary compliance with legal and ethical standards. Special attention will be given to how researchers can combine micro data with other datasets, such as survey data, to enhance their studies.

Conclusion: Research using micro data provides new perspectives, particularly in behavioral studies, by enabling the analysis of variable changes over time. The ability to link administrative and register data with survey data offers researchers a unique opportunity to gain deeper insights and support more comprehensive studies. This presentation will highlight how the AMDC serves as a powerful resource for advancing scientific knowledge while maintaining rigorous data privacy standards.

HOW TO AVOID DATA CLEVER-HANSING: WHAT FINAL DECISIONS MUST BE MADE EARLY AND WHY

Petr Tureček

Faculty of Science, Prague, Czech Republic

ABSTRACT

When we pre-register an analysis — or even when we plan data collection outside of the preregistration framework — we should first make several crucial decisions. How will we treat outliers and influential observations? How will we handle incomplete responses? Should we log-transform the response variable before analysis? Which predictors will be included and which ignored?

If we leave these decisions unspecified and try to make them on the fly, two dangers arise: Co-authors or reviewers may prompt us to "try also this and that," leading to a cascade of redundant, unnecessary analyses. Worse, we ourselves may be tempted to favor the choices that subtly nudge the results toward our preferred hypothesis.

This workshop will demonstrate the dangers of "too many options" through a practical exercise in R and introduce ways to recognize individuals and research fields that are not fully honest or responsible with their data.

IT IS ALL ABOUT COMMUNICATION HOW TO WRITE AND TALK ABOUT SCIENCE

Sabine Tebbich¹, Elisabeth Oberzaucher^{1,2,3}

¹Faculty of Life Sciences, University of Vienna, Austria

²Urban Human, Vienna, Austria

³Vienna Cognitive Science Hub, University of Vienna, Austria

ABSTRACT

In this interactive session, we will share tips and tricks for giving scientific presentations and writing manuscripts. Conducting scientific research is a complex endeavor, and the depth of detail involved can sometimes obscure the bigger picture—yet that bigger picture is crucial for clear and meaningful communication.

We will explore how to craft a storyline and how to decide what information to present, when, and how. The session will also address the challenges and benefits of teamwork in scientific writing, and how writing and presenting can support, inspire and enhance one another. For those who struggle with writer's block, we will offer practical suggestions on how to overcome it and help you discover your own writing routines and "choreographies."

What this session is not about: We will not focus on paper structure, grammar, or statistics.

Instead, our aim is to inspire a thought process that transcends technical details and enables you to organize your ideas, thoughts, presentations, and manuscripts in a way that ensures effective scientific communication.

Keynote Talks

-South America-

THE NEURAL AND GENETIC CORRELATES OF PAIR-BONDING

Bianca P. Acevedo

University of California, Santa Barbara, USA

ABSTRACT

In recent decades, researchers have made notable advances in understanding the mechanisms that underly pair-bonds— the selective preference for a specific individual, that often includes proximity-seeking, cohabitation, affectionate behaviors, mate guarding, reproduction, shared rearing of offspring, aggression towards strangers, and coordinated behaviors between the pair. Access to advanced techniques, such as fMRI, EEG, and virtual reality, as well as animal studies, have provided the platform to advance our understanding of the mechanisms that support the formation and maintenance of pair-bonds. Also, the emerging field of relationship science has expanded, exploring phenomena to address trends of the current times, such as singlehood, novel reproductive methods, and online dating. Unique to humans, and sometimes coinciding with pair-bonding, is the complex phenomenon of romantic love— a basic human motivation involving an intense desire to be united with the beloved physically, cognitively, and emotionally. In this talk, I will discuss studies on the neural and genetic basis of romantic love and pair-bonding in new, established, and long-term human relationships. Cumulatively, this body of work provides evidence for a central role of the mesolimbic reward neural pathway in pair-bonding, and suggests how neural and hormonal mechanisms may contribute to this evolutionarily conserved process that has implications for reproduction, well-being, and evolution of the species. I will highlight the richness of relationship science representing countries around the globe, various methods, and topics that reveal the complexity of the romantic love and relationships. Finally, I will discuss some possible future directions for the field of relationship science.

WHY WE CHANGE OUR FACE: THE EVOLUTIONARY AND SOCIAL SIGNIFICANCE OF APPEARANCE MODIFICATIONS

Jaroslava Varella Valentova

University of São Paulo, São Paulo, Brazil

ABSTRACT

I will explore the evolutionary and social significance of appearance modifications, emphasizing their multifaceted roles in human behavior. Drawing from cross-cultural and interdisciplinary research, I will argue that humans have never been a "naked ape"—appearance enhancements like makeup, tattoos, and clothing are deeply rooted in our evolutionary history, dating back to Neanderthals and early humans. These modifications serve critical functions, including mate attraction, intrasexual competition, group affiliation, status signaling, and protection.

I will highlight findings from our studies, such as how makeup usage in Brazilian women correlates with mate value and intrasexual competition, and how self-perception shifts with different makeup intensities. Our experiments reveal that even the expectation of being made up (placebo effect) can enhance self-evaluations of attractiveness and confidence. Beyond visual cues, I will discuss olfactory and vocal self-presentation, illustrated by examples like orchid bees using perfumes in courtship.

The talk will also address modern contexts, such as virtual appearance modifications (e.g., photo filters) and pathological grooming, while critiquing the limited focus on intra-individual and cultural variability in research. By integrating evolutionary theory with contemporary studies, I aim to reframe appearance modifications as a universal yet diverse aspect of human nature, shaped by biological imperatives and cultural dynamics.

Workshops

-Europe-

CAPTURING MULTISENSORY EXPERIENCES IN URBAN PUBLIC SPACES

Jan Mikuni¹, Kirren Chana^{1,2}, Oliver Tab Bellmann³, Margot Dehove¹, Martin Moser⁴, Katharina Prager³

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²University of Verona, Italy

³Acoustics Research Institute, Austrian Academy of Science, Austria

⁴Interdisciplinary Transformation University, Austria

ABSTRACT

Urban public spaces play a crucial role in shaping quality of life in cities. Beyond their functional value, these environments offer meaningful aesthetic experiences that can influence emotional well-being, social connectedness, and overall life satisfaction.

This interdisciplinary workshop aims to explore how people experience urban public spaces in a naturalistic and ecologically valid way. We will focus on capturing both visual and acoustic dimensions of these environments as they are encountered in real time by actual users. Using mobile eye-tracking and sound recording systems, participants will be introduced to field-ready tools and behavioral measures suitable for studying dynamic, multisensory experiences.

We will examine how to assess users' ongoing experiences and the aesthetic qualities of public spaces from their perspective, and how these relate to subjective well-being. Key questions include: What visual and auditory elements make public spaces feel attractive or restorative? How do users' moment-to-moment perceptions connect with their emotional responses?

This workshop is designed to provide hands-on insight into innovative empirical approaches and promote collaborative thinking across disciplines. By bridging psychology, design, and urban studies, we aim to advance a research agenda that highlights the role of everyday aesthetics in supporting urban well-being.

SEXY ALPHA MALES OR ATTRACTIVE UNDERDOGS? INVESTIGATING MALE MATING SUCCESS AND SOCIAL STATUS IN TWO GROUPS OF FREE-RANGING JAPANESE MACAQUES (*MACACA FUSCATA*)

Lena Pflüger, Pia Böhm, Lisa Ehrntraut, Roy Hammer, Angela Stojan

Department of Behavioral and Cognitive Biology, Affenberg Research Station, University of Vienna, Austria

ABSTRACT

Like us humans, animals form diverse mating systems shaped by the evolutionary conflict between male and female reproductive interests. In promiscuous primates, males compete for dominance to monopolize females, while females show distinct preferences, also choosing same-sex partners over available males.

This complex interplay of dominance, competition, and female strategy raises questions about which factors are the main drivers for male mating success. Some studies on macaques have demonstrated a clear positive correlation between male social status and mating success. However, other research has found that longer tenure in males can reduce the frequency of male copulation, leading to higher mating and reproductive success among younger, lower-ranking males.

In this multi-day workshop, participants will become part of a collaborative effort and contribute to the long debated research question: does high rank equal higher mating success? This and maybe more questions will be addressed on the example of Japanese macaques (*Macaca fuscata*), a promiscuous primate species living in big multi-female multi-male groups.

After an introduction into the sexual behaviour and mating system of the study species, participants will learn behavioural coding techniques in BORIS. The data will be provided in the form of video recordings of sexual pairs of free-ranging Japanese macaques in Minoo, Japan.

URBAN JUNGLE: DOES THE OLFACTORY SENSATION OF A FOREST SUBSTITUTE ‘FOREST BATHING’ IN URBAN DWELLERS?

Anna Oleszkiewicz, Barbara Żyżelewicz

University of Wrocław

ABSTRACT

Forest bathing (Shinrin-yoku) is the practice of immersing in a forest or natural environment in a mindful, intentional way to promote relaxation, mental clarity, and overall well-being. The olfactory system has been recently proposed as the pathway through which humans meaningfully interact with their natural environment. The purpose of the workshop is to empirically verify the proposed ideas. We will test whether the olfactory sensation of the forest alone is enough to improve well-being. We will design an experimental study wherein urban dwellers will function in an odorous-enriched environment (compared to the passive control group). The olfactory enrichment will entail either an odor of the forest or a control non-nature odor.

Workshops

-South America-

EXPLANATORY MULTIPLICITY: LEVELS OF ANALYSIS AND TYPES OF QUESTIONS FROM ARISTOTLE, TINBERGEN, AND MARR TO RECENT EXPANSIONS

Marco Antonio Correa Varella

University of São Paulo, São Paulo, Brazil

ABSTRACT

For the researcher in Human Ethology, as important as having technical, methodological or statistical skills is to have conceptual skills related to the kinds of research questions asked and the analytic levels of scientific explanations. This workshop explores explanatory multiplicity, the principle in which the best route for an integrated and comprehensive understanding of human behavior and cognition emerges from making multiple and complementary questions and explanations rather than relying on a single explanatory lens. We will examine foundational frameworks from Aristotle (the four causes: material, formal, efficient, and final), Tinbergen (the four questions in ethology: causation, development, function, and evolution), and Marr (three levels of analysis in computational neuroscience: computational, algorithmic, and implementational). We will also discuss how these classical approaches have been expanded in contemporary research, integrating perspectives from ethology, cognitive science, evolutionary psychology and culture evolution. Beyond merely distinguishing between proximate (how?) and ultimate (why?) explanations, we will stress the necessity of fully grasping the spatio-temporal dimension of explanations and integrating it with the different kinds of questions that can be asked. We will conceptually dissect terms with multiple meanings such as function and adaptation. We will further address modern extensions and updates of classic frameworks, and incorporate sociocultural perspectives. Through case studies (e.g., sex, language, art-making), participants will practice offering multiple explanations, enabling them to apply these frameworks to their own research topics. Graduate students will acquire renewed explanatory frameworks and conceptual tools to structure their questions, critique literature, and design interdisciplinary human ethological studies.

FROM THEORY TO PRACTICE: ENHANCING TRANSPARENCY AND CREDIBILITY THROUGH PREREGISTRATION AND REGISTERED REPORTS

Juan David Leongómez

Universidad El Bosque, Bogota, Colombia

ABSTRACT

This workshop will explore the benefits and best practices of preregistration and registered reports in academic publishing, emphasising their increasing importance as tools for enhancing scientific transparency and credibility. Through a combination of presentations and activities, participants will learn the principles and advantages of preregistration, understand how registered reports are transforming the publication process to ensure high-quality and reproducible research, and identify strategies to overcome common challenges in implementing these approaches. Particular emphasis will be placed on a unique advantage of registered reports: the opportunity to receive expert peer review and feedback on study design before data collection begins, effectively getting help from specialists to refine and strengthen both the methodological and theoretical foundations of the project. In addition to fostering better science, these tools can also make researchers' lives easier and less stressful by clarifying analytical plans, reducing publication bias, and increasing the chances of publishing null or exploratory results. By the end of the session, participants will have a solid grasp of key concepts, practical tools, and actionable steps to integrate preregistration and registered reports into their research workflow.

MEASURING VAGAL TONE AS AN INDEX OF SOCIAL ENGAGEMENT: THEORETICAL FOUNDATIONS, PRACTICAL TECHNIQUES, AND RESEARCH APPLICATIONS

Michele Dufey Domínguez

University of Chile, Santiago, Chile

ABSTRACT

This workshop will explore cardiac vagal control—most commonly indexed by heart rate variability (HRV) and respiratory sinus arrhythmia—as a window into the autonomic mechanisms underlying social engagement, stress resilience, and emotional regulation. Drawing on polyvagal and neurovisceral integration frameworks, we will first review the theoretical foundations that link vagal tone to affiliative behavior, emotional safety, and adaptive self-regulation. Participants will gain an understanding of how fluctuations in parasympathetic activity support social connectedness, facilitate co-regulation in interpersonal settings, and mark developmental trajectories across the lifespan.

Building on this conceptual groundwork, the workshop will then introduce practical measurement techniques. Attendees will revise laboratory-based HRV protocols, learn best practices for sensor placement and signal preprocessing, and become familiar with common software platforms for time- and frequency-domain analyses. Through hands-on demonstrations, participants will collect short-term ECG recordings, implement artifact-correction procedures, and compute standard vagal metrics (e.g., RMSSD, high-frequency power).

Finally, we will examine real-world research applications and study designs that leverage vagal tone as an outcome or process variable. Case examples will illustrate how HRV can index emotional and prosocial outcomes, serve as a mediator of mind-body interactions, and validate theoretical models of social and embodied cognition. Participants will have room to discuss concrete ideas for integrating vagal measurements into their own research agendas.

BEHAVIOR THROUGH THE GAZE: EVOLUTIONARY PERSPECTIVES APPLYING EYE TRACKING

Milena Vásquez-Amézquita

Universidad El Bosque, Bogota, Colombia

ABSTRACT

This interactive workshop will focus on the application of eye tracking technology as a methodological tool in psychological studies from an evolutionary perspective. Participants will explore how eye tracking can measure patterns of attention, perception, and decision-making, offering key insights into human behavior and evolutionary adaptations.

The workshop will present experimental paradigms focused on face perception and its links to mate selection and social competition, emphasizing the evolutionary relevance of these behaviors. Through a combination of presentations and hands-on activities, participants will learn the essential steps to design an eye tracking-based study, including formulating hypotheses, selecting appropriate stimuli, and interpreting visual data.

In addition, the session will cover best practices for data analysis and discuss how eye tracking can be effectively integrated with complementary methodologies to enrich research findings. Common ethical and technical challenges associated with the use of eye tracking, particularly when working with diverse populations or remote setups, will also be addressed.

Special attention will be given to recent technological developments, such as webcam-based eye-tracking solutions, and their potential to democratize access to this powerful research method, allowing for studies with larger, more representative samples.

By the end of the workshop, participants will have acquired both conceptual frameworks and practical tools to confidently incorporate eye tracking into their evolutionary psychology research, enhancing the methodological rigor, reach, and impact of their scientific work.

OBSERVING COOPERATION IN NATURAL COMMON-POOL RESOURCES: AN EXPERIMENTAL ECONOMICS PERSPECTIVE

María Ignacia Rivera-Hechem

Pontificia Universidad Católica de Chile, Santiago, Chile

ABSTRACT

In this workshop, we will explore how cooperation in the use of shared natural resources can be studied and understood through the lens of common-pool resource (CPR) games. Through an interactive, hands-on exercise, we will examine key variables that research has identified as crucial in shaping cooperative behaviors, and discuss how these insights can inform decision-making for sustainable resource management. We will apply these concepts to a real-world example from Chile's small-scale fisheries, illustrating the relevance of CPR dynamics in practice. Finally, we will discuss the importance, and challenges, of moving beyond the laboratory to study cooperation with actual resource users in real-world settings.

Abstracts

USE OF THERMOGRAPHIC IMAGING TO EVALUATE ANXIETY REACTIONS TO THE DENTAL ENVIRONMENT IN BRAZILIAN TWIN CHILDREN

Pedro Alves Sironi (SFA), Lilian C. Luchesi, Emma Otta

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ABSTRACT

The dental environment is widely recognized as a potentially anxiety-inducing setting. Dental anxiety (DA) is a common condition affecting individuals globally, including children. Thermographic imaging is an emerging tool for assessing emotional responses and has shown promising results in previous studies with adults. This study aimed to explore the application of thermographic cameras in evaluating DA reactions to the dental context among 74 twin children, aged 4 to 14 years. Thermographic images were captured at two moments: pre-treatment and during treatment (immediately before the dental procedure starts) across two sessions spaced at least a week apart. A DA questionnaire was administered, and participants were categorized into three groups based on their anxiety levels. Temperature variations across groups were compared through sessions using the Kruskal-Wallis test. Descriptive analyses were also conducted to examine the influence of zygosity and sex. The results indicated that, regardless of sex, monozygotic twins (who share 100% of their genetic material) exhibited greater consistency in temperature responses between sessions. While no significant correlation was found between decreased facial temperature and higher anxiety scores, a trend emerged indicating greater thermal reactivity at the tip of the nose in children. Although preliminary, these findings align with prior research and suggest that thermography may be a useful tool for assessing emotional responses in pediatric settings. With a larger sample, these effects may become more robust. This study contributes to the understanding of DA in Brazilian children. and underscores the importance of developing more humanized care practices for anxious pediatric patients.



DEVELOPMENT OF BIMANUAL MANIPULATION IN CAPUCHIN MONKEYS: ARE THERE PARALLELS WITH HUMAN INFANTS?

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¹University of São Paulo, São Paulo, Brazil

²Italian National Research Council, Roma, Italy

ABSTRACT

How non-human primates develop their object manipulation skills has been considered an important aspect for understanding the evolution of motor and cognitive abilities in humans. During early development, human infants typically use symmetrical bimanual actions to touch and hold objects. As they gain greater manual dexterity and postural control, they begin to display behaviors involving more complex motor patterns, such as asymmetrical bimanual actions. Few studies have explored whether other primates — especially in naturalistic settings — follow a similar developmental trajectory. In this study, we aimed to describe the development of bimanual actions during object manipulation in bearded capuchin monkeys (*Sapajus libidinosus*), platyrrhine primates well known for their highly manipulative skills, which partly resemble those observed in humans. For this purpose, eight infants from a wild population of bearded capuchin monkeys were studied in the North-East of Brazil. Data were coded from focal-day recordings of these infants from birth to six months of age. In the early stages of development, capuchin infants used gentle movements to touch and hold objects. Symmetrical bimanual actions were first observed in the second month of life, and, like humans, appeared before the acquisition of the sitting posture. As the infants acquired dexterity and postural control, their repertoire expanded, with asymmetrical bimanual actions emerging by the third and fourth month of life. Our findings suggest that, despite millions of years of evolutionary divergence, humans and capuchin monkeys share similar motor development patterns in bimanual manipulation.



PREFERENCE FOR SPORT PRACTICE IN NON-HETEROSEXUAL PEOPLE: A LITERATURE REVIEW

Jamile Arouche (SFA), Hellen Corrêa

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ABSTRACT

As a consequence of a different evolutionary pressures, men and women show slightly distinct characteristics that may present as a consequence of differential parental investment between sexes enabling a higher male exposure to competitive-aggressive events as searching for food that may have selected a dissimilar preference for specific sports and physical activities. Research with heterosexual people is well established, but little is known about non-heterosexual people and if their preferences remain similar. Consequently, the present research aims to do a review on preview papers that investigates the preference for sport practice in non-heterosexual people. A literature review was made in online databases, as SciELO, PubMed, Pepsic and others, applying “sports preferences”, “women”, “men” and “homosexuals” as descriptors in both English and Portuguese languages. During the research, only two papers were found investigating the sports preference between non-heterosexual males and no papers regarding non-heterosexual females. The research results on non-heterosexual males suggests that homosexuals show similar sport preferences with heterosexual women and, since childhood, have shown interest in typically feminine activities. In adult life, reported preferences for typically feminine sports, like swimming and volleyball, less motivation for hunting and fighting-like sports and less general engagement in physical activities. Bisexual men reported intermediate interests. Therefore, research with non-heterosexual women is suggested aiming a human global comprehension intending the appropriated development of public politics and health intervention through sports and physical activities.



RIVALRY IN DISGUISE: THE EFFECT OF SELF-PRESENTATION CONTEXT ON INTRASEXUAL COMPETITION SCORES

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ABSTRACT

Intrasexual competition (ISC) is a key element of human mating psychology, yet its expression may be strategically managed depending on social context. Previous research shows that individuals who openly derogate same-sex rivals are evaluated as less kind, less trustworthy, and overall less desirable by both men and women. The present study investigates whether self-presentation context influences reported levels of ISC. Participants ($n=300$) are randomly assigned to one of three conditions: (1) a private setting (control), (2) an interaction with a same-sex experimenter (i.e., potential rival), or (3) an interaction with an opposite-sex experimenter (i.e., potential mate). We hypothesize that participants in both experimental conditions will report lower levels of ISC than those in the private condition, due to reputational concerns and impression management. These results will deepen our understanding of how social presence and gender dynamics influence self-reported competitive attitudes in interpersonal contexts.



CAN AN AI PREDICT HUMAN AGE FROM FACIAL PHOTOGRAPHS AS ACCURATELY AS HUMAN OBSERVERS?

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ABSTRACT

Humans are thought to have evolved the ability to estimate various characteristics of other humans simply by reading their facial features. One such trait that humans can seemingly determine with a relatively good degree of accuracy is age. This ability is thought to have evolved due to the evolutionary advantage when assessing potential mates, allies, and other various social advantages.

This research investigates whether an AI model, trained on a sample of human faces, can predict age as accurately as human observers. This research uses a combination of automated landmark placement, geometric morphometric methodology, skin colour, and skin texture analysis to identify the ways in which facial appearances vary within the training sample ($n = 1323$) of human faces. These appearance variables were then used to build a model to predict the age of the sample faces ($R^2 = 0.776$; $F_{31,1291} = 144.5$; $p < 0.001$).

This model's age predictions were then compared to the predictions of 113 human individuals when rating the ages of 30 faces ranging between 21 and 68 years old. For the subset of 30 faces the AI model had a mean absolute error of 5.27 years, this proved to be more accurate than 76.1% of the humans tested.

Our results suggest that AI age prediction may be a valuable tool in both theoretical areas such as determining how humans perceive age, as well as in practical applications such as aiding human age judgements in law enforcement. Future plans for the technique will also be discussed.



FEEDING THE SENSES: BREASTFEEDING THROUGH THE LENS OF NEURODIVERSITY

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ABSTRACT

Despite public health recommendations the UK has one of the lowest breastfeeding rates in the world with 8 in 10 people stopping breastfeeding before they intended to (UNICEF UK, n.d.). In order to address this, factors which underpin successful feeding must be identified. Breastfeeding is an embodied task intertwining physical and emotional aspects that profoundly impact both parents and infants. Neurodivergent parents may face unique barriers to breastfeeding. Limited research into autistic experiences finds that many people report sensory issues when feeding (Hampton et al., 2023), including: baby suckling, milk letdown, and physical contact between parent and infant (Grant et al., 2024). To date these sensory challenges have not been explored in other neurodivergent populations despite those with ADHD (Bijlenga et al., 2020) reporting similar sensory sensitivities to autistic individuals (Tavassoli, Miller, Schoen, Nielsen, & Baron-Cohen, 2014). This study aims to investigate whether sensory profiles from the sensory perception quotient (SPQ) and breastfeeding interoceptive awareness (BFIA) are predictive of breastfeeding self-efficacy (BSES) in neurodivergent and neurotypical parents. Breastfeeding parents will be recruited to complete an online survey measuring: short-form SPQ (Tavassoli, Hoekstra, & Baron-Cohen, 2014), short-form BSES (Dennis, 2003), and BFIA developed from the multidimensional assessment of interoceptive awareness (MAIA-2, Mehling et al., 2018). Qualitative data on the impact of sensory experiences whilst breastfeeding will also be collected. Developing a better understanding of the impact that sensory experiences have on breastfeeding will allow us to better support all parents to feed their children in the way they choose.



GROOMING TECHNIQUES OF CHIMPANZEES AT GOMBE: AN ANALYSIS OF BEHAVIOURAL CHANGE BASED ON FILMS BY EIBL-EIBESFELDT AND OTHER PRIMATOLOGICAL DATA

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ABSTRACT

Research on the behaviour of free-living chimpanzees spans more than 60 years. However, little is known about the frequency and duration of their grooming techniques and how they might change over time. Archival film footage can therefore be a valuable source of research. The Austrian ethologist Irenäus Eibl-Eibesfeldt documented the behaviour of chimpanzees in Gombe Stream National Park in Tanzania in the 1980s. This material, representing a link between the early days of chimpanzee research and modern scientific approaches, was systematically quantified using a video-coding system. Eleven different types of grooming were observed, recording the parts of the body being groomed, and the use of their hands and mouth. Changes in the frequencies of social grooming patterns and the preference for the parts of the body being groomed were identified compared to early pioneering work. Unexpectedly, the pattern of social scratch, which is thought to traditionally be absent in Gombe, has been identified. One instance of substrate grooming was observed, which to our knowledge has not been recorded in Gombe. Besides the already known behaviours, possible low-frequency variants or precursors of grooming patterns have been recorded. These examples in this study show that some of these ethological categories are non-exhaustive and their extractions from archival material are limited. A comparison between the grooming behaviour of the two long-term study sites, Gombe and Mahale Mountains National Park, which are only 150 km apart, shows similarities and traces of all the behavioural grooming patterns that are considered cultural in Mahale.



DEVELOPMENT AND VALIDATION OF THE FEMALE INTRASEXUAL COMPETITION SCALE (FICS)

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ABSTRACT

Intrasexual competition, or the ways in which same-sex individuals compete, typically manifests through four primary categories of behavior: self-promotion, competitor derogation, mate-manipulation, and competitor-manipulation. Female intrasexual competition is nuanced, generally less overt than male intrasexual competition, and can be tied to hormonal fluctuations. However, current tools for measuring intrasexual competition are sex-neutral and therefore may not fully capture the complexities of female competition. This study proposes and validates a new scale, the Female Intrasexual Competition Scale (FICS), which is theory-based and specifically designed to assess female intrasexual competition. The FICS consists of four subscales—self-promotion, competitor derogation, mate-manipulation, and competitor-manipulation—to accurately capture the construct of female intrasexual competition. Upon completion of data collection, the FICS will be compared to Buunk and Fisher's (2009) Intrasexual Competition Scale, the Women's Intrasexual Competition Scale (WICS), Buunk's (1997) jealousy scale, and the revised Sociosexual Orientation Inventory (SOI-R) to assess for convergent and divergent validity. The FICS will be used to provide insight into the competitive dynamics among women and can be utilized across multiple disciplines, including evolutionary psychology, gender studies, and social psychology.



EARLY DEVELOPMENT OF SEXUAL BEHAVIOR IN WILD BRAZILIAN CAPUCHIN MONKEYS (*SAPAJUS LIBIDINOSUS* AND *S.* *XANTHOSTERNOS*)

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ABSTRACT

Humans and other primates exhibit a rich and diverse sexual repertoire that extends beyond reproduction, serving social functions, such bonding, conflict resolution, and status negotiation. Among infants and juveniles, non-reproductive sexual behavior (SB) contributes to obtaining skills essential for adulthood. This study explores the natural development of SB in free-ranging capuchins (*Sapajus libidinosus* and *xanthosternos*) from two populations, in the Atlantic rainforest and a wooded savannah in Brazil. We examined 392 hours of video recordings of 16 individuals (8 males, 8 females) during their first three years of life, collected via the ‘animal-focal’ method. Videos were sorted into behavioral classes (e.g., SB, playing, agonism) and those containing SB were transcribed by two raters using a literature-based ethogram. We quantified behavior frequencies, direction, pre-context and preferred partners. Results reveal early sexual behavior dimorphism, evidenced by differences among males and females in rates of SB, emission and reception, preferred partners. Sociosexual behaviors occurred mostly during play activities, underlining this context as critical for learning adult social dynamics. Females performed sexual behaviors at much lower frequencies than males. Interestingly, although females reproduce earlier and initiate courtship displays as adults, their juvenile SB was less frequent and varied. Understanding how sexual behaviors emerge during early life in non-human primates offers valuable insight into the flexibility of primate (including human) sexuality and its development. These findings provide comparative perspectives on the evolution of sexual behavior, shedding light on how early social interactions might shape (or not) reproductive strategies in both capuchins and humans.



DIMENSIONS OF ADULT ATTACHMENT: VALIDATION OF A COLLABORATIVELY DEVELOPED INSTRUMENT

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ABSTRACT

Attachment studies began with Bowlby in 1969, focusing on child development and bonds with caregivers. Subsequently, several models have sought to explain attachment patterns in adulthood. Bartholomew and Horowitz proposed a typology based on self- and other-perceptions, structured along two dimensions: anxiety and avoidance. Based on Bartholomew's model, this study aims to analyze the validation of an adult attachment scale collectively developed by students of the "Love and Relationships" course. A total of 344 individuals participated in the study, with a mean age of 30.83 years ($SD = 13.19$), including 89 (23.9%) men and 245 (71.2%) women. Of these, 93.6% ($n = 322$) resided in the states of São Paulo and Rio de Janeiro. The questionnaire was administered online via Google Forms. Data analysis was conducted using SPSS. Initially, the scale consisted of 36 items. Following exploratory factor analysis (EFA), items 3, 6, 20, 26, 28, and 33 were removed due to factor loadings below .32, as well as items 21 and 27, which loaded on both factors. The final version of the scale comprised 28 items: 15 for the Anxiety factor and 13 for the Avoidance factor. The two factors explained 33.5% of the total variance. The reliability coefficients were $\alpha = .875$ for Anxiety and $\alpha = .763$ for Avoidance. The results suggest that the scale is a psychometrically adequate instrument for assessing adult attachment in the Brazilian context.



SEX DIFFERENCES IN JEALOUSY: A NOVEL APPROACH USING CONTROL SCENARIOS

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ABSTRACT

Evolutionary Psychology posits that sex differences in jealousy stem from distinct adaptive challenges: male's sensitivity to sexual infidelity (paternity uncertainty) and female's sensitivity to emotional infidelity (resource diversion). While studies using Buss et al.'s (1992) scenarios support this theory and have deepened our understanding of these sex differences (e.g., the discovery of important moderators), methodological limitations persist. Specifically, directly comparing sexual and emotional infidelity scenarios conflates both sex-specific evolved mechanisms, preventing their independent evaluation. Therefore, current literature confirms sex differences but cannot assess whether both sexes contribute uniquely to the observed effects. We address this issue by introducing control scenarios targeting cognitive mechanisms linked to welfare tradeoff ratio violations to a quasi-experimental design. Validated hypothetical scenarios of sexual and emotional infidelity plus control scenarios will be rated regarding hypothetical distress alongside sociocultural measures (e.g., attitude towards traditional gender roles). Data analysis focuses on Sex x Scenario-Type interactions, testing whether the differences typically found in literature replicate across comparisons. This study pioneers the use of control scenarios to independently assess the theorized evolved jealousy mechanisms, offering a methodological advance over traditional designs that only directly compare sexual and emotional infidelity. Results might help clarifying whether observed sex differences indeed reflect evolved adaptations in both sexes, while also enabling an assessment of sociocultural influences, refining theoretical debates. By comparing evolutionary and sociocultural predictions, this study aims to explore the interactive dynamics of adaptive and cultural factors in jealousy, contributing to a deeper understanding of human mating psychology.



ATTRACTION TO INDIVIDUALS WITH ANTISOCIAL PERSONALITY TRAITS: AN EVOLUTIONARY PERSPECTIVE

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ABSTRACT

Individuals adopt different evolved mating strategies influenced by parental investment, self-perceived value, and the perception about competitors when choosing and maintaining a potential partner. While most individuals typically prefer prosocial traits in romantic partners, some are attracted to antisocial personalities and even criminal behavior. This study investigates two potential evolutionary mechanisms behind this uncommon preference: homogamy (preference for self-similar traits) and the desirability by-product mechanism (attraction to antisociality when paired with desirable characteristics). Participants (N = 391) reported their own Dark Triad traits (Machiavellianism, narcissism, and psychopathy) and rated the attractiveness of hypothetical partners described in fictitious vignettes in one of six conditions: 1) prosocial traits (control), 2) Dark Triad traits, 3) Dark Triad traits with aggression crime, and Dark Triad traits with aggression crime paired with either 4) fame, 5) wealth, or 6) attractiveness. Results supported homogamy: individuals with higher Dark Triad scores preferred partners with similar traits. The desirability by-product hypothesis was not supported by the experimental design: prosocial profiles were consistently rated as more desirable than antisocial profiles and profiles with criminal record, even when paired with desirable traits. This suggests that antisocial traits, especially when combined with criminal behavior, act as evolutionary dealbreakers in mate choice for both short-term and long-term relationships for both sexes. The findings highlight the role of homogamy in partner preferences and the limits of desirable traits in counteracting the undesirability of antisocial behavior.



RIVALRY AND CONFLICT IN TWIN RELATIONSHIPS: IMPACTS ON FRIENDSHIP NETWORKS

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ABSTRACT

This study aims to investigate how relational dynamics — specifically rivalry and conflict — between twin children influence the structure of their friendship networks, using a social network theory framework. Twins, by nature, share the same age and typically navigate similar social environments with sustained interaction. These shared conditions can promote strong emotional bonds, but they can also heighten interpersonal tension. Early childhood dependency on caregivers may lay the groundwork for competition over parental attention and resources. Rather than focusing exclusively on individual characteristics, the social network approach emphasizes the structure and composition of relationships through metrics, such as network density or betweenness centrality. The friendship networks of 60 twin pairs aged 7 to 14 years [26 monozygotic (MZ), 22 same-sex dizygotic (DZss) and 12 opposite-sex dizygotic (DZos) twins] were analyzed using the Pictorial Representation of Friendships (PRF) and the Twin Relationship Questionnaire, which assesses five dimensions of relationship – rivalry, conflict, dependence, closeness, and dominance. Preliminary findings indicate that higher levels of parent-reported conflict and rivalry were associated with increased interpersonal distance between twins, as reflected in their positioning within each other's PRF. In contrast, no significant correlations were found between the other relationship dimensions and the structural properties of the twin's social networks. Data collection is ongoing, and the sample is expected to expand. This study is part of the FAPESP thematic project "USP Twin Panel" and is funded by CNPq.



JEALOUSY, ANGER, AND AGGRESSION: TESTING THE WELFARE TRADEOFF RECALIBRATION HYPOTHESIS IN ROMANTIC CONTEXTS

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ABSTRACT

Evolutionary Psychology proposes that emotions evolved as adaptive responses to recurrent challenges related to survival and reproduction. Jealousy is theorized to function as a defense against relationship threats, promoting mate retention behaviors, whereas anger operates as a recalibration mechanism triggered by violations in the welfare tradeoff ratio — that is, by perceived devaluation of one's well-being relative to another's interests. Influential theories have posited that, in romantic contexts, mate retention behaviors such as aggression result from jealousy. However, recent theoretical and empirical work suggests that aggression is primarily an outcome of the anger system. This study aims to investigate these contrasting views by analyzing emotional responses to relationship threats and partner devaluation. Participants will evaluate hypothetical scenarios involving extradyadic interactions that selectively manipulate cues of relational threat (jealousy), with or without devaluation (anger), through cost-benefit structures. Adults of both sexes will complete the Buss-Perry Aggression Questionnaire (short version), the Digital Jealousy Scale, and emotion-specific ratings for each scenario. Predictions are: (1) threats to relationship stability will more strongly predict jealousy than anger; (2) devaluation will be a stronger predictor of aggression than jealousy; (3) both emotions will be modulated by cost-benefit considerations, with anger being more sensitive to perceived unjust devaluation, and jealousy to relational threat. Although jealousy and anger may be coactivated, isolating their inputs is expected to clarify their distinct adaptive roles, particularly the role of anger in predicting aggressive behavior. Findings may inform theoretical models of emotion specialization and clinical strategies for addressing relational conflict.



CARING FOR THE DEAD: EMOTIONAL AND SOCIAL RESPONSES TO INFANT DEATH IN WILD CAPUCHINS

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ABSTRACT

Understanding nonhuman primates' responses to death offers insights into the evolutionary origins of grief and attachment. While death perception remains poorly understood in animals, evidence shows that some species display consistent behavioral patterns following the loss of conspecifics. Among nonhuman primates, the most common behaviors related to the death of a group member include carrying and taking care of the deceased individual. Here, we describe and quantify a likely case of infanticide in a wild group of *Sapajus xanthosternos* (a critically endangered capuchin species), followed by the prolonged carrying and caretaking of the deceased infant by a primiparous mother. The mother maintained physical contact with the corpse for 90% of the observation period and exhibited grooming and protective behaviors despite her visible locomotion impairments. Other group members, especially adult females and juveniles, showed interest in the corpse, suggesting a broader social awareness of death within the group. By comparing this case with reports in capuchins, we explore whether these behaviors (1) reflect disrupted affective bonds, (2) indicate a delayed recognition of irreversible state change, or (3) serve communicative or social functions. This represents the first documented thanatological response in *S. xanthosternos*, advancing comparative thanatology by demonstrating grief-like behaviors in a neotropical primate. The gradual behavioral shift observed—from intensive care to eventual abandonment—may indicate a form of cognitive and emotional processing akin to mourning. These findings illustrate the value of naturalistic observation in understanding the evolutionary roots of emotion, attachment, and social cognition.



DEVELOPMENTAL ASSESSMENT OF BRAZILIAN TWINS IN A HOME SETTING: AN EXPLORATORY STUDY

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ABSTRACT

Home-based innovative research offers valuable insights into early development, especially in twin studies that explore the interaction between genetic and environmental influences. Caring for twins presents unique challenges, as attention must be divided between two infants—potentially affecting developmental outcomes. This longitudinal study assessed the development of Brazilian twin infants at 3 and 6 months of age. Twenty infants (55% boys; 30% monozygotic) were evaluated in their homes using the Bayley Scales of Infant and Toddler Development (Bayley-III). Cognitive, language, and motor domains were directly assessed by trained researchers, while socio-emotional (SE) and adaptive behavior (AB) domains were rated by primary caregivers through standardized questionnaires. The majority of infants (55%) were classified as having low birth weight ($M = 2,352.05$ g). Across all assessments, infants scored above average (>90) in all domains, except for language at six months: 50% scored within the lower average range (80–89) and 5% fell into the borderline range (70–79). A moderate-to-strong positive correlation was found between AB and language scores at six months ($r = 0.589$, $p = 0.044$), highlighting the importance of caregiver responsiveness, environmental stimulation, and interaction opportunities in fostering language development. These findings support the feasibility of administering the Bayley-III to twins in home settings while maintaining standardized procedures. This ecologically valid approach offers a valuable framework for studying development in naturalistic contexts. Ongoing data collection aims to explore whether early language delays in twins are transient or persistent and to compare developmental trajectories between monozygotic and dizygotic pairs. Fapesp:2022/02107-6.



CAN PERCEIVED FAMILY SUPPORT PREDICT ADULT ATTACHMENT IN ROMANTIC RELATIONSHIPS?: A BAYESIAN APPROACH

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ABSTRACT

Humans rely on attachment bonds for protection and emotional regulation, with family dynamics shaping relational patterns that persist into adulthood, particularly in romantic relationships. Therefore, it is expected that these early experiences impact adult attachment bonds with romantic partners. This study investigated the probability that family support impacts adult attachment, considering family adaptation, autonomy, affection-consistency, and their relationship with anxious and avoidant attachment. The sample consisted of 200 Brazilian adults, predominantly women (72.50%) and highly educated (82.50%). Family support was assessed using the IPSEF, while attachment was measured with the ECR-R scale. Bayesian regression analysis was conducted using the brms package in R, with weak priors, the NUTS algorithm, and standardized coefficients. Family adaptation had a high probability of being positively associated with avoidant attachment ($\beta = 0.25$, IC95% [0.02, 0.48]), suggesting that greater family conflict increases avoidant attachment. Affectionate support was likely to reduce avoidant attachment ($\beta = -0.28$, IC95% [-0.50, -0.06]). Autonomy showed no significant effect. The Bayesian R^2 for the avoidant attachment model was 0.05. Regarding anxious attachment, family adaptation had a high probability of being negatively associated ($\beta = -0.25$, IC95% [-0.47, -0.03]), suggesting that greater family conflict is linked to lower anxious attachment. Affectionate support and autonomy showed no significant effects. The R^2 for anxious attachment was 0.11. Avoidant attachment was linked to perceived conflict, consistent with deactivating strategies. Unexpectedly, conflict was associated with lower anxious attachment, possibly reflecting defensive suppression in unpredictable environments. Affectionate support reduced avoidance, reinforcing the importance of emotional warmth.



CROSS-CULTURAL UNIVERSALITY OF EYE-COLOUR CATEGORIES

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ABSTRACT

Insights from genetics, cross-cultural psychology, and linguistics sometimes challenge the existence of a universal human colour-naming system. Specifically, environmental conditions and language constraints may cause colour naming grids to differ substantially across cultures.

The concept of iris colour classification, however, often overlooks these differences. We used a large set of colour-calibrated facial photographs from a Czech population known for high iris colour variance (N = 195; 106 women, 89 men; mean age = 23.23 ± 4.17), rated by over 300 participants from six countries (Australia & New Zealand, Czechia, Colombia, India, Turkey, Vietnam). Across and within all samples, “blue” was the most frequently assigned eye colour (45 %), followed by “brown” (34 %). Notably, 22 % of ratings fell into the category named “other” (neither blue nor brown).

We used Bayesian analysis to test whether these ratings corresponded to measured iris colour variance (CIELab L*, a*, b*). Model predictions (i.e., which L*a*b* values predict which assigned eye colours) did not differ substantially across cultures. Human raters consistently responded to a* and b* variance in a predictable way: lower a* and b* values led to “blue” classifications, and higher values to “brown.”

We interpret this as evidence that iris colour classification – perhaps influenced by newly introduced mass media or the recent surge of Western cultural norms – is relatively consistent across the cultures in our sample. This consistency suggests that iris colour may represent a specific and distinct category in human colour perception.



CAN OLFATORY CUES INFORM LONG TERM PARTNERS OF THE MENSTRUAL CYCLE PHASE THEIR PARTNER IS IN?

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ABSTRACT

The interest in what signals may be sent through body odor between humans has increased in recent years. While most research has focused on mate choice, the evidence is mixed on whether ratings of scent, or a change in hormone levels of the rater, is evident during different phases of the menstrual cycle. This research seeks to investigate if long-term partners of those who menstruate receive olfactory cues that inform them what phase of the cycle their partner is in. With existing literature that highlights the importance of olfactory communication in human relationships and findings that show the impact of olfactory training on scent identification and memory, this study posits that long-term partners may be able to recognize distinct olfactory markers associated with physiological fluctuations throughout the menstrual cycle. The study will consist of scent samples taken throughout the cycle of the menstruating partner that will then be utilized in their long-term partner's identification of those samples. Through analyzing the accuracy rates of identification, the research aims to contribute to the understanding of intimate relationship communication through sensory information and the biological underpinnings of partner dynamics. The findings may provide insights into the role olfactory cues play in fostering intimacy and understanding between long-term partners.



NEURODEVELOPMENTAL AND FAMILIAL INFLUENCES ON SEXUAL ORIENTATION SUBGROUPS IN WOMEN

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ABSTRACT

Previous studies suggest gay men can form several subgroups based on putative biomarkers of genetic (nonheterosexual relatives), neurohormonal (handedness) and immunological (older brothers) influences of sexual orientation formation. Moreover, the subgroups differ in gender nonconformity, masculinity, femininity, and the Big Five characteristics. Our aim was to detect potential subgroups in nonheterosexual women, which have not yet been investigated.

A total of 1576 self-identified heterosexual, 450 homosexual, 1055 bisexual, and 402 pansexual Czech and Slovak women participated in an online survey. They reported the number of siblings, number and sexual orientation of family relatives and their handedness. Proportions of each variable were computed, and latent profile analysis was performed. Subsequently, we explored differences in psychological characteristics between identified profiles.

The best fit was found in the model with 3 subgroups, the first characterized by a high proportion of left-handedness (7.8 %), the second by a high number of nonheterosexual relatives (4.9 %), and a subgroup without biomarkers (87.3 %). Subgroups differed in masculinity ($p = 0.007$) and extraversion ($p = 0.046$) with higher scores in a subgroup with nonheterosexual relatives.

Our analysis showed that nonheterosexual women could be divided into 3 subgroups suggesting the existence of distinct developmental trajectories characterized by the psychological differences. While these subgroups exhibited subtle psychological differences, this is the first study to explore such grouping in women, and further research is needed to validate and expand upon these results.



DOES ORPHANHOOD AFFECT THE WELLBEING OF INFANT AND JUVENILE CHACMA BABOONS (*PAPIO URSINUS*)?

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ABSTRACT

Adverse events during early life stages, from the perinatal period to early childhood and puberty, have long-term effects on individual wellbeing and development in humans and non-human animals (Maccari et al., 2014). In primates, including *Homo sapiens*, the early loss of a parental figure—particularly the mother—negatively impacts later life outcomes, such as reproductive fitness and lifespan. Additionally, studies in mammals have found that maternal loss is associated with neurochemical imbalances, which correspond with reduced positive emotions—described by positive psychology as happiness and contentment—and, consequently, a decline in wellbeing. This decline may result in negative long-term outcomes. However, the reasons why early orphanhood leads to these adverse outcomes in adulthood remain unclear. Because of the above, the present study examined whether orphanhood detrimentally affects the wellbeing of infants and juveniles in a wild population of chacma baboons (*Papio ursinus*). The results revealed that, although there was an increase in the frequency of self-directed behaviours in orphaned individuals, other wellbeing indicators, such as time spent alone and the ratio of positive to negative interactions, were not significantly affected. Moreover, indicators such as time spent in positive relationships and the ratio of negative to positive affects suggested that orphanhood had a positive effect on the wellbeing of these individuals. It is proposed that orphaned individuals may develop compensatory social mechanisms to cope with maternal loss. Overall, the study suggests that it is not possible to conclude that orphanhood has a detrimental impact on individual wellbeing.



BLINK RATE AS A MEASURE FOR THE VALENCE OF HIGH AROUSAL MOMENTS DURING A WALK IN THE CITY

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ABSTRACT

A walk in the city, particularly in green spaces, has been shown to benefit both physiological and psychological health. This includes effects on stress, anxiety and mood. While moments of high arousal can be detected precisely within time and space from individuals' immediate physiological reactions, the valence of these reactions remains an open question. This study addresses this question in two steps: In the first study, we recorded 32 participants as they walked along a predetermined urban route, using continuous geo-located recordings of electrodermal activity and simultaneous video recordings with a portable eye-tracker. Based on this data, we extracted twelve locations of interest along the route, all of which elicited a high arousal response. For the second study, we prepared a rating study to assess valence. For each location, a set of four images was presented to subjects who rated the locations with the PANAS-sf and the Affective Slider, so we could calculate an average valence per location. Combining the two studies allowed us to investigate the relationship between location valence and blink rate as measured by eye-tracking. Based on the principle that blink rate differs with valence, we aim to develop a physiological measure of valence. The result will allow future projects to not only assess arousal and visual behavior, but also to attribute valence to the visual stimuli in eye tracking studies. By continuously monitoring emotional responses to urban environments, we will be able to investigate the qualities of urban settings in a more meaningful manner.



MURRAY'S SYSTEM OF NEEDS AND THE BIG FIVE PERSONALITY TRAITS: USING EXPLORATORY STRUCTURAL EQUATION MODELING TO EVALUATE THEIR RELATIONSHIP

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ABSTRACT

Personality assessment plays a central role in multiple sectors in Brazil, including education, workforce selection, and transportation. Among the most commonly used tools is the Personality Factor Inventory (PFI), grounded in Murray's system of needs—a theory that emphasizes motivational drives potentially linked to evolved psychological mechanisms. However, despite its widespread use, the structure of the PFI aligns only partially with the Big Five model, the dominant theoretical framework for personality research, including cross-cultural and evolutionary studies. This theoretical gap presents practical and conceptual challenges, especially for professionals and researchers aiming to integrate personality assessment with evolutionary-informed models of individual differences. In this study, we examined the extent to which Murray's need-based personality framework can be integrated within the Big Five structure using Exploratory Structural Equation Modeling and gender-based invariance testing. Data were drawn from a large Brazilian sample ($N = 272,845$; 56.2% men; M age = 21.74 ± 15.24) who completed the PFI. Cross-validation with random subsamples supported the robustness of the results. We found good model fit, consistent reliability, and scalar/strong invariance across gender. Importantly, we identified a mapping of Murray's motivational factors onto the five-factor model, suggesting that evolved needs and contemporary trait theories may be more compatible than previously assumed. These findings offer a promising step toward integrating motivational and trait-based models of personality and carry implications for both applied settings and evolutionary approaches to personality structure.



INFLUENCE OF AGGRESSION IN FEMALE JAPANESE MACAQUES' (*MACACA FUSCATA*) PARTNER PREFERENCE DURING THE LATE MATING SEASON

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ABSTRACT

When female Japanese macaques (*Macaca fuscata*) reach sexual maturity, they engage in a wide range of sexual behaviors with partners of both the same and opposite sex. Observations of homosexual consortships reveal no clear social benefit but point toward immediate sexual gratification through genital stimulation. These behaviors suggest a sexual preference for female partners, even when male options are available. This preference could also result from a lack of interest in—and from—male partners. During the mating season, increased testosterone and competition among males lead to heightened aggression and risk of injury for both sexes. Young females, being smaller and less experienced, may be especially vulnerable to male aggression. According to the safer-sex hypothesis, adolescent females may avoid males and instead seek female partners, to reduce the risk of aggression. Yet, little is known about third-party aggression toward different consort types. Due to reproductive competition, males often aggressively interrupt heterosexual consortships. Whether female pairs experience less aggression from bystanders and partners remains unclear. We investigated this question in the semi-free-ranging Japanese macaque population at the Affenberg Research Station in Landskron, Austria. Using focal, behavioral, and scan sampling, we recorded both heterosexual and homosexual consortships to document third-party aggression and partner behavior. Based on these data, we aim to compare the frequency of aggressive interruptions, as well as the aggressive behaviors displayed and received by females involved in different types of consortships.



HUG A TREE STUDY PROPOSAL

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ABSTRACT

The increased sensitivity to social cues associated with loneliness calls for innovative interventions leveraging the therapeutic potential of nature. The therapeutic effects of nature are well established in research on Shinrin-yoku (forest bathing). However, there is a lack of research on the effects of hugging trees on loneliness, despite government advice recommending this intervention. To address this gap, a three-country experiment will investigate any potential effect of hugging trees on loneliness; by having participants hug a tree, a pole, or stand under a tree while listening to a guided meditation. Loneliness will be measured using the UCLA Loneliness Scale (Version 3) before and after the condition. Additionally, the Nature Connection Index and WHO-5 Well-Being Index will be administered to explore other potential effects of the intervention. Any difference in loneliness reduction is expected to be small, with hugging a tree showing the greatest reduction. The main reduction in loneliness is likely to be from the meditation itself. Regardless of the direction of the results, valuable suggestions can be made to government bodies recommending hugging trees. Additionally this study will contribute to the wider loneliness intervention literature.



AN ANIMAL'S MIND: WHICH CATEGORIES SHAPE OUR PERCEPTION OF ANIMALS' COGNITIVE AND EMOTIONAL ABILITIES?

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ABSTRACT

Social cognition is often erroneously viewed as pertinent only to interactions between two members of the same species. However, different animals play a role not only in our lives, as pets, sources of food, or work partners, but have played a role in virtually all ecologies of any animal alive today. Through fMRI and Eyetracking, we can investigate what humans, and dogs, think and perceive when interacting with others. I will briefly present some of my research on human perception of canines, their interactions with conspecifics and humans, as well as how dogs process their own species and humans in social interactions. Importantly, I want to use the opportunity to present a research proposal with which I want to investigate which characteristics of animals determine which animals we feel more empathy towards. Approaching empathy towards animals from two perspectives, the cognitive domain of visual perspective taking, and the emotional domain of effort to avoid pain for an animal, I hope to shed light on the question why we turn some animals into our beloved pets, but have no qualms slaughtering others for our consumption, despite their large similarities in terms of brains.



PEACEFUL WITH AGE? A STUDY ON SOCIAL AGING AND THE QUALITY OF SOCIAL RELATIONSHIPS IN JAPANESE MACAQUES (*MACACA FUSCATA*)

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ABSTRACT

As we grow older, we tend to undergo various social changes, such as reducing our social behaviour, maintaining fewer relationships, and gaining a higher preference for positive over agonistic interactions. These developments are collectively referred to as social aging. There are currently several theories as to why we experience this, but the empirical evidence based on studies in humans is not conclusive. However, humans are not the only animal species to experience social aging. Studying the prevalence, impact, and function of this process in non-human primates could therefore be of aid. This is why we investigated social aging in a semi-free ranging population of ~180 Japanese macaques (*Macaca fuscata*) housed at the Affenberg Research Station, Austria. We analysed a longitudinal, focal sampling based dataset containing five years of behavioural data on the social interactions of 68 sexually mature females. We measured the quality of social relations through the use of the composite sociality index and a dyadic agonism index. We found that female Japanese macaques maintained a stable number of relations as they got older. The dyadic agonism index decreased with age, which shows that older female Japanese macaques had a better quality of their relationships. Our study thereby provides empirical support for the Strength and Vulnerability Integration model, which states that social changes related to aging are due to an avoidance of agonism. By supporting this human-based theory, our study highlights the importance of investigating non-human primates to improve our understanding of social processes from an evolutionary perspective.



TOO MANY LICE? NEGATIVITY BIAS SKEWS ESTIMATES OF PARASITE LOAD

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ABSTRACT

Cultural transmission plays a central role in how humans acquire knowledge and form judgments, especially when social information from others is available. In this study, we investigate how people use such information when making numerical estimates, specifically in tasks where previous participants' guesses are shown alongside each question.

We focus on whether the content of a question – particularly if it involves parasites or disgust-inducing topics – affects how people estimate quantities. Participants are asked to respond to a range of questions, from neutral ones (e.g. fruit production or geography trivia) to more aversive ones (e.g. how many lice might be present on an infested human head, or how many eggs a parasite lays during its lifetime).

We hypothesize that such questions may elicit a systematic shift toward higher estimates, possibly due to increased caution or affect-driven cognitive biases. This would be consistent with error management theory that posits that it is safer to overestimate potential threats than to underestimate them.

Preliminary results indicate a possible overestimation bias, which stands out compared to the baseline set by neutral questions. For example, the number of adult lice on infested human head typically ranges between 10 - 15, players consistently estimate this number to be between 200 - 500 and even selecting away 50% of worst tips each generation can do very little about it.

The results may offer insight into how emotionally loaded information affects reasoning and social transmission.



PHYSIOLOGICAL RESPONSES TO DISGUST-ELICITING VISUAL STIMULI: A COMPARISON OF ANCESTRAL, MODERN, AND PANDEMIC-RELATED THREATS

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ABSTRACT

Over the course of evolution, animals and humans developed complex physiological and behavioural mechanisms to respond to threats. The key emotion associated with the avoidance of the threat of infection is disgust. This study focused on the measurement of physiological reactions to disgust-eliciting visual stimuli. We divided the stimuli into three main categories: ancestral (spoiled food, worms, and bugs), modern (pollution, toxic substances), and pandemic-related (sneezing, masks, hospitals) threats. We analysed and compared selected parameters of physiological responses and subjective ratings of disgust across the categories. The results showed that among the experimental categories (spoiled food, worms and bugs, pandemic, and pollution), participants were most likely to react to the worms and bugs category, which depicted parasitic or worm-like animals, while other categories evoked reactions as frequently or even less frequently than the control stimuli (leaves). In cases where reactions were present, the largest average amplitude was found in the pollution and pandemic categories, while the average amplitudes for other categories were similar to or even lower than the control stimuli. The subjective ratings of the used pictures did not correspond with the average reaction probability nor with the average amplitude. The results suggest that modern threats might evoke a stronger emotional response than ancestral threats, even though the reactions might occur less frequently.



DISGUST SENSITIVITY IN ADOLESCENTS: DEVELOPMENT AND INTERSEXUAL DIFFERENCES

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ABSTRACT

Disgust is an affective component of the behavioural immune system, which serves as a protection against pathogens. In childhood, disgust gradually develops and undergoes various changes, affected by multiple factors, such as immunological, hormonal or environmental. Higher levels of disgust have been repeatedly observed in women compared to men, likely reflecting greater reproductive investment, parental responsibilities, and an increased need for protection against pathogens. However, due to the limited research on intersexual differences in children's disgust sensitivity, it remains unclear whether these differences emerge only during adolescence or are present earlier in development. On these premises, we aim to test the hypothesis that (1) adolescence represents a key developmental stage during which intersexual differences in disgust sensitivity become more pronounced and (2) disgust sensitivity in girls increases following menarche. In the ongoing cross-sectional study, in cooperation with primary schools and multi-year grammar schools, we assess disgust sensitivity (using a battery of standardised questionnaires) in children aged 10–15. We will analyse the effect of age, gender, puberty stages, and overall health on disgust sensitivity, while also considering family environment, type of residence, and socioeconomic status. In future research, we plan to build on this study and continue with longitudinal data collection (repeatedly after 6 and 12 months), allowing us to observe both interindividual and intraindividual differences in disgust sensitivity over time. In this longitudinal data collection, we aim to recruit approximately 500–600 girls and 500–600 boys.



HUMAN LIFE HISTORY SHAPES THE CONSTRUCTION OF LOCAL MEDICAL SYSTEMS ACROSS THE LIFESPAN

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ABSTRACT

In this investigation, we explore theoretical predictions from Life History Theory, Grandmother Hypothesis, and Embodied Capital Theory for understanding the role of human life history on the construction of local medical systems - a human strategy developed to respond pressure imposed by diseases in our species. The fieldwork was conducted in a small rural mixed subsistence community (03°29'48.8"S and 41°26'19.5"W) in northern Piauí, Northeastern Brazil. The local population is structured by 103 individuals in 30 family units. We applied the free listing technique, semi-structured interviews, photographic checklist, and direct observation to gathering data from 90 research participants. We assessed whether life history shapes knowledge about medicinal plants (H1), and also investigated whether there is a set of plants and therapeutic targets strongly associated with the reproductive and post-reproductive stages (H2). For testing H1 and H2, we performed a Permutational Analysis of Variance-PERMANOVA, and Indicator Species Analyses-ISA, respectively. Our findings suggest that life history shapes knowledge about medicinal plants. In this way, there is a set of medicinal plant knowledge appropriate to each life stage. Our findings also show that there is a set of plants and therapeutic targets strongly associated with the reproductive and post-reproductive stages, when pressures on health care increase mediated by diseases, both at the individual and offspring level. Our insights suggest that life history is a key factor of human behavior associated with building local medical systems across the lifespan.



ASSOCIATION BETWEEN PORNOGRAPHY CONSUMPTION AND OWN SEXUAL ACTIVITIES IN YOUNG ADULTS

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ABSTRACT

The consumption of pornographic material is a widespread phenomenon. Previous studies suggest that viewing pornography may influence attitudes toward sexuality, relationships, and one's own sexual behavior. Most research focuses on adults, even though pornography may have a greater impact on young adults who are at the beginning of their sexual lives. Most studies primarily examine the frequency of pornography viewing, although content may vary and only some types may be problematic.

This project examines pornography consumption frequency, specific types viewed, individual sexual behavior, and participants' attitudes and experiences. We expect viewing specific types of pornography to correlate with the desire to try those sexual activities and with participants' actual experiences. The research will be conducted using online questionnaires covering frequency and types of pornography viewed, desire to try specific activities, and individual sexual experiences. It also includes items from the Rape Myth Acceptance Questionnaire, assessing belief in stereotypical ideas about rape that justify sexual aggression and blame victims. Respondents will be recruited via high school organizations, social media, and leaflet promotion targeting students over 18. The target sample is approximately 500 individuals aged 18–30 years. The findings of the research may contribute to a better understanding of the influence, attitudes, and relationship of young adults toward the topic of pornography and may subsequently serve as a basis for the development of effective intervention and prevention strategies.



THE POWER OF TOUCH: THE ROLE OF ATTACHMENT STYLES IN THE EXPERIENCE AND PHYSIOLOGICAL IMPACT OF CLASSICAL MASSAGE

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ABSTRACT

Social touch stimulates the release of endorphins in humans and primates, promoting bonding and relaxation. This study investigates the effects of classical massage therapy on women with different adult attachment styles, focusing on emotional well-being (PANAS), stress responses, and pain tolerance. Adult attachment styles vary from anxious (fear of losing connection) to avoidance. Avoidant individuals, value independence and may perceive touch as threatening due to neurobiological factors (e.g., reduced μ -opioid receptor activity in the anterior cingulate cortex) and might derive less benefits from a massage therapy.

Fifty women aged 20–35 participated in this study. On two consecutive days they were subjected to a 30-minute classical massage and a control condition (casual conversation) in randomized order. Measured parameters included PANAS (PA - Positive Affects, NA - Negative Affects), physiological stress indicators (e.g., galvanic skin response), and pain tolerance assessed via dolorimeter.

Higher avoidance scores showed a positive non-significant difference in positive affect ($r = 0.26$, $p = 0.072$), no significant association was found for negative affect ($p = 0.12$). Higher avoidance scores did not correlate with elevated stress during massage ($r = -0.04$, $p = 0.8349345$). However, pain tolerance significantly increased in individuals with higher avoidance scores during both massage ($p < 0.000001$) and control condition ($p < 0.00001$).

In conclusion, while massage did not significantly influence well-being or stress levels in the higher avoidance group, it was associated with a marked increase in pain tolerance. These findings highlight the complex interplay between attachment styles and responses to touch-based interventions.



BODY IMAGE AND BREASTFEEDING SELF-EFFICACY: HOW IS THIS MODERATED BY PARTNER SUPPORT?

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ABSTRACT

The WHO (2023) recommends exclusive breastfeeding for the first 6 months of an infant's life, however less than half of children under 6 months are exclusively breastfed. There are numerous difficulties parents may experience when breastfeeding, such as difficulties with latching and worrying about milk supply (NHS, 2023). To overcome this, parents need breastfeeding self-efficacy - confidence in their ability to breastfeed (McGovern et al., 2024). There are numerous variables that can have an impact upon breastfeeding self-efficacy, including partner support and body image. This study aimed to explore whether perceived level of partner support moderates the effect body image satisfaction has on breastfeeding self-efficacy, alongside addressing the lack of research studying specific behaviours that may be supportive to breastfeeding parents. Participants ($n = 124$) completed an online Qualtrics survey that consisted of three questionnaires - Body Image-Acceptance and Action Questionnaire (Sandoz et al., 2013); Adapted Postpartum Partner Support Scale (Dennis et al, 2017); and Breastfeeding Self-Efficacy Scale Short Form (Dennis, 2003) - and 5 short-answer questions about support and body image. A moderated regression analysis was completed on this data, finding no significant effect; however, a regression-based mediation model was then used and found full mediation. Therefore, higher levels of perceived partner support, promoted by body image satisfaction, indirectly accounts for higher breastfeeding self-efficacy scores. Qualitative analysis is still undergoing. This study aims to inform the idea that more education is needed to families in order to increase confidence in breastfeeding.



EARLY PEER INTERACTIONS IN BRAZILIAN TWINS: A NATURALISTIC OBSERVATIONAL STUDY

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ABSTRACT

Infants show a marked interest in dyadic interactions during the first year of life. Twin relationships provide an unique opportunity for studying early peer interactions, as they share the same age and similar developmental needs. This study aims to outline a methodology for observing socially directed behaviors (SDBs) in six-month-old twins in a home-based context in Brazil. Naturalistic observation, supported by advances in video recording technology, allows for a detailed evaluation of human interactive behaviors from a psychoethological perspective. The research is a collaborative effort between the USP Twin Panel and the Hospital das Clínicas da Faculdade de Medicina da USP (HCFMUSP). Infants born at HCFMUSP were invited to participate and were video-recorded in their homes for three minutes, with no external interference. Behaviors were broadly categorized into five domains with Observer XT software: gaze, facial expressions, vocalization, touch, and body movements. A SDB was defined as an act accompanied by a glance toward the head of the peer or an act accompanied by an open hand touch. In three dyads, thirteen SDBs occurred during a one-minute video segment. Reciprocated SDB was also observed: one infant looked at the sibling while vocalizing and received a directed gaze and a touch in response within five seconds. Increasing sample size will enhance the reliability of the findings and support the refinement of this observational approach for studying early twin interactions. Further research will also investigate potential associations between early social behaviors and later developmental outcomes. Supported by: FAPESP, Brazil. Process Number 2022/02107-6.



REPRODUCTIVE STRATEGIES AND WOMEN'S MENTAL HEALTH: AN EVOLUTIONARY PERSPECTIVE ON MATING CONFIDENCE AND WELL-BEING

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ABSTRACT

Mental health (MH) is a set of adaptations selected by natural selection that enhance survival and reproduction. A mismatch between the evolved mechanisms and the current modern environment may cause mental illness. Studies show that the mental health of both men and women is better when they are married. However, while married men have better MH than single, divorced and widowed men, married women have better MH only than single women. Relationship quality influences MH of both men and women, but married women in a poor relationship quality exhibited worse MH than single women, which was not seen in men. We investigated associations among MH (considering well-being and ill-being) and reproduction-related factors in 1,173 predominantly heterosexual Brazilian women ($M=31.89$; $SD=11.10$). They responded to online instruments measuring well-being (self-perceived happiness, life-satisfaction), ill-being (depression), mate value, intrasexual competition, age, and sociosexuality. Women who scored higher in mate value and lower in intrasexual competition and sociosexual desire reported better MH; age affected MH positively. While intrasexual competition and unrestricted sociosexuality may enhance reproductive success in some contexts, they are generally risky and less effective, often leading to poorer MH, whereas women with greater confidence in their mate value tend to have better MH. Also, contradicting evolutionary perspectives on women's mate value, the results suggest that, over the years, women improve their mental health regardless of the decrease of their reproductive potential, pointing to a possible role of maturity and emotional stability acquired over the lifespan.



PERCEPTION OF VOCAL ATTRACTIVENESS BY CISGENDER AND TRANSGENDER MEN

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ABSTRACT

Humans select romantic partners based on functional characteristics for survival and reproduction. Voice is a signaling characteristic of different health characteristics. Generally, cisgender women tend to be more attracted to low-pitched voices, while cisgender men prefer high-pitched voices. This difference may be related to cues associated with reproductive potential triggered by different hormones, as higher-pitched voices are generally associated with lower levels of testosterone, a hormone associated with physical prowess in men, and higher levels of estrogen, associated with youth, fertility, and reproductive capacity in women. Studies on vocal attractiveness generally focus on cisgender and heterosexual evaluators, ignoring the diversity of transgender evaluators. The objective of this research will be to analyze the perception of attractiveness by cisgender and transgender men. This is a cross-sectional study that will use three questionnaires: 1. Socioeconomic; 2. Klein Sexual Orientation Grid; and 3. Vocal Attractiveness Scale. It will include ten cisgender women's voices and one hundred evaluators, cisgender and transgender men, over the age of 18, are expected. There will be a voice recording stage, including the emission of sustained vowels and connected speech, and another stage for voice evaluation, in which men will have to answer the first two questionnaires and then answer the attractiveness scale, each voice will have an attractiveness attribution to be selected. It is expected that evaluators prefer higher-pitched voices as the most attractive. Transgender men will also prefer higher-pitched voices, but with greater tolerance for voices outside the parameters associated with female voices.



ENVIRONMENTAL SENSITIVITY AND TWIN TYPE INFLUENCE ANXIETY RESPONSES IN THE DENTAL SETTING

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ABSTRACT

Emotions trigger physiological changes, including skin temperature variations and behavioral responses. The dental environment is a well-known source of anxiety across age groups worldwide. This response may be related to Environmental Sensitivity (ES) — the degree to which individuals perceive and react to environmental stimuli — a trait with an estimated heritability of around 47%. Twin studies offer a unique approach to examining behavioral and physiological responses, as Monozygotic twins share 100% of their DNA, while Dizygotic twins share approximately 50%. The necessity for dental procedures was evaluated in 34 pairs of twin children across two visits (an initial evaluation and a follow-up six months later). Linear models were adjusted for anxiety and temperature variations by type of twins, ES, and treatment-related variables. Anxiety was evaluated via facial thermography and the Modified Child Dental Anxiety Scale (MCDAS); ES and zygosity via questionnaires. The best-fitting model, based on the Akaike Information Criterion, indicated effects of twin types and their interaction with ES on the children's reaction to being evaluated by a dentist. Greater ES increased anxiety; the tip of the nose best predicted anxiety levels. More sensitive individuals tended to present a minor variation in the temperature of the nose and ear. However, the interaction effect of ES and twin type suggests a modification in this direction. Visit order (first vs. second) showed a limited effect, suggesting familiarity did not explain less anxiety. A better understanding of factors influencing children's responses requires further evaluation, such as treatment, age, or number of experienced visits.



A MULTIMETHOD INVESTIGATION OF THE EVOLUTIONARY ORIGINS OF GAMING

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ABSTRACT

Research tends to explain gaming as either a fitness-enhancing tactic for competitions (distal mechanisms) or as a social bonding tactic (proximal mechanisms). This experimental study integrates both views by examining these roles in same-sex strangers engaging in gaming and role-playing interactions. Twenty dyads (ages 18–40) met three times, either playing a strategic board game (*Nine Men's Morris*) or participating in a role-play scenario requiring consensus-building. Before their first interaction and after each session, participants evaluated their partner's desirable traits (peer's value) and reported perceived closeness (relational proximity). A causal mediation analysis tested whether relational proximity was influenced by peer's value, considering sex, activity type, time, competitiveness, and cooperativeness. No significant support for either hypothesis emerged, likely due to methodological constraints, such as sample size and limited interaction time. To determine conditions under which gaming would evolve to foster relationship formation free from those methodological constraints, we developed an agent-based mathematical model. Agent-based simulations (3000 runs over 50 generations) revealed that individual skills and activity costs were key selective pressures. Findings suggest that evolution of gaming depends on players' skill levels, familiarity with the game, and the costs associated with participation. Future studies should focus on longer-term observations, costs, and familiarity of gaming.



FACIAL EXPRESSIVITY OF TWINS IN A STANDARDIZED SITUATION

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ABSTRACT

Twin studies offer a unique opportunity to investigate the contribution of genetic and environmental factors to facial emotion expression (FEE). This naturalistic study included 28 pairs of twins ($n = 56$), aged 6 to 15 years, of whom 16 pairs were monozygotic (57.1%) and 53.6% were female. Among monozygotic pairs, 68.8% were female and 31.2% male. Data collection took place at the dental clinic of the University of São Paulo, under a standardized experimental condition during routine appointments. To ensure consistency, each co-twin was exposed to the same procedure: after sitting in the dentist's chair, the child received a dental bib and remained alone for one minute while a camera recorded their facial expressions. The recordings were analyzed using FaceReader 8.1 software, based on the Facial Action Coding System (FACS), assessing the percentage composition of six basic emotions and a neutral expression over the one-minute period. Additionally, emotional reactivity (valence and arousal) and the intensity of Action Units (AUs) were measured. Three repeated measures ANOVAs were conducted, with the following within-subject variables: emotions (six basic emotions and neutral face), emotional reactivity (valence and arousal), and AUs. The twin pair was treated as a between-subjects factor. The results revealed significant differences between twin pairs across all analyzed aspects, including facial expression composition, emotional reactivity, and AU activation. These findings suggest that even under standardized conditions, FEEs vary between twins, highlighting the interplay of genetic and environmental influences on emotional expression.



THE RELATIONSHIP BETWEEN SELF-CONCEPT AND TWICE EXCEPTIONALITY IN SCHOOL STUDENTS: A SYSTEMATIC REVIEW OF THE LITERATURE

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ABSTRACT

This study aims to contribute to the understanding of the relationship between the condition of twice exceptionality (2e) and self-concept in school students. A systematic review of the literature was conducted based on the PRISMA method through the analysis of empirical articles obtained from various electronic databases. The findings indicate that 2e school students construct their general self-concept in relation to experiences that are closely related to their condition. Despite being able to identify both their social and academic strengths and weaknesses, there is a tendency to develop a negative general self-concept as a result of unfavorable experiences related to the lack of understanding of their 2e in the educational context and the absence of optimal measures for their social and academic adaptation. The need for further empirical research to investigate in depth the situation of self-concept in 2e students, especially in the Latin American context, is highlighted. It is essential for psychology professionals to be trained in this area in order to provide psychological support to 2e school students, with the aim of improving their self-concept and, consequently, their personal well-being.



EARLY RELATIONSHIP DYNAMICS IN TWINS: THE IMPACT OF IMITATION AND INITIAL INTERPERSONAL EXPERIENCES ON EMOTIONAL DEVELOPMENT

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ABSTRACT

The aim of the present longitudinal, naturalistic and comparative study was to explore and describe several basic aspects of early imitative exchanges in twins' intrapair, parents'-twin infants' and grandparents'-twin infants' free dyadic interactions and the emotional state of the partners before, during and after the imitative sequences. A pair of dizygotic twins of different gender was observed with their parents and grandparents at home from the 2nd to the 10th month of their life (N=8). Six hundred sixty five (665) minutes of dyadic interactions were videotaped and microanalyzed in 1/25sec. Microanalysis was based on Kokkinaki's (1999) protocol on imitation extended on emotions, and pre imitative zone. No significant differences between twins and non-twins were found in imitation frequency. It was also found that twins demonstrate intersubjective abilities from early infancy and adult participation shapes kind of imitation (vocal, facial, non-speech sound, combination) and frequency. The mixed emotion of pleasure and interest was the most dominant and imitation took mostly place in a communicative context before and after the imitative episodes. Imitation, as a social and emotional process, functions as a bridge for communication and relationship-building—even in early life stages. Twin infants demonstrate that sharing, in turn-taking playful interactions ("your turn – pause – my turn"), and the joy of coexistence are among the earliest "gifts" of human development.



PROTECTING CHILDREN: IS THE BEHAVIORAL IMMUNE SYSTEM (BIS) RELATED TO OVERPROTECTIVE PARENTING?

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ABSTRACT

The Behavioral Immune System (BIS) comprises psychological mechanisms that act as a first line of defense against pathogens. It detects the presence of potential health threats in immediate surroundings, facilitating the avoidance of objects and people. Behavioral immune responses are evident across a wide spectrum of human behavior. For instance, research indicates a positive correlation between BIS strength and social conservatism, as well as xenophobic attitudes. Individual differences in BIS reactivity are associated with preventive health behaviors, such as wearing masks during the COVID-19 pandemic or hand washing. Furthermore, it has been found that individuals perceiving themselves as more vulnerable to infections tend to prioritize the trait of obedience in children, which suggests an association between BIS and offspring-protective behaviors.

We investigate this assumption in a correlational study ($N = 1417$). Specifically, we examine whether behavioral immune system indices, namely germ aversion and perceived infectability, are positively related to overprotective behaviors in the context of parenting. Additionally, we aim to determine whether this relationship is stronger among women compared to men, given that women generally invest more in their offspring. Our results are discussed in the context of the evolutionary basis of parenting behaviors and BIS flexibility.



EXPLORING TWIN BIRTH PATTERNS AND ASSOCIATED FACTORS IN ESPÍRITO SANTO, BRAZIL

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ABSTRACT

This study had two objectives: (1) to analyze the twin birth rate in Espírito Santo, Brazil, from 2016 to 2021 and its associated factors, and (2) to promote the registration of twins in the USP/Brazil Twin Panel. Data from the Live Birth Information System (SINASC) were used to calculate annual twin birth rates, and logistic regression was employed to examine associations between twin births and maternal characteristics. To support the registration initiative, twins and their parents were invited to participate via an online form disseminated to the academic community of a public university in southeastern Brazil and through researchers' social media platforms.

The twin birth rate in Espírito Santo was 10.44 per 1,000 live births during the study period. Maternal age and marital status were identified as significant predictors of twinning. The likelihood of twin births increased with maternal age and was lower among mothers in consensual unions or with no recorded marital status. Regarding the registration effort, 74 individuals with twins or responsible for twins accessed the registration site between April 2023 and September 2024.

These findings align with existing literature, emphasizing maternal age and marital status as key determinants of twinning. The study provides valuable insights into the regional context of twin births and contributes to the broader understanding of twinning while supporting increased participation in the Brazil Twin Panel.



BETWEEN SHADOWS AND LIGHT: PERSONALITY TRAITS AND THEIR IMPACT ON ACADEMIC ACHIEVEMENT AND SCHOOL CONDUCT IN ADOLESCENTS

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ABSTRACT

Narcissism, Machiavellianism, and psychopathy—collectively known as the Dark Triad—are often regarded as reflecting the most malevolent aspects of human nature. In 2013, sadism was added to this constellation, forming the Dark Tetrad. In contrast, the Light Triad, introduced in 2019, encompasses traits such as humanism, faith in humanity, and Kantianism, symbolizing the more virtuous facets of personality. This study aimed to explore how these contrasting personality traits influence adolescents' functioning in an educational context.

The specific objective was to examine the relationship between dark and light personality traits and school functioning among adolescents aged 14–19. We investigated the extent to which traits from the Dark Tetrad and Light Triad predict academic achievement and behavioral evaluations in students from grades 7–8 of primary school and general high schools.

A total of 300 students participated in the study. Independent variables included personality traits measured using two psychometric tools adapted into Polish via back-translation. The dependent variables were students' grade point averages and conduct grades. Data were collected through self-report questionnaires administered under teacher supervision.

The study assumes that both subclinical antisocial traits and prosocial moral tendencies can significantly influence adolescents' functioning within educational settings. The findings aim to expand our understanding of how personality relates to academic performance and behavioral adjustment in youth, and to provide a foundation for more personalized psychological and pedagogical support strategies in schools. Results are interpreted within the framework of evolutionary psychology, considering the adaptive value of diverse personality configurations.



COGNITION AND AFFECT IN WOMEN WITH LIFELONG ORGASMIC DIFFICULTIES: AN EVOLUTIONARY AND BEHAVIORAL PERSPECTIVE

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ABSTRACT

Female orgasmic dysfunction, particularly its lifelong subtype, presents a compelling challenge for human ethology. While cognitive-affective factors like inhibition, automatic thoughts, and emotional states are well-documented in acquired orgasmic difficulties, their role in primary anorgasmia – a persistent, developmentally early-onset condition – remains unexplored from an evolutionary behavioral lens.

This study investigates whether women who have never experienced orgasm exhibit distinct cognitive-emotional profiles compared to those with situational difficulties or typical orgasmic function. Drawing on evolutionary theories of sexual motivation and stress response, we hypothesize that primary anorgasmia reflects heightened sexual inhibition, more frequent threat-related automatic thoughts during arousal, and lower sexual mindfulness – patterns that may reflect evolutionarily adaptive calibrations that have become maladaptive in modern sexual contexts.

Using an online anonymous sample (n=410 women, 18+), we assessed sociodemographics, sexual history, and validated measures including sexual inhibition/excitation scales (SIS/SES-SF), automatic thoughts (SMQ-ATS) and sexual beliefs (BASEF) as potential mismatch indicators; also, affect (PANAS) and mindfulness (FFMQ-S) as modulators of sexual responsiveness. Analyses will compare three groups (lifelong anorgasmia, situational difficulties, no complaints) to test whether primary anorgasmia shows a unique cognitive-affective signature, and how these patterns align with evolutionary models of sexual behavior (e.g., sexual shutdown under stress).

Preliminary results will be presented, with discussion of their implications for evolved female sexual psychology, mismatch hypotheses in sexual functioning, and behavioral interventions informed by ethological approach. This work bridges sexual medicine with human ethology by framing orgasmic capacity as a biosocial phenomenon shaped by ancestral priorities and modern cognitive-affective landscapes



THE IMPACT OF ISOLATED MAKEUP TECHNIQUES ON NON-CONSCIOUS PERCEPTION AND CONSCIOUS ATTENTION

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ABSTRACT

Appearance's modifications are frequent and important universal phenomena. Among them, the use of makeup is most highlighted in psychological studies of holistic effects. For that matter, it is assumed that the facial analysis of a made-up individual is the same as of bare faces according to normal eye fixation patterns. However, research on isolated makeup techniques indicates that such patterns may be influenced by the application's heaviness and length of exposure to the made-up face. Thus, this study aims to explore whether makeup — as a supernormal stimulus — shapes both immediate perception and sustained attention by isolating specific facial elements to determine whether they independently alter gaze patterns. Through the usage of standardized photographs of 34 Brazilian women in progressive states of makeup application, 4 groups of variants will be created by editing onto the models' bare faces: either a heavy makeup element on the skin, eyes, or mouth, or by the addition of distractors. Therefore, the use of an eye-tracker will test both the original photos and variants as capable of attracting a total of 68 observers' eyes in two distinct periods: in 300 ms, which evidences perception; and in 1000 ms, which evidences attention. The 300 ms trials shall be analyzed by multinomial logistic regression, while the 1000 ms ones shall be analyzed by mean and standard deviation of the ocular permanence time. The findings could offer new insights into the universal cognitive mechanisms behind facial evaluation, and contribute to broader discussions in ethology about the social role of appearance modifications.



SELF-LOVE, HELPING HANDS AND MOVING TAILS: MASTURBATION AND PARTNER STIMULATION IN JAPANESE MACAQUES (*MACACA FUSCATA*)

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ABSTRACT

Non-conceptive sexual behaviors in non-human primates offer important insights into the complexity of social and sexual strategies beyond reproduction. This study contributes to the growing body of research on the non-reproductive functions of sexual behavior in primates, including social bonding, stress reduction and pleasure. It investigates self and partner directed sexual stimulation, particularly masturbation and partner genital stimulation in semi-free-ranging Japanese macaques (*Macaca fuscata*). It reports two previously undescribed sexual behaviors: (1) manual genital stimulation of a male by a female, and (2) tail-assisted genital stimulation of females by males during female-male mounting. The study also categorizes male and female masturbation in different social contexts.

Behavioral observations were conducted at Affenberg Landskron (Austria) between September 2024 and January 2025 using focal animal sampling and ad libitum methods. Over 4,600 minutes of focal observations on temporary sexual relationships, called consortships, were recorded. Additionally, group-wide scans were conducted to record sexual activity on group level. These scans resulted in 1,147 documented events involving 122 different consort pairs.

Manual genital stimulation by a female partner was observed only once. This rare event highlights not only the uniqueness of the behavior but also how much may remain undocumented in primate sexual behavior. It suggests that sexual behavior is highly individual and more diverse than previously assumed. The findings also underline the importance of recognizing female sexual agency and behavioral variability. This work broadens our understanding of Japanese macaque sexuality and offers comparative insights into the evolution of human sociosexual behavior.



USING FUNCTIONAL NEAR-INFRARED SPECTROSCOPY (fNIRS) TO BETTER UNDERSTAND THE EVOLVED HUMAN BRAIN

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ABSTRACT

Functional Near-infrared Spectroscopy (fNIRS) is a developing technology that tracks hemodynamic responses in the brain (changes in oxygenated and deoxygenated hemoglobin levels). While this technology is finding its way into a few mainstream areas of psychology, it has been largely underutilized in the field of evolutionary psychology. In other words, there is a large gap in existing literature regarding the application of fNIRS to better understand the evolved human brain and its impact on behavior. fNIRS is an ideal method to infer brain activity, particularly due to its mobility, which allows for more ecologically valid ways to track brain responses in real-time while humans engage in various cognitive and/or behavioral tasks. This poster will first present how fNIRS works, including its strengths and weaknesses in the ability to track hemodynamic brain responses. Then, several projects from my lab will be discussed that will incorporate fNIRS technology into existing protocols. One example is to understand sex differences in the brains of males and females when presented with baby-related stimuli under emotionally laden situations (e.g., asked to care for a happy / crying baby). Another example is to test the cortical hypermetabolism hypothesis when viewing uncomfortable images, specifically if trypanophobia is a function of cortical excitability. Last, we outline how the field of evolutionary psychology could benefit from incorporating fNIRS technology into its protocols, which will continue to develop a standard for fNIRS research as well as the field of evolutionary psychology.



SIGNS OF AVOIDANCE AND SYMBOLIC GENERALIZATION OF DISGUST WITH TRIPOPHOBIA STIMULI

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ABSTRACT

Symptoms associated with anxiety disorders are generalized indirectly and arbitrarily, influencing the effectiveness of their treatment. Tripophobic stimuli have sensory characteristics similar to natural signals of diseases preventable by contact. This experiment aims to provide new information about symbolic generalization with tripophobia, based on a replication of the study by Dymond, Schlund, Roche, & Whelan (2014). The role of stimulus avoidance in the generalization of conditioned disgust was explored. Ninety university participants aged 18 to 30 were conveniently selected and randomly assigned to the control or experimental group. The experimental group received reinforcement for avoidance responses to a new stimulus, while the control group did not have the opportunity to avoid the stimulus in one phase. Reaction time, causal judgment, and self-reported disgust were assessed across four phases. It began with preliminary training on categories containing equivalence-related stimuli; next, a positively conditioned stimulus with tripophobia and a neutral conditioned stimulus with a blank image were established. Finally, generalization to the other stimuli was tested. Results showed that participants in the experimental group reported higher disgust scores and shorter reaction times when avoiding tripophobic stimuli compared to the control group. The comparison of studies reflects that symbolic generalization differs in terms of the level and type of symptoms similar to anxiety disorders.



ROCKED TO SLEEP OR RATTLED AWAKE? A SCIENTIFIC LOOK AT SLEEPING ON NIGHT TRAINS

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ABSTRACT

This research investigates the intricate dynamics of sleep quality experienced by passengers traveling on night trains. We employed a comprehensive methodology that integrates subjective sleep assessments with objective physiological measurements. Night trains constitute a unique transportation mode, potentially offering travelers a practical and sleep-compatible setting that allows for the confluence of travel and rest, optimizing both time and financial resources. However, to date little is known about the sleep quality on night trains.

To investigate how environmental variables affect sleep quality, we measured light conditions, temperature, environmental noise, movement, and humidity to continually monitor the environmental conditions. Sleeping accommodations in this study include sleeping cars, couchette cars, and private mini-cabins. Additionally, we measured blood pressure, heart rate, heart rate variability, and skin conductance to monitor the quality of sleep. This allows us to link sleep disturbances to environmental triggers. 27 participants (11 women, 17 men), aged 19 – 52 took on average 5 trips (total 127 trips) in private and shared cabins. Sleep quality on the night train shows higher variation than sleeping at home.

Considering the increasing public awareness of sleep as a vital component of overall well-being it is crucial to scrutinize the factors influencing sleep quality. Our data shows which factors influence sleep quality most and our results provide the basis for the development of recommendations to optimize the night train experience.

The study protocol adhered to ethical guidelines and obtained informed consent from all participants. This research was funded by Deutsches Zentrum für Schienenverkehrsforschung (DZSF) at Eisenbahn Bundesamt.



HUMAN OLFACTORY SENSITIVITY VARIES ACROSS GEOGRAPHICAL LOCATIONS

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ABSTRACT

It has been assumed that olfactory sensitivity is relatively consistent in different populations worldwide. Emerging, yet fragmented, evidence lends credit to the hypothesis that olfactory sensitivity may be ethnically and geographically diverse. To gain deeper insight regarding the interplay between environmental, demographic, and health factors in the context of olfactory sensitivity, we conducted a multicenter study comprising data from 1046 from 19 locations around the world. Our results revealed that location accounted for 17-20% of the variance in chemosensory sensitivity. Demographic and psychological factors related to working memory and depressive symptoms are additionally helpful in explaining sensitivity to odors, accounting for 1.8-2.7% of variance in chemosensory sensitivity. People inhabiting different regions may have different sensitivities to chemical stimuli due to varying exposures to atmospheric conditions and different chemosensory experiences in daily life. We discuss the potential source of ~80% of unexplained variance.



COSTLY BEAUTY: EFFECTS OF FEMALE LUXURY CONSUMPTION ON PERCEPTION OF ATTRACTIVENESS AND WEALTH

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ABSTRACT

Humans invest substantial resources in appearance enhancement, with females particularly engaging in costly beautification practices. Female appearance modifications are traditionally explained through two theories: supernormal stimuli theory, where modifications create exaggerated visual cues to exploit preferences, and intrasexual competition, where costly items signal wealth to deter rivals. Neither theory fully explains observed consumption patterns. We hypothesized that the effects of appearance modifications depend on both visual manipulation and perceived cost. We first created standardized stimuli that depicted 55 female models in control conditions and with varied lipsticks (economy/luxury, pink/red) and shoes (economy/luxury, flat/heeled). Participants ($n=279$; Czech; 177 females; age 18-40) assessed attractiveness and wealth of stimuli, projected in real-life size. Significant discrepancies between expected and observed ratings were detected using mixed-effects models. Overall, economy items demonstrated stronger wealth-enhancing effects than expected (mean difference: -0.89 to -0.51), while luxury items generally showed inflated expectations (mean difference: $+0.34$ to $+1.40$). Specifically, for lipsticks, red shades were expected to enhance attractiveness by $+1.24$ on our 10-point scale, while observed effects were modest. For shoes, flat shoes' attractiveness was underestimated, and luxury heels' wealth-enhancing effects were substantially overestimated. Sex differences were pronounced: females exhibited stronger expectation effects for visually exploitative items. These findings suggest perceptions about appearance enhancement practices are often exaggerated compared to actual effects. The results challenge the theoretical frameworks by demonstrating that use of visually exploitative features more strongly influence wealth perceptions than product cost, and expectations about attractiveness enhancement of visually exploitative items are often inflated.



WHY COVER THE GENITALS, WHY SEX IN INTIMACY? EVOLUTIONARY AND CROSS-CULTURAL UNDERPINNINGS

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ABSTRACT

Covering one's genitals is very wide-spread in human societies; for only few of them ethnographic records show that their members were totally naked. It seems, this was more often the case for males than for females. In some societies the penis is visually accentuated by special kinds of cover. This can be related to the fact that in a number of non-human primate species males expose their erect, often brightly coloured penis as a sign of threat and dominance. This phylogenetic background explains the function of the phallos as powerful apotropaic signal. Images of the vulva/vagina as the seat of awe-inspiring female power are used in a similarly protective property. This intuitive perception of the genitals and a connected evolution of genital shame may provide an explanation for the tendency to cover them. Related to this impulse of genital modesty is the universal fact that humans (except at very rare occasions) do not have sex *coram publico* like other animals, but in intimacy. One reason for this could be the high and socially possibly disrupting arousability of humans triggered by watching others perform sexual acts. The forming of clandestine "consortships" e.g. between females and non-alpha males in chimpanzees, allowing female choice, has also been suggested as building block for our unique sexual behaviour. Evolved bio-psychic genital and sexual shame are thus seen as primary motivations to hide one's coitus and to cover one's genitals. Putting on dress would have happened later in hominization and independently of inventing genital cover.



SEMI-NATURALISTIC TWIN STUDY OF TACIT COORDINATION: NEW FINDINGS AND THEORETICAL IMPLICATIONS

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ABSTRACT

Thomas Schelling (1960) is known for his research on tacit coordination (TC). He defined TC as circumstances in which “two parties have identical interests and face the problem not of reconciling interests but only of coordinating their actions for their mutual benefit when communication is impossible.” Reasoning from Hamilton’s (1964) inclusive fitness theory, it was hypothesized that: Coordinated actions should be displayed more often between individuals sharing relatively higher proportion of genes than those sharing fewer. Support for this prediction comes from twin studies showing greater cooperation between genetically identical (monozygotic or MZ) than non-identical twins (dizygotic or DZ). However, coordination is distinct from cooperation in that coordination involves behavior on the part of both interactants, whereas cooperation involves behavior by one actor leading to benefits for both partners. New findings from the Twin Studies at CSU Fullerton will be presented. The sample include 78 MZ twin pairs and 54 DZ twin pairs, ranging in age from 11-72 years. Zygosity was assessed by a standard physical resemblance questionnaire and/or DNA analysis. Modeled after Mehta (1994), individual twins independently answered questions (e.g., name a book, name a color), then repeated this task but were instructed to produce the same answer as their co-twin. Previous analyses found significant effects from zygosity (twin type) and condition (individual vs. twin), a pattern that continues. MZ twins outscored DZ twins, and greater coordination was expressed in the coordination vs. individual condition. These findings promise to refine theories concerning genetic contributions to coordination and collaboration.



DIETARY PRACTICES, EVOLUTIONARY MISMATCH, AND ANXIETY IN HIGH SCHOOL ADOLESCENTS IN AN AMAZONIAN REGION

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ABSTRACT

Human evolution occurred in an adaptive environment markedly different from the present. Prior to sedentary life, human beings lived under selective pressures that favored intense physical mobility, diverse and minimally processed diets, and strong social support within small groups. The contemporary environment, marked by rapid urbanization, sedentary lifestyles, and the widespread availability of ultra-processed foods, creates a context of evolutionary mismatch—defined as the inadequacy of biological and behavioral responses to conditions that diverge significantly from those under which our species evolved. Adolescence, a critical period of physical, emotional, and behavioral development, may be especially vulnerable to such mismatch. This study aims to investigate potential correlations between dietary practices, the degree of mismatch with the ancestral environment, and symptoms of anxiety among high school adolescents. The sample will include 200 participants aged 15 to 18, of both sexes, enrolled in public schools in two contrasting regions of the Brazilian Amazon: the urban Metropolitan Region of Belém and the rural municipality of Medicilândia. Data will be collected using a Sociodemographic Questionnaire, the Beck Anxiety Inventory, the Brazilian Dietary Guidelines Adherence Scale (GAPB), and the Evolutionary Mismatch Lifestyle Scale. It is expected that adolescents living in rural contexts will show greater adherence to GAPB recommendations, a lower degree of evolutionary mismatch, and reduced symptoms of anxiety. Results may indicate that lifestyles more aligned with ancestral environments favor emotional regulation and offer insights for educational and public health strategies aimed at improving adolescent mental and nutritional health in different socio-environmental contexts.



DO ATTRACTIVE PEOPLE LIVE IN SOCIAL GOLDEN CAGES OF WHITE LIES? CLAIMS AND DECLARATIONS WE MAKE TO THEIR FACES

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ABSTRACT

In this study I examined how the presence of an attractive female influences moral decision-making. Drawing on theories of self-presentation, the research explored whether individuals adjust their moral responses when they are being questioned by another person, particularly in contexts that may suggest mating relevance. The study involved 285 participants (49% female) who responded to a series of moral dilemmas based on the CNI model, which distinguishes sensitivity to social norms, sensitivity to consequences, and a general preference for action versus inaction. Participants were randomly assigned to one of three conditions: completing the task alone, responding aloud in an empty room to a recording device, or in the presence of a highly attractive female experimenter who read the dilemmas aloud and recorded their responses. Results showed that participants accompanied by the attractive female demonstrated a reduced tendency to adhere to moral norms, suggesting a shift away from deontological reasoning. This gives a new perspective on the social environment physically attractive people live in, and the biased information on others they are presented with.



BODY SIZE AND SHAPE MISPERCEPTION: A TINBERGIAN APPROACH

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ABSTRACT

Large numbers of people over- or underestimate their body size. This is thought to be a significant risk factor for body image concerns and resulting negative health behaviours such as eating disorders (especially in young women), steroid abuse (especially in young men) and compulsive exercise. I will describe the work that my collaborators and I have performed to understand the perceptual and cognitive mechanisms behind body size and shape misperception, particularly visual adaptation and attention. I will also discuss how a Tinbergian approach has helped to guide this area of research that is not traditionally considered “evolutionary” in nature.



MALE-MALE SOCIAL RELATIONSHIPS IN A SEMI-FREE RANGING GROUP OF JAPANESE MACAQUES (*MACACA FUSCATA*)

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ABSTRACT

Navigating through group life means interacting with different group members in various contexts and in further consequence forming social relationships. Building and maintaining affiliative relationships are argued to serve the purpose of increasing an individual's fitness either directly through increasing its own reproductive success or indirectly through increasing a close relative's reproductive success. Even though it was claimed for non-human primates that long-lasting affiliative relationships between males should be rare since males not only compete for food resources but also for females in oestrus, they were nonetheless found in many species and not just between kin.

This study shows that male Japanese macaques (*Macaca fuscata*) form affiliative relationships with other males despite living in a despotic society with a strict linear dominance hierarchy. We observed a semi-free ranging group of Japanese macaques at the Affenberg Landskron, Austria (Affenberg Research Station) with a focus on sexually mature males (N = 41). To measure the directionality and strength of dyadic affiliative relationships we calculated a Composite Sociality Index (CSI) for all possible male-male dyads using the frequency of proximity and the duration of grooming behaviour collected through continuous focal animal sampling. There was a wide variation in CSI values but both high- as well as low-ranking male Japanese macaques formed multiple affiliative relationships with other males.

Long-term studies building upon these results will be able to investigate the influence of male social relationships on social status and reproductive success in despotic primate societies, while also offering insights into parallels with human friendships.



LATENT GROWTH CURVE MODELING OF HABITUATION IN RELATION TO ATTENTIONAL SUSCEPTIBILITY

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ABSTRACT

Habituation, defined as the decrease in response to repeated stimuli, is well-documented across species. However, its study in humans presents specific challenges due to high individual variability and limited experimental control, which increase error variance in statistical analyses. This study aimed to model such variability using latent growth curve modeling (LGCM), incorporating key variables that influence habituation patterns. These included attentional susceptibility, measured through the ASRS v.1.1. (Adult Self-Report Scale) for ADHD symptom screening, and variables such as intercept, slope, biological sex, and individual psychometric results.

Sixty-four participants were exposed to four auditory stimuli during a habituation session, with their pupillary responses recorded as the primary measure of habituation. After the session, participants completed a series of psychometric tests. Descriptive analyses confirmed the presence of habituation patterns, attentional difficulties, and a high likelihood of ADHD symptomatology.

The latent growth curve model included intercept (initial response), slope (rate of habituation), biological sex (as a moderating factor), and psychometric results (related to attention and ADHD traits). The model revealed significant effects of these variables on the habituation trajectory, suggesting that attentional susceptibility and other individual differences significantly modulate habituation responses. These findings underscore the importance of considering intraindividual variability in habituation studies, particularly in populations with attentional differences.

This study highlights the need for advanced statistical approaches, such as mixed-effects models, to more accurately capture the dynamics of habituation in individuals with diverse attentional profiles. It provides valuable insights between attention, habituation, and individual variability, which holds both theoretical and clinical implications.



DEVELOPMENT OF AGONISTIC BEHAVIOR IN WILD INFANT CAPUCHIN MONKEYS (*SAPAJUS XANTHOSTERNOS*)

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ABSTRACT

Agonistic behavior, which includes threat, aggression, and submission, is fundamental to regulating social interactions in primates. Understanding how these behaviors emerge and develop is essential to explaining the dynamics and organization of primate social groups. However, little is known about the ontogeny of agonistic behavior in wild primates, especially in endangered species like *Sapajus xanthosternos*. This study investigated the development of agonistic behavior in yellow-breasted capuchin monkeys, an endemic species of the Brazilian Atlantic Forest. Drawing on 290 hours of focal video observations, we analyzed eight juveniles (4 males, 4 females) from birth to 36 months, using The Observer XT software. We tested whether (1) agonistic behavior increases with age, (2) sex differences emerge in emission and reception of agonistic events, and (3) agonistic acts occur more frequently during interspecific than intraspecific interactions. Results show that threats occurred from early infancy, and agonistic behavior increased notably during the first year. Males exhibited a significant peak at 12 months, while females peaked later at 24 months and received more agonism overall. Most interactions were intraspecific. These sex-specific developmental trajectories suggest early differentiation in social roles and competitive strategies. Understanding the ontogeny of conflict behaviors in non-human primates offers critical insights into the evolutionary roots of human aggression, dominance, and negotiation. By tracing the roots of these behaviors in a closely related species, we gain a deeper understanding of how core elements of human social conflict may originate and develop throughout early life.



POTENTIAL CUES FOR ATTRACTIVENESS IN INHERENT VISUAL CHARACTERISTICS OF EXTRACORPOREAL PERSONAL ORNAMENTS

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ABSTRACT

Many studies have focused on the attractiveness of physical characteristics of the human body but few on extracorporeal attributes. This study aims at identifying whether inherent visual characteristics of necklaces exist that make them attractive (or not). Through questionnaires, the preferences for 9 visual variables, three linked to the beads constituting the necklace (the beads' shape, sizes, colour and shade) and five concerning the visual aspect of the necklace as a whole (it's degree of homogeneity, symmetry, contrast against its background, its number of strands and length) were tested in three European regions (France, Germany, and Netherlands). Despite small sample sizes (n=32 for France, n=69 for Germany, n=42 for the Netherlands), results show for all three regions a preference for single strand necklaces composed of small white, rounded beads displayed in a symmetrical, homogeneous way and strung on a rather short string. No significant differences in choices could be established between female and male participants. This suggests the existence of some bio-psychological foundation in the appreciation of beauty and attractiveness in extracorporeal elements. Some differences in choices between the three European regions could indicate that familiarity with specific visual aspects of necklaces also play a role.



EMOTIONAL ATTACHMENT AS A COMPENSATORY STRATEGY: RELATIONSHIP MAINTENANCE BEHAVIORS IN WOMEN WITH SEXUAL DYSFUNCTIONS RELATED TO MAYER-ROKITANSKY-KÜSTER-HAUSER SYNDROME

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ABSTRACT

Maintenance relationship behaviors are understood as evolved psychological mechanisms shaped by natural selection to address adaptive challenges related to pair-bonding, cooperation, and long-term reproductive strategies. Initially focused on reproduction, these mechanisms evolved into neurophysiological responses that foster emotional closeness and relationship stability, offering an evolutionary explanation for the strong link between sexual satisfaction and relationship maintenance. However, in cases of sexual dysfunction associated with clinical conditions, individuals may adopt compensatory strategies—such as increased emotional investment—to sustain their relationships. This study examined how sexual functioning, sexual satisfaction, emotional attachment, and relationship satisfaction interact in women with Mayer-Rokitansky-Küster-Hauser Syndrome (MRKH), a congenital condition characterized by vaginal atresia/shortening and uterine hypoplasia or agenesis, often leading to genito-pelvic pain penetration disorder. Thirty-four Brazilian women with MRKH (Rokitansky Group – RG) and 80 women without the condition (Comparison Group – CG), aged 18–64 and in romantic relationships lasting more than six months, completed online surveys assessing sexual practices, sexual function, sexual satisfaction, emotional bonding, and relationship satisfaction. Results showed that among RG participants, relationship satisfaction was associated only with emotional attachment, whereas among CG participants, it was linked to both sexual satisfaction and emotional attachment. Despite higher reports of penetration-related pain among RG participants, no significant differences were found between groups in terms of sexual practices, function, or satisfaction. These findings support previous research suggesting that, in the context of sexual dysfunction, emotional attachment may function as a compensatory mechanism for preserving intimacy, relational quality, and long-term relationship stability.



HERITABILITY OF ARTISTIC CREATIVITY IN TWINS: SUPPORT FOR THE MENTAL ORNAMENT HYPOTHESIS

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ABSTRACT

Human creativity is broadly defined as the capacity to generate adaptive and useful ideas. From an evolutionary perspective, creativity has been theorized to function as a mental ornament, a trait shaped by sexual selection to signal genetic quality (e.g., intelligence, behavioral flexibility) in mate choice and competition. Indeed, artistic behavior is strategically displayed in courtship. Thus, if artistic creativity serves as a fitness indicator, we expect (1) significant heritability, reflecting genetic variance for sexual selection to act upon, and (2) predominant non-shared environmental influences, as ornament expression often depends on social context. We tested these predictions in a sample of 84 pairs of Brazilian twins (71 monozygotic and 13 dizygotic). Using ACE modeling, we found that 15.8% of the variance in artistic creativity was attributable to additive genetic effects, <1% to shared environmental influences, and 84.2% to non-shared environmental factors. The results are consistent with the hypothesis that artistic creativity represents a mental ornament shaped by sexual selection and modulated by contextual environmental factors. The dominance of non-shared environmental influences suggests that individual differences in artistic creativity arise largely from idiosyncratic experiences (e.g., individual opportunities, mentors, or peer feedback) rather than shared cultural or familial contexts. This aligns with sexual selection theory if artistic display is tailored to specific social niches (e.g., adapting creative output to attract particular mates or gain status within a group). Future research should include larger samples and diverse creativity measures to test the evidence base of the mental ornament theory.



VERIFICATION OF THE FOOD PREPARATION HYPOTHESIS AMONG INDIVIDUALS RESPONSIBLE FOR COOKING, STUDYING AT A CULINARY SCHOOL

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ABSTRACT

Food on the one hand is necessary for survival, on the other poses a potential pathogen threat. According to the food preparation hypothesis, individuals responsible for preparing food are more sensitive to disgust in order to minimize the risk of consuming and providing others with food that may contain pathogens or parasites. The aim of the study was to verify this hypothesis by examining whether students in culinary schools show higher sensitivity to pathogen and food disgust compared to their peers not involved in gastronomy. Sensitivity to these forms of disgust was measured in students of culinary schools, whose practical experience in food preparation for others, as well as their social responsibility or role linked to food preparation, increases with each year of education. The study used the Food Disgust Scale, the Picture Food Disgust Scale, and the pathogen subscale of the Three Domains of Disgust Scale. The research sample included 500 students from five classes in cook and nutrition and gastronomy technician programs, with the control group consisting of their peers from high school, who were not involved in food preparation for others, either educationally or experientially. The data were analyzed using linear multiple regression, and the results were interpreted within the framework of evolutionary psychology.



THE BABY STRESS PARADIGM: A PRELIMINARY ANALYSIS OF CORTISOL RESPONSES TO BABY DOLL CRYING

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ABSTRACT

Stress-inducing paradigms, such as the Trier Social Stress Test (TSST) and Sing a Song Stress Test (SSST) are both effective but can be time-intensive and require a lot of resources placing strain on both researchers and participants. Research has shown that infant crying triggers stress responses in women. The current study seeks to develop a brief stress-inducing paradigm that uses baby crying sounds (with or without baby doll cues) to elicit stress responses in a broader population. To support the framework design process, we analyzed a preliminary dataset from a sample of 27 men ($M_{age} = 34.95$, $SD_{age} = 9.21$) exposed to a baby doll cue and crying audio for five minutes. Results from a paired sample t-test suggest a significant difference across participants' self-report perceived stress before and after the exposure to the baby doll crying, $t(26) = 2.36$, $p = .03$, $cohen_d = .40$. These preliminary findings support the idea that using baby crying sounds may be a quick and effective way to elicit stress, supporting the framework of our brief stress-inducing paradigm that requires significantly less set-up time and resources.



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