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Vienna Doctoral School  
Cognition · Behavior · Neuroscience  
from Biology to Psychology and the Humanities

CoBeNe



PhD Academy  
2024

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# Agenda

JANUARY 31	
<b>09:45 - 15:00</b>	Third Mission Activity: Intro to Science and Academia Workshop with students from a school in an socioeconomically deprived area
<b>13:45 - 16:00</b>	Lab tour EEG psychology Start: Liebiggasse 5, 1010 Vienna End: Altes AKH
<b>12:00 - 16:00</b>	Lab tour Haidlhof Corvid lab Start: Bushaltestelle Rathausplatz (between University building and Rathausplatz Park, <a href="https://maps.app.goo.gl/otGp4raS6NdvM8ZH9">https://maps.app.goo.gl/otGp4raS6NdvM8ZH9</a> ) End: Altes AKH
<b>16:00 - open end</b>	Pre-conference drinks and ice breaker @ Solo Pizza e Birra, Altes AKH

FEBRUARY 1			
	Großer Festsaal	Erika-Weinzierl-Saal	Elise-Richter-Saal
<b>08:30 - 09:00</b>	Welcome Address		
<b>09:00 - 10:00</b>	<b>Keynote 1: Cognitive Humanities (Hanna Brinkmann)</b>		
<b>10:00-10:10</b>	COFFEE BREAK		
<b>10:10 - 12:30</b>	Inputs & Sense-Making	Perceiving art, perceiving others I	Clever animals, clever humans
<b>12:30 - 13:30</b>	LUNCH BREAK		
<b>13:30 - 14:30</b>	<b>Keynote 2: BeCog (Vedrana Slipogor)</b>		
<b>14:30-17:00</b>	Social Contexts & Groups	Performance, stress, and self-control	Communication & Perception
<b>17:00 - 18:30</b>	POSTER SESSION		
<b>18:30 - 21:00</b>	Conference dinner @ University main building		

	FEBRUARY 2		
	Großer Festsaal	Erika-Weinzierl-Saal	Elise-Richter-Saal
<b>09:00 - 10:00</b>	<b>Keynote 3: Neuroscience (Rashmit Kaur)</b>		
<b>10:00 - 12:30</b>	Brain & Technology	Perceiving art, perceiving others II	Mental and physical health
<b>12:30 - 13:30</b>	LUNCH BREAK		
<b>13:30 - 14:30</b>	<b>Keynote 4: Psychology (Oswald Kothgassner)</b>		
<b>14:30 - 17:00</b>	Research for the Future	Information and relation seeking	Nutrition & Consumption
<b>17:00 - 18:00</b>	PANEL DISCUSSION		
<b>18:00 - 18:30</b>	Conference conclusion, prizes for best talk and best poster		
<b>18:30 - open end</b>	Post-conference drinks @ Café Einstein		

# Social Events

The evening before the conference, January 31, we would like to kick off the event over a couple beers @ Solo Pizza e Birra (Spitalgasse 2, Hof 1/Tür 1.13, 1090 Wien). Start is at 16.00.

For our conference dinner on February 1, we will have a delicious warm and cold buffet, prepared for you by [Habibi & Hawara](#).

After the conference has concluded on February 2, we would once again like to see many of you for an additional round of drinks, @ Café Einstein, Rathauspl. 4, 1010 Wien.

# Links

[Moodle](#) This year we are using moodle for our interactive online conference experience.

[Q & A on Slack](#) For questions before or during the conference you can join the CoBeNe Slack channel. We created a Q&A section specifically for the event. The slack channel is intended for general networking within the doctoral school so make sure to explore other rooms and start connecting with fellow PhD candidates. You can join the Slack [here](#).

# Rooms

Floor plans can be found at the [end of this document](#) or by following the links below

[Großer Festsaal](#) (Entry through the Kleiner Festsaal)

[Erika-Weinzierl-Saal](#)

[Elise-Richter-Saal](#)

[Barrier-free & staircases](#)

# Contact

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# Keynote Talks

## THE POTENTIAL EFFECT OF CULTURAL OBJECTS - AESTHETIC EXPERIENCES, ENJOYMENT, AND VISUAL LITERACY

Hanna Brinkmann

Donau-Universität Krems

Feb 1 09:00-10:00 Großer Festsaal

When people engage with cultural objects, whether in museums, public spaces, or for research purposes in controlled laboratory settings, this can have a broad variety of effects - from aesthetic over emotional to educational and even health-promoting effects. The new ICOM museum definition from 2022 highlights the visitor's experience in the museum and thus emphasizes the museum as an experiential space: “[Museums] operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing.” From a museological perspective, the impact of the museum as an overall concept is in the interest of research but can only be examined in fragments through empirical visitor studies. Furthermore, it is often difficult to separate which factors have caused which effect - in the highly complex structure of the museum no simple cause-and-effect conclusions can be drawn. From an art historical perspective, several potential effects are attributed to specific works of art or to single elements such as lines and colors. These attributions stem from art historians or artists who created these works themselves and intended a particular effect on the viewer. Such an effect is possible but does not necessarily occur. How have these potential effects been theorized and conceptualized over time and have there been historical attempts to measure them? The talk presents several interdisciplinary research projects - past, present, and future - that take different approaches to study human engagement with cultural objects and the potential effects (“Wirkungspotenziale”) this engagement can have. Situated between basic research and practice-oriented utilization this topic is examined from a wide variety of angles, with a focus on works of art as cultural objects.

## UNIQUE, JUST LIKE EVERYONE ELSE? INTEGRATIVE APPROACH TO PERSONALITY AND LEARNING IN COMMON MARMOSETS (*CALLITHRIX JACCHUS*) AND NAKED MOLE-RATS (*HETEROCEPHALUS GLABER*)

Vedrana Slipogor

Department of Zoology, University of South Bohemia

Feb 1 13:30-14:30 Großer Festsaal

Consistent inter-individual differences, i.e., animal personalities, are defined as behaviours that are stable within an individual throughout time, contexts and situations. Evolutionary bases and socio-ecological consequences of personality have been explored in many animal taxa. In my presentation, I will give an overview of our studies (i.e., using various experimental and observational designs, social and solitary set-ups, and captive and wild settings) on personality and learning in common marmosets (*Callithrix jacchus*), a gregarious neotropical primate species renowned for their individual and social learning skills. My presentation will shed light on whether i) personality traits are stable through time and modified by the social setting or different environments, ii) certain

traits (i.e. boldness and exploration) are linked to their brain laterality and learning capabilities, and finally iii) “speed-accuracy trade-off” model predicts which individuals are better skilled in acquiring and using social information. Exploring further aspects of consistent inter-individual behavioural, cognitive and physiological variation is a particularly promising research endeavour in this and other highly social species, especially the underexplored ones like the naked mole-rats (*Heterocephalus glaber*), subterranean rodents notorious for their extraordinary physiology, but almost completely unknown in terms of their behavioural and cognitive features; I will present some of our current projects on their personality, laterality, and learning. Eventually, studying these questions in highly social cooperatively breeding species that parallel humans in many abilities can contribute to understanding the complex intertwining of personality, cognition and their effects on life-history in our own species better.

## INSIGHTS INTO EVOLUTIONARY AND ADAPTIVE NEURAL CIRCUITS: FROM DEVELOPMENTAL MECHANISMS IN BILATERAL BRAIN ASSEMBLY TO TARGET-SPECIFIC REWIRING IN MATURE NEURONS

Rashmit Kaur

Brain research institute, University of Zürich  
Feb 2 09:00-10:00 Großer Festsaal

Understanding the formation and plasticity of neural circuits is fundamental to unraveling the complexities of brain function. My study focused the *Drosophila* olfactory system, a bilaterally symmetric structure interconnected by a commissural tract, to investigate the molecular mechanisms underlying developmental wiring specificity. We reveal that the induction of the olfactory commissure, an evolutionary novelty in dipteran flies, is regulated by the localized activity of a single cell adhesion molecule, L1CAM/Neuroglian. Loss of Neuroglian results in a complete reversal of the bilateral olfactory sensory map, highlighting its critical role in interhemispheric communication. Cell type-specific analysis identified autonomous and non-autonomous functions of Neuroglian in commissural pioneer interneurons, influencing olfactory contralateral tract pre-patterning and preventing sensory axons from targeting ipsilateral synaptic partners. Hierarchical interactions between pioneer and follower axons, mediated by differential Neuroglian signaling, control the sequential assembly of bilateral excitatory and inhibitory circuit elements. Consequently, mutations in a single gene during development can perturb global map formation.

My current research extends to the investigation of rewiring and plasticity in mature nervous systems, focusing on parvalbumin-expressing interneurons in the mouse hippocampus. Although mature neurons are traditionally considered structurally static, recent findings demonstrate that the transcriptional regulator Id2 can induce target-specific rewiring of mature excitatory neurons. Building on this discovery, we aim to explore the broader applicability of this approach in inhibitory neurons, particularly parvalbumin-expressing interneurons. These inhibitory interneurons are pivotal for maintaining stable circuit activity, and dysfunction is implicated in various neurological and neuropsychiatric disorders. Our current study aims to uncover the molecular programs governing circuit rewiring in mature neurons and develop therapeutic strategies to address pathological conditions by reactivating wiring in mature circuits.

## THE STRESS OF A VIRTUAL LIFE: TRANSITIONING FROM DIGITAL STRESSORS TO VIRTUAL REALITY THERAPY

Oswald Kothgassner

Medical University Vienna

Feb 2 13:30-14:30 Großer Festsaal

Social stress occurs when an individual lacks adequate resources to respond to overwhelming interpersonal challenges, whether from real or virtual social entities. In the last decade, virtual environments have become an integral part of everyday life, fundamentally transforming the nature of interpersonal interactions. However, there is an ongoing debate about the degree to which both real-world and virtual environments evoke comparable psychobiological stress responses to social evaluation or social rejection. Understanding these mechanisms is crucial for comprehending the implications of virtual environments on social behavior in real life. Moreover, there is a growing interest in the application of virtual realities for psychological therapies. The incorporation of virtual reality into therapeutic practices has shown promising results, especially in treating specific phobias. This implementation not only highlights the potential of technology in therapy but also opens up new possibilities for treating various other psychological disorders. In my talk, I will present studies that provide an overview of recent developments in this field. Additionally, I will outline the importance of understanding social interactions in virtual spaces, a cornerstone in the development of novel experimental methods and new treatment approaches for mental disorders.

# Track Overview

## **INPUTS & SENSE-MAKING**

THE ALTERED MIND: IS INCREASED SYNERGISTIC INFORMATION PROCESSING DRIVING KETAMINE'S ANTI-ANHEDONIC PROPERTIES?

*Maximilian Kathofer*

MEASURING INTERNAL VERBALIZATION AND ITS EFFECT ON ABSTRACT CATEGORIZATION AND OBJECT RECOGNITION

*Priscila Borba Borges*

THE WEIGHING OF SPEAKER INFORMATION: AN EXAMINATION IN VARIED LISTENING CONDITIONS

*Helen Robinson Reese Klubach*

HOW ATTENTION GUIDANCE SHAPES INFANTS' VISUAL CORTICAL PROCESSING OF OBJECTS VS BACKGROUND

*Anna Andrea Bánki*

MEEHL'S CRUD FACTOR: CONCEPT CLARIFICATION, PRACTICAL COMPUTATION AND SYSTEMATIC APPLICATION AND EVALUATION

*Robin Beckenbach*

SENSE-MAKING, EXISTENTIAL MEANING AND ULTIMATE CONCERN

*Felipe Gonzalez Tubio Machado*

## **PERCEIVING ART, PERCEIVING OTHERS I**

GOOD MENTAL HEALTH AND WELLBEING IN PEOPLE WITH INTELLECTUAL DISABILITIES: A SYSTEMATIC REVIEW

*Sophie Komenda-Schned*

READING EMOTIONS IN ART: DO AUTISTIC TRAITS INFLUENCE HOW WE PERCEIVE EMOTIONS THROUGH ART?

*Kim Young Ah*

HOW DOES MULTIMODAL AESTHETIC EXPERIENCE REDUCE PAIN AND STRESS?

*Anna Fekete*

AESTHETIC EXPERIENCES AND THEIR TRANSFORMATIVE POWER: A SYSTEMATIC REVIEW

*Marta Pizzolante*

PHONAESTHETICS - BETWEEN IMPOSED NORM AND INHERENT VALUE

*Lukas Nemestothy*

UNLOCKING THE MUSE: THE INFLUENCE OF DOPAMINE AGONISTS ON CREATIVE OUTPUT

*Paula Angermair*

## **CLEVER ANIMALS, CLEVER HUMANS**

KEA PARROTS (NESTOR NOTABILIS), FROM IMITATION TO BEHAVIOURAL FLEXIBILITY.

*Elisabeth Suwandschieff*

THE SMART MONKEY LAB - GENERATING NEW INSIGHTS IN THE SOCIAL DYNAMICS OF JAPANESE MACAQUES (MACACA FUSCATA)

*Roy Hammer*

AUDITORY PATTERN RECOGNITION IN COMMON MARMOSETS (CALLITHRIX JACCHUS)

*Julia Victoria Grabner*

HOW DO PIGS RESPOND TO A CHANGE OF THE ENVIRONMENT AS ASSESSED BY QUALITATIVE BEHAVIOUR ASSESSMENT?

*Giulia Ferroni & Fabiana De Angelis*

THE PURSUIT OF TASTINESS: THE PERSISTENCE OF UNHEALTHY = TASTY BELIEFS IN REWARD-RICH ENVIRONMENTS

*Peer Niklas Pivecka*

CHARACTERISING SOCIAL COMPETENCE THROUGH ADULT CORVID PAIRS

*Daria Nagel*

## **SOCIAL CONTEXTS & GROUPS**

VO TAKEOVER. INTERSECTIONAL INTERVENTIONS

*Seda Pesen*

LAUGHING TOGETHER – DO PEOPLE SYNCHRONIZE AND BOND WHEN THEY LAUGH TOGETHER?(WORK IN PROGRESS)

*Verena Schäfer*

INDIVIDUAL EXPLOITATION IN INTERGROUP CONFLICTS

*Qinyu Xiao*

EXAMINING AREA USE PATTERNS OF JUVENILE RAVENS (CORVUS CORAX) INTEGRATING INTO A FREE-FLYING NON-BREEDER FLOCK

*Awani Lalitkiran Bapat*

PERCEPTIONS OF MENTAL HEALTH AND ATTITUDES TOWARDS SEEKING MENTAL HEALTH SERVICES IN SYRIAN REFUGEES IN AUSTRIA

*Rojan Amini-Nejad*

DYNAMIC COLOR CHANGE PROMOTES RAPID MATE RECOGNITION IN AN EXPLOSIVE BREEDING TOAD

*Susanne Stückler*

## **PERFORMANCE, STRESS, AND SELF-CONTROL**

EXPLORING THE INTERPLAY OF GLUCOCORTICIDS, DAILY TIMING, SLEEP AND PSYCHOLOGY-BASED TASK PERFORMANCE

REGISTERED REPORT: GERMAN TRANSLATION AND VALIDATION OF THE SELF-CONTROL STRATEGIES SCALE (SCSS)

*Leopold Roth*

COMPLETING FIVE DAYS OF WORK IN ONLY FOUR? EFFECTS OF THE IMPLEMENTATION OF A COMPRESSED WORK WEEK AND THE ROLE OF EMPLOYEE EXPECTATIONS

*Arabella Mühl*

SAVING THE ENVIRONMENT? THAT'S BEYOND MY (WILL)POWER!

*Julia Jankowski*

REDUCTION OF IMPAIRMENT CAUSED BY SOMATIC SYMPTOMS IN STRESSED INDIVIDUALS AND PEOPLE WITH MENTAL DISORDERS

*Nadja Plumbaum*

STRESS MANAGEMENT "TO GO" – A PILOT STUDY INVESTIGATING AN ECOLOGICAL MOMENTARY INTERVENTION FOR STRESS REDUCTION IN EVERYDAY LIFE

*Hannah Tschenett*

## **COMMUNICATION & PERCEPTION**

INVESTIGATING NEURAL CORRELATES OF THE AUDITORY LOOMING BIAS AND UNDERLYING EVIDENCE ACCUMULATION DIFFERENCES

*Tobias Greif*

THE ADAPTIVE FUNCTION OF THE CHEETAH CHIRP

*Katharina Prager*

EXPLORING RAVENS' (CORVUS CORAX) MULTIMODAL DISPLAYS IN THE WILD

*Luise Fabbri Anna*

USING MULTIDIMENSIONAL SCALING AND CONVOLUTIONAL NEURAL NETWORKS TO PROBE MENTAL REPRESENTATIONS

*Mengfan Zhang*

VOCAL REPERTOIRE DEVELOPMENT IN THE SOOTY MANGABEY

*Ryan Sigmundson*

VISUAL ATTRIBUTES OF SPIDER IMAGES ASSOCIATED WITH AVERSIVENESS IN SPIDER-FARFUL INDIVIDUALS. A MACHINE LEARNING ANALYSIS.

*Alexander Karner*

## **BRAIN & TECHNOLOGY**

HARDER, BETTER, FASTER, STRONGER: WORDS NOT OFTEN USED IN REFERENCE TO SOCIAL MEDIA USE (AN EYE TRACKING STUDY)

*Zoya Dare*

DECISION-MAKING IN LEADER-FOLLOWER DYNAMICS WITH ASYMMETRIC INFORMATION

*Guilherme Henrique Lima Marques Silva*

LARGE LANGUAGE MODELS (LLMs) AS METHODOLOGY CONSULTANT: APPLICATIONS, EVALUATION AND SOLUTIONS

*Leonardo Jose Bergmann*

RESTING-STATE BRAIN NETWORKS: ASSOCIATIONS WITH DECLARATIVE/PROCEDURAL MEMORY AND WITH MULTILINGUAL EXPERIENCE

*Sevil Maghsadghagh*

THE IMPACT OF AI INTEGRATION ON JOB AUTONOMY AND CREATIVE SELF-EFFICACY: A CULTURAL PERSPECTIVE

*Deeviya Francis Xavier*

## **PERCEIVING ART, PERCEIVING OTHERS II**

THE ROLE OF THE OPIOID SYSTEM IN PAIN EMPATHY AND PROSOCIAL BEHAVIOR

*Julia Braunstein*

THE NEUROBIOLOGY OF CREATIVITY - GAINING NEW INSIGHTS WITH ULTRASONIC NEUROMODULATION

*Franz Schmid*

HOW DO WE BEST COMBAT PREJUDICE AND DISCRIMINATION WITH THE ARTS: INTRODUCING A DECOLONIAL, COLLABORATIVE AND TRANSDISCIPLINARY APPROACH TO EMPIRICAL AESTHETICS

*Srestha Chakraborty*

HOW DO WE EXPERIENCE ART? USING NETWORK AND LATENT PROFILE ANALYSES TO IDENTIFY AND CHARACTERIZE VARIETIES OF ART-EXPERIENCE.

*Stephanie Louise Miller*

URBAN AESTHETICS: A SCOPING REVIEW

*Margot Madeleine Régine Dehove & Kirren Kartar Kaur Chana*

THE FUNCTION OF AESTHETICS IN EVERYDAY LIFE: A MOBILE EYE-TRACKING APPROACH

*Tristan David Barriere*

## **MENTAL & PHYSICAL HEALTH**

PREMENSTRUAL SYMPTOMS AND STRESS: A META-ANALYTIC INVESTIGATION

*Celine Bencker*

ECOLOGICAL MOMENTARY MUSIC INTERVENTION FOR THE REDUCTION OF STRESS IN TURKISH IMMIGRANT WOMEN PERCEIVING CHRONIC ETHNIC DISCRIMINATION – A PILOT STUDY

*Stefanie Hirsch*

BARRIERS AND FACILITATORS TO BREAST CANCER SCREENING IN WOMEN WITH INTELLECTUAL DISABILITIES

*Theresa Wagner*

POSSIBLE RISK FACTORS AND CONSEQUENCES OF DEPRESSION AMONG AUSTRIAN SECONDARY SCHOOL STUDENTS

*Flora Fassl*

BREATHING EXERCISES AND COLD EXPOSURES IN COMBINATION WITH MINDSET TRAINING AS A POSSIBLE TREATMENT FOR ANXIETY, DEPRESSION, AND POST-TRAUMATIC STRESS

*Kenji Haas*

GENDER MINORITY STRESS AND COPING IN GENDERQUEER YOUTH IN A TIME OF ONGOING CRISES

*Teresa O'Rourke*

## **RESEARCH FOR FUTURE**

MATERNAL AND INFANT INTEROCEPTION

EXPERIENCING BEAUTY IN EVERYDAY LIFE

*Lena Knoll Anna*

AESTHETICS AND SUSTAINABILITY: THE ROLE OF MATERIALS IN ACTIVATING THE AFFORDANCES OF EVERYDAY OBJECTS

*Eduardo Naddei Grasso*

WEATHER CONDITIONS ON THE MEDITERRANEAN ROUTE AFFECT THE STRESS RESPONSE OF TRANS-SAHARAN MIGRANTS AT A STOPOVER STAGE

*Erica Calabretta*

IMPORT OF SPECIFIC NUCLEAR TRNAs COULD EXTEND THE VERTEBRATE MITOCHONDRIAL GENETIC CODE

*Sarah Emser*

REFRAMING MALE GENDER IDENTITY TO PROMOTE PRO-ENVIRONMENTAL BEHAVIOR

*Olena Vitkovska*

### **INFORMATION & RELATION SEEKING**

USING A DECISION AID TO FACILITATE ANTIBIOTIC USE AFTER A DELAYED PRESCRIPTION

*Marina Jutta Groß*

WHEN TALKING MAKES THINGS WORSE – CHANGING MINDS BY DOING THINGS

*Peter Hochenauer*

DEEPLABCUT – RECENT DEVELOPMENTS AND THE HOW-TO OF AN ARTIFICIAL INTELLIGENCE DRIVEN ANIMAL TRACKING TOOLKIT

*Jeroen Hendrikus Maria Van der Aa*

AWARENESS OF AGE-RELATED GAINS AND LOSSES SHAPE OUR SOCIAL MOTIVATION AND PERCEPTION OF AVAILABLE RESOURCES

*Christina Ristl*

SUBCELLULAR LOCALIZATION OF THE CALCIUM CHANNEL CAV2.3 IN CULTURED HIPPOCAMPAL NEURONS

*Stephan-Matthias Schulreich*

### **NUTRITION & CONSUMPTION**

COCKATOO'S KITCHEN: GOFFIN'S COCKATOOS INNOVATE TWO NEW FORAGING TECHNIQUES WITH DIFFERENT FUNCTION TO PREPARE THEIR FOOD.

*Jeroen Stephan Zewald*

HOW CAN HEALTH LOOK TASTY? INFLUENCE OF PACKAGING COLOR FIT AND PACKAGING COLOR SATURATION ON PRODUCT EVALUATION.

*Katharina Steiner*

DO RAVENS SEIZE THE DAY OR CHICKEN OUT? RAVENS' FORAGING DECISIONS IN UNFAMILIAR AND UNPREDICTABLE ENVIRONMENTS.

*Silvia Damini*

KEA NEOPHILIA- COSTS & LIMITATIONS

*Cornelia Habl*

HUMAN ACTIVITY INFLUENCES RESOURCE EXPLOITATION IN COMMON RAVENS

*Varalika Jain*

UNDERSTANDING THE EFFECT OF CONSUMPTION REDUCTION ON AFFECTIVE EXPERIENCE

*Ho Yin Chung*

# PhD TALKS

## INPUTS & SENSE-MAKING

THE ALTERED MIND: IS INCREASED  
SYNERGISTIC INFORMATION PROCESSING  
DRIVING KETAMINE'S ANTI-ANHEDONIC  
PROPERTIES?

*Maximilian Kathofer*

Vienna Cognitive Science Hub  
Feb 1 10:00 - 10:25 Großer Festsaal  
Discussant: Peter Hochenauer

At subanesthetic dose, ketamine induces an altered state of consciousness and increases measures of complex brain dynamics. Typically, these measures rely on connectivity analyses using bivariate correlations failing to uncover higher-order – yet biologically more plausible – dependencies. Partial information decomposition enables the detection of these higher-order dependencies and disentangles the observed information into redundant and synergistic parts, of which the latter has been shown to be specifically modulated by altered states of consciousness. The still poorly understood rapid-acting antidepressant and anti-anhedonic properties of ketamine might be linked to its modulation of precisely these higher-order dependencies, reflecting a breakup of engrained connections inducing acute alterations in the state of consciousness, and thus, facilitating a breakout of rigid behavioral patterns long-term. The full within-subject design consists of 4 sessions; baseline, two treatment sessions (ketamine and placebo) counterbalanced across subjects, and a follow-up session. Four hours after administration, to assess the subacute state in which the beneficial effects start to emerge, participants complete a battery of standardized assessment scales (e.g., 5-Dimensional Altered States of Consciousness and Dimensional Anhedonia Rating Scale) as well as a resting-state scan and an aesthetic task during

fMRI. The aesthetic task consists of self-selected highly moving and neutral music to examine ketamine's effect on the hedonic tone. Participants rate the induced experiences based on 3 dimensions: aesthetically moving, aesthetic chills, and valence. Preliminary data shows that ketamine increases the synergistic information processing during resting state.

MEASURING INTERNAL VERBALIZATION  
AND ITS EFFECT ON ABSTRACT  
CATEGORIZATION AND OBJECT  
RECOGNITION

*Priscila Borba Borges*

Acoustics Research Institute, Austrian Academy of Sciences

Feb 1 10:25 - 10:50 Großer Festsaal  
Discussant: Peter Hochenauer

Using the Internal Representations Questionnaire (Roebuck & Lupyan, 2020), researchers have found that the tendency to experience thoughts in the form of language, known as internal verbalization, influences how English-speaking participants recognize objects. At the same time, clinical studies have shown that people with inner language deficits seem to have impairments in metacognitive awareness and in the ability to categorize objects in abstract contexts, i.e., when few contextual or perceptual cues are available for linking objects together (e.g., Langland-Hassan et al., 2017, Langland-Hassan et al., 2021). Inner language has been claimed to provide the necessary conditions for metacognition to emerge and the necessary links for abstract categorization to occur. In this study, we present a validated German version of the Internal Representations Questionnaire, using it to confirm the effects of internal verbalization on object recognition, as assessed by a word-picture verification task. In addition, we explore for the first

time how normal variation in internal verbalization shapes performance in a nonverbal task measuring abstract categorization and metacognitive response confidence. We find that participants with stronger internal verbalization tendencies take longer to recognize pictures when the latter are preceded by semantically similar word cues, a result that goes in the opposite direction as what has been found with English-speaking participants. Additionally, we find no consistent effects of internal verbalization on abstract categorization or metacognition once executive functions are taken into account. Preliminary explanations for the results and follow-up plans to tease them apart are presented alongside the main findings.

Co-authors: Eva Reinisch

## THE WEIGHING OF SPEAKER INFORMATION: AN EXAMINATION IN VARIED LISTENING CONDITIONS

*Helen Robinson Reese Klubach*

Acoustics Research Institute, Austrian Academy of Sciences

Feb 1 10:50 - 11:15 Großer Festsaal  
Discussant: Peter Hochenauer

Socio-indexical information about the speaker, such as gender, is simultaneously conveyed in the acoustic speech signal and known to affect how it is ultimately processed. For example, the role of speaker gender in fricative categorization is well-established: an acoustically ambiguous fricative is categorized by listeners differently when combined with a male as opposed to a female voice (Strand & Johnson 1996, Munson 2011). In this dissertation project, I investigate the mechanisms behind this effect by testing for it in different listening conditions. Here we present data on three experiments conducted on fricative categorization. In Experiment 1, cognitive load in the form of a simultaneous visual search task was combined with a 2AFC phoneme categorization task. A single /s-/ /j/ continuum was combined with /s-/ /j/ minimal pair word ends produced by one male and one female speaker. Participants' task was to categorize the stimuli as the /s/ or /j/ word. Experiment 2 tested the effect of noise using the same phoneme categorization task. Experiment 3 compared the speaker-gender effect in native and non-native

listeners of English with an /s-/ /θ/ phoneme categorization task. The effect of speaker gender on fricative categorization was found across conditions and experiments. However, the magnitude was not significantly affected by any manipulation. That is, the use of speaker gender as a cue in phoneme categorization was not affected by either adverse condition (cognitive load or noise), nor was it significantly different between native and non-native speakers of English presented with an /s-/ /θ/ contrast.

Co-authors: Helen Reese & Eva Reinisch

Co-author affiliations: Acoustics Research Institute, Austrian Academy of Sciences

## HOW ATTENTION GUIDANCE SHAPES INFANTS' VISUAL CORTICAL PROCESSING OF OBJECTS VS BACKGROUND

*Anna Andrea Bánki*

Department of Developmental and Educational Psychology, Faculty of Psychology, University of Vienna

Feb 1 11:15 - 11:40 Großer Festsaal  
Discussant: Peter Hochenauer

In the first year of life, infants show a significant development in their ability to selectively attend to objects in the environment, with crucial consequences for early cognitive functioning and learning (Reynolds, 2015). Social interactions influence infants' attention: When looking at novel objects, infants' neural responses increase following joint attention with an adult (Hoehl et al., 2014). However, it is not yet established whether early social interactions can shape infants' visual processing toward the object versus the background of a visual scene (Bornstein et al., 2011). In the current study, we tested if differential attention guidance can shape infants' visual cortical processing of an object versus a background of a visual scene using electroencephalography (EEG) and frequency tagging (Köster et al., 2017). This is, presenting object and background at different driving frequencies elicits separate evoked responses for each element. We assessed 11-12-month-old infants (n = 53) who watched natural images with an object in front of a background, flickered at different driving frequencies (5.67 and 8.5 Hz, counterbalanced) while infants' visual

cortical processing was recorded with EEG. We applied a between-group, pre-post design with an experimental manipulation (training phase). During training, an experimenter guided infants' attention by consistently pointing either to the object or the background on the scene (according to group). We will present EEG results on how differential attention guidance shapes infants' visual attention to objects vs background. Our study will help uncover the role of early interactions in the development of attention allocation and scene perception.

## MEEHL'S CRUD FACTOR: CONCEPT CLARIFICATION, PRACTICAL COMPUTATION AND SYSTEMATIC APPLICATION AND EVALUATION

*Robin Beckenbach*

Department of Cognition, Emotion, and Methods in  
Psychology,

Feb 1 11:40 - 12:05 Großer Festsaal  
Discussant: Peter Hochenauer

In the latter half of the 20th century, the concept of crud emerged, which states the hypothesis that in the social sciences, including psychology, every two variables are related to some degree. Therefore, null hypotheses testing, which tests against null hypothesis stating an exact zero effect, is an inadequate means to detect meaningful relationships. Since it is mostly not an interesting question to ask whether an effect size differs from exactly zero, practical significance in terms of the smallest effect size of interest (SESOI) will be defined by the crud estimate. To define the SESOI by the crud estimate, to test against it and to investigate the concept in the social science universe, this endeavor consists of three parts: The first part aims to clarify the concept of crud and consists of a systematic literature review, focusing on the context of citations of the crud concept. The clarification is based on which conceptualization of crud is cited and for which purpose it is cited (to dismiss significant results between unrelated variables, explain non-replicability, ...) The second part consists of the creation of a user-friendly shiny app, which enables to empirically estimate crud, contrast hypotheses with the crud estimate and

perform metascientific research regarding crud. Users group variables in pairs in the categories a) crud variables, which are assumed to be unrelated to each other, b) hypothesized variables, which are theoretically assumed to be related to each other and c) user-specified groups (e.g. experimental vs. non-experimental variables). Then, the app compares effect sizes between crud relationships, hypothesized relationships and user-specific categorized groups by calculating a measure based on Pearson and distance correlation coefficients (Székely et al. 2007). The third part investigates metascientific hypotheses about the concept of crud regarding its stability across replication studies, its variation between user-specified variable categories, research fields and its relationship to sample size, variable variance, testing modality, test duration, experimental vs. non-experimental variables and replication success. The basis for these investigations will be open data sets of registered replication reports (RRR).

## SENSE-MAKING, EXISTENTIAL MEANING AND ULTIMATE CONCERN

*Felipe Gonzalez Tubio Machado*

Cognitive Humanities, CoBeNe, University of  
Vienna

Feb 1 12:05 - 12:30 Großer Festsaal  
Discussant: Peter Hochenauer

Navigating the Struggle for Identity and its Potential Pitfalls Enactivism argues that understanding cognition requires shifting the analytical focus from the internal manipulation of mental content to the coupling between agents and their environment. Sense-making is a fundamental concept that outlines the operational conditions for comprehending cognition within the structural coupling of organisms and their world. As organisms interact with their environment, they "bring forth a world of meaning" and adaptively regulate this interaction to sustain their identity as living entities. Enactivism acknowledges the need for research to explore how to scale up the framework from organisms interacting with their environment to more sophisticated forms of interaction, such as the coupling between humans and their sociocultural world. Recent developments advocate that for enactive cognition to be more

humane, an existential aspect must be added. I will argue that the way this argument has been constructed still fails to grasp the added value of incorporating an existential dimension. As it stands, the claim for an added notion is not yet warranted. I will suggest that the ignored aspect of what Paul Tillich referred to as human "ultimate concern" or what Kierkegaard articulated as "identity-conferring commitments" are the missing elements that validate an existential dimension. These concepts alter the operational conditions of sense-making in human affairs and necessitate a theoretical and methodological development of sense-making into the existential domain. Potential implications of this added dimension in our understanding of human cognition in societal issues, such as radicalization processes and political polarization, will also be explored.

## PERCEIVING ART, PERCEIVING OTHERS I

### GOOD MENTAL HEALTH AND WELLBEING IN PEOPLE WITH INTELLECTUAL DISABILITIES: A SYSTEMATIC REVIEW

*Sophie Komenda-Schned*

Department of Clinical and Health Psychology

Feb 1 10:00 - 10:25 Erika-Weinzierl-Saal

Discussant: Anna Luise Fabbri

**Background** People with intellectual disabilities (ID) experience major health inequalities compared to the general population. Good mental health is an essential component of overall health. However, little is known about the conceptualization of good mental health for people with ID. To capture existing concepts, definitions and measurement approaches of good mental health and the closely related concept of wellbeing a systematic literature review was conducted following PRISMA guidelines. **Methods** Eleven databases were systematically searched for records on (i) intellectual disabilities, (ii) mental health, (iii) wellbeing, (iv) definition, and (v) assessment. Screening, coding, and quality ratings of the records were performed by two trained researchers. A narrative synthesis was conducted to gather

insights in relevant facets of good mental health and wellbeing in people with ID. **Results** In sum 2046 records were identified, 37 of which were included in this review. Narrative synthesis revealed four main themes: (i) environment, (ii) absence of mental illness, (iii) physical health, and (iv) psychosocial functioning. The fourth was the most comprehensive theme and was further divided into five sub-themes: (i) emotionality, (ii) interpersonal relations, (iii) realize own potential, (iv) personal resources, and (v) overall appraisal of life. **Conclusion** Various conceptualizations of different types of wellbeing could be identified. However, only little information on definitions and conceptualizations of good mental health for people with ID could be obtained. This indicates a major research gap in the field of good mental health.

## READING EMOTIONS IN ART: DO AUTISTIC TRAITS INFLUENCE HOW WE PERCEIVE EMOTIONS THROUGH ART?

*Kim Young Ah*

Department of Cognition, Emotion, and Methods in Psychology

Feb 1 10:25 - 10:50 Erika-Weinzierl-Saal

Discussant: Anna Luise Fabbri

**Background:** Although emotion recognition ability (ER) is considered to be lower in individuals with high autistic traits, most previous research is based on facial expressions, which may confound findings due to issues with eye contact, general face processing, and/or social anxiety. This raises the question of how ER might differ when an alternative medium, such as visual art, is employed. **Methods:** Twenty-nine adult participants with high autistic traits (>17 on the AQ-k) and 29 age- and gender-matched participants with low autistic traits (<11 on the AQ-k) completed the study. Participants watched 36 one-minute videos of people making abstract line drawings expressing one of four emotions (happiness, fear, anger, pride). As a facial expression comparison, the Penn Emotion Recognition Test was administered. Additionally, the Toronto Alexithymia Scale – 20 (TAS-20) was administered to control for the effect of alexithymia. **Results:** Independent samples t-

tests show that while the low-trait group performed significantly better in the face-based task, there was no significant difference between the two groups for the art-based task. When controlling for the TAS-20 subscale Difficulty Describing Feelings, a regression analysis of the effect of group on the art-based task revealed that the high-trait group showed significantly better ER. Conclusions: When using alternative measures such as visual art, individuals with high autistic traits may not show reduced ER or even show heightened ability in ER. This calls for a rethinking of past findings and demands a good deal of additional research testing ER in different domains, especially the arts.

## HOW DOES MULTIMODAL AESTHETIC EXPERIENCE REDUCE PAIN AND STRESS?

*Anna Fekete*

Department of Cognition, Emotion, and Methods in Psychology

Feb 1 10:50 - 11:15 Erika-Weinzierl-Saal  
Discussant: Anna Luise Fabbri

The pain- and stress-reducing effects of music are well-known, but the effects of visual art, and the combination of these two, are much less investigated. We aim to (1) investigate the pain- and (2) stress-reducing effects of multimodal (music + visual art) aesthetic experience as we expect this to have stronger effects than a single modal aesthetic experience (music/ visual art), and in an exploratory manner, (3) investigate the underlying mechanisms of aesthetic experience and the (4) individual differences. In a repeated-measures design (music, visual art, multimodal aesthetic experience, control) participants bring self-selected “movingly beautiful” visual artworks and pieces of music to the lab, where pain and stress are induced by the cold pressor test. The activity of the pain and stress-responsive systems are measured by subjective reports, autonomic (electrocardiography, electrodermal activity, salivary alpha-amylase), and endocrine markers (salivary cortisol).

## AESTHETIC EXPERIENCES AND THEIR TRANSFORMATIVE POWER: A SYSTEMATIC REVIEW

*Marta Pizzolante*

Research Center in Communication Psychology,  
Catholic University of Milan

Feb 1 11:15 - 11:40 Erika-Weinzierl-Saal  
Discussant: Anna Luise Fabbri

Aesthetic experiences—visiting an art exhibition, attending a music concert, exploring a natural landscape—have been long argued, in a wide-ranging philosophical, belletristic, and increasingly empirical body of literature, not just to denote ordinary moments characterizing our daily lives, but to represent a special category of experiences which, recently, scientific literature has defined transformative. Transformative experiences (TEs) have been conceptualized in many ways—as brief experiences, perceived as extraordinary and unique, entailing durable and/or irreversible outcomes, which contribute to changing individuals’ self-conception, worldviews, and view of others, as well as their own personality and identity. However, even if little evidence within psychological literature has considered the transformative potential of aesthetic, a notable gap still exists in the definition of aesthetic transformative experiences and in the identification of the key psychological components that contribute to the process of transformation before, during and after aesthetic engagement. This systematic review aims to identify and appraise existing contributions dealing with TEs in the realm of aesthetics, providing a comprehensive definition of aesthetic transformative experiences and identifying the psychological key aspects and pivotal elements that characterize them. By deepening our understanding of the transformative power of aesthetic experiences, this review contributes to bridging the gap between the recognition of aesthetic experiences as transformative and the identification of their underlying psychological mechanisms, paving the way for further research and applications in fields such as psychology, education, and therapeutic interventions.

## PHONAESTHETICS - BETWEEN IMPOSED NORM AND INHERENT VALUE

*Lukas Nemestothy*

Department of Linguistics  
Feb 1 11:40 - 12:05 Erika-Weinzierl-Saal  
Discussant: Anna Luise Fabbri

Phonaesthetics is a young field that gathers the insights of research in sound symbolism and aesthetics and aims to contribute to a new understanding of how we perceive language. In everyday conversations, non-linguists often focus on their perception of language(s), describing them as beautiful, sweet in sound, and harmonious. Among linguists, however, studying the subjective perception of languages has long been viewed as unscientific, which is why little research about it has been done. However, linguistic aesthetic research sits at a crossroads of two contrasting theories: the Inherent Value and the Imposed Norm Hypothesis. The former strives to investigate which underlying features of a language influence its perception, whereas the latter shows that language does not come in a social vacuum. The present talk aims to shed light on the background of phonaesthetic research, showcasing the state of the art. Additionally, some new results in the analysis of a sample of European languages and their aesthetic judgments will be discussed. These judgments were elicited using semantic differentials on beauty, eros, order, and status. The new analysis will focus mainly on the Inherent Value that can be derived from the sound qualities.

## UNLOCKING THE MUSE: THE INFLUENCE OF DOPAMINE AGONISTS ON CREATIVE OUTPUT

*Paula Angermair*

Vienna Cognitive Science Hub  
Feb 1 12:05 - 12:30 Erika-Weinzierl-Saal  
Discussant: Anna Luise Fabbri

The Influence of Dopamine Agonists on Creative Output (research proposal presentation) A growing body of research suggests a link between Parkinson's disease (PD), dopaminergic therapy, and an upsurge in artistic activity. Significant

changes in creative potential are generally rare, so the sudden emergence of creativity in adults with neurodegenerative disease is especially intriguing. Some patients report an increase in creative thought and output while others experience the opposite effect or notice curious changes in style, use of color, or content. The role of dopamine in such changes in creativity and artistic production will be explored using transdisciplinary approaches. Similar dopamine agonists proposed to drive creativity change in PD will be administered to healthy controls, using a single-dose vs. placebo/longitudinal titration method. An extensive battery will be employed, including a selection of art paradigms drawing from previous research by Pelowski et al. (2019), as well as self-reports on creativity and tests on cognitive function. A critical aspect of this research project is the systemic investigation of creative output, redefining how we measure and assess art and aesthetic experiences. An in-depth analysis of the artistic process in healthy controls in comparison to PD patients will increase our understanding of how changes in the brain can be reflected in artistic production, and - vice versa - how analyzing artwork can inform us about potential changes in the brain. This research also holds implications for developing targeted therapeutic strategies and artistic interventions for PD patients.

## CLEVER ANIMALS, CLEVER HUMANS

### KEA PARROTS (*NESTOR NOTABILIS*), FROM IMITATION TO BEHAVIOURAL FLEXIBILITY.

*Elisabeth Suwandschieff*

University of Veterinary Medicine, Vienna  
Feb 1 10:00 - 10:25 Elise-Richter-Saal  
Discussant: Awani Lalitkiran Bapat

Social learning is important or dealing with the complexity of life and it is widespread within the animal kingdom. However, the type of information processed and hence, the social learning mechanism applied may differ strongly in different species. We tested Kea (*Nestor notabilis*) parrots in two experiments on their propensity to socially learn, and imitate, a demonstrated task to open an apparatus containing food. We first replicated a successful study illustrating imitation in budgerigars in a two-action task and subsequently tested a

demonstrated sequence task. While we could show clear evidence for social learning in both tasks we did not find evidence for motor imitation. However, all successful individuals showed great variation in their response topography and abandoned faithfully copying of the task in favour of exploration and/or individual solving strategies. Kea display strong behavioural variability and flexibility when attempting to solve a (complex) motor task. They engage in extended exploration and may rapidly shift solving strategies. Overall, our results illustrated that kea are a great model system to study behavioural flexibility.

### THE SMART MONKEY LAB - GENERATING NEW INSIGHTS IN THE SOCIAL DYNAMICS OF JAPANESE MACAQUES (*MACACA FUSCATA*)

*Roy Hammer*

Department of Behavioral and Cognitive Biology  
Feb 1 10:25 - 10:50 Elise-Richter-Saal  
Discussant: Awani Lalitkiran Bapat

Many primates live in complex social groups with intricate internal social dynamics. These dynamics consist of processes such as individual social decision making and large-scale fission events (i.e., the separation of a smaller group from a previously coherent social group). Studying these processes provide the fundamental information on the natural social tendencies of primates. Social dynamics is therefore a well-studied subject in many social primates and especially in Japanese macaques (*Macaca fuscata*). However, it is still unknown what causes fission in this species, which intrinsic variables influence individual social decision making, and how non-kin social relationships influence social network formation. It is challenging to study these questions as it requires a repeated determination of the social network, which means that observers must identify most individuals in a group and record the social relationships on a group level. Several studies have already shown that these challenges can be overcome through the use of facial recognition programmes and the implementation of citizen science, but there are currently several limitations that restrain the use of these tools. In the 'Smart Monkey Lab'-project, we aim to provide a better

understanding of the social dynamics in a non-human primate population by studying the influence several individual, intrinsic variables on the social decision making of Japanese macaques, the formation of non-kin social relationships and the causation of fission. Moreover, the project contributes to the development of facial recognition programmes and implementation of citizen science in the study of social dynamics in non-human primates.

### AUDITORY PATTERN RECOGNITION IN COMMON MARMOSETS (*CALLITHRIX JACCHUS*)

*Julia Victoria Grabner*

Department of Behavioral and Cognitive Biology  
Feb 1 10:50 - 11:15 Elise-Richter-Saal  
Discussant: Awani Lalitkiran Bapat

While rhythmic abilities, like musical pattern recognition and entrainment, are readily found in humans, it was long suggested that this is an exclusively human skill. However, in recent years more evidence has been gathered, that shows that this ability is shared with other animals. Moreover, it is not a capacity that is either present or absent, but there is a more gradual scale, with some bird species showing the most sophisticated abilities, while other species such as non-human primates seem to possess at least basic rhythm perception abilities. Nevertheless, controlled studies are necessary to be able to compare differences in rhythm perception between species. In this study we investigate common marmosets' ability to classify and generalize auditory patterns. 18 marmosets (6f) are trained to use a two-choice paradigm to differentiate auditory playbacks. The experiment is divided into two parts: a) a pilot experiment in which individuals have to distinguish between two very distinctive single stimuli categories (two different musical instruments playing the same tone) and b) the main experiment, in which individuals distinguish between temporally accelerating tone strings (decrease of inter-stimulus-interval length) and decelerating strings (increase in inter-stimulus-interval length). I will present and discuss preliminary results from the

pilot experiment and give an outlook on the further progression of the study.

Co-authors: Julia Victoria Grabner<sup>1</sup>, Thomas Bugnyar<sup>1</sup>, Michelle Spierings<sup>1,2</sup>

Co-author affiliations: Department of Behavioral and Cognitive Biology, University of Vienna, Austria <sup>2</sup> Department of Behavioural Biology, Leiden University, Netherlands

## HOW DO PIGS RESPOND TO A CHANGE OF THE ENVIRONMENT AS ASSESSED BY QUALITATIVE BEHAVIOUR ASSESSMENT?

*Giulia Ferroni & Fabiana De Angelis*

Institute of Livestock Sciences, Department of Sustainable Agricultural Systems, University of Natural Resources and Life Sciences Vienna

Feb 1 11:15 - 11:40 Elise-Richter-Saal

Discussant: Awani Lalitkiran Bapat

Intensive farming systems are often characterised by barren and monotonous environments, which can impair animal welfare. Albeit enriching the environment has been shown to enhance pigs' welfare, less attention has been paid to the emotional consequences of changes in housing conditions, which often happen on farms, and how pigs respond to it. The aim of this study was to assess the short-term consequences of a switch in housing conditions from barren to enriched and vice versa using Qualitative Behaviour Assessment (QBA). QBA is based on the assumption that human observers can capture subtle details in the animals' body language in dynamic interaction with the environment, qualitatively assessing the emotional expression of animals. In the present study, we subjected 128 pigs housed in groups of eight animals to a switch of environment. Pigs were divided in two Control Groups, with subjects consistently housed in either a barren-monotonous (B) or an enriched-varying (E) environment and two Contrast Groups, where subjects underwent a switch between the two treatments, from B to E or from E to B. Pigs' behaviour was videorecorded 24 hours after the switch. We used a Free Choice Profiling methodology, i.e. that observers first chose their own terms to describe the pigs' behavioural expressions, e.g. "lively" or "apathetic", before quantifying how "lively" or "apathetic" pigs were perceived on a Visual Analogue Scale. Fourteen observers who were blind to the pigs' environment before the switch were

asked to describe and score the pigs' behavioural expressions based on 32 video clips (two per pen). General Procrustes Analysis revealed consensus between the observers' assessments. Two main dimensions were identified, explaining 63.6% of the variation between pigs. Dimension 1 was positively associated with the terms 'active/explorative/engaged' and negatively with 'tired/calm/sleepy', whereas terms for dimension 2 ranged from 'bored/frustrated/restless' to 'content/relaxed/happy'. Linear mixed-effect models revealed that the current environment had an effect on dimension 2, with pigs from E being described as more 'content/relaxed/happy' than pigs from B, whereas no interaction between previous and current environment was found. Thus, in contrast to our hypothesis, observers did not pick up the switch of environment in pigs' behavioural expressions. In our presentation, we will discuss potential explanations for these results and present ideas for future research.

Co-authors: Sara Hintze<sup>1</sup>, Christoph Winckler<sup>1</sup>

Co-author affiliations: Institute of Livestock Sciences, Department of Sustainable Agricultural Systems, University of Natural Resources and Life Sciences Vienna, BOKU

## THE PURSUIT OF TASTINESS: THE PERSISTENCE OF UNHEALTHY = TASTY BELIEFS IN REWARD-RICH ENVIRONMENTS

*Peer Niklas Pivecka*

Department of Occupational, Economic and Social Psychology

Feb 1 11:40 - 12:05 Elise-Richter-Saal

Discussant: Awani Lalitkiran Bapat

The belief that unhealthy foods taste better than healthy foods persists in many societies despite the availability of food alternatives that are both healthy and tasty. In four experiments, including on taste experiment (total N = 977), we show that unhealthy=tasty beliefs persist in reward-rich environments with predominantly tasty food options. In all experiments, consumers made multiple choices between healthy and unhealthy options in environments with either a high or a low likelihood of obtaining tasty meals. The sampling task was preceded by a learning phase, in which consumers learned to associate the healthy or unhealthy options with positive taste feedback. The likelihood of receiving positive taste feedback in the

sampling task was the same for the healthy and unhealthy food options or even contradicted consumers' experiences in the learning phase. Consumers' choices followed their initial beliefs more strongly in reward-rich environments, where initial beliefs persisted after the sampling task. However, consumers' initial beliefs changed in reward-poor environments. Our findings suggest that a hedonic sampling mechanism contributes to the persistence of food beliefs.

## CHARACTERISING SOCIAL COMPETENCE THROUGH ADULT CORVID PAIRS

*Daria Nagel*

Department of Behavioral and Cognitive Biology  
Feb 1 12:05 - 12:30 Elise-Richter-Saal  
Discussant: Awani Lalitkiran Bapat

Being able to process and use surrounding information is paramount for survival. Social environments add another level of complexity. In literature, behaviourally capitalising on various events may be called competence, or, put specifically in a social context, social competence. However, animal cognition and psychology differ in their approaches. The question remains if by combining the exploitative aspects of the former and the relationship-aiding idea of the human focus, a unified characterisation of this ability is possible across all animals. This project aims to reinvestigate the features of animal social competence using the fitting longterm bonded, cognitively proficient, and well researched common ravens (*Corvus corax*) and carrion/hooded crows (*Corvus corone/cornix*). Pair bonded adult corvids are tested in four experimental setups to measure their cognitive and motor skills, their ability to adjust behaviours according to the presence of chicks, their reaction to partner separation, and their cooperation behaviour in a joint-problem-solving task. This talk will provide an overview of how a bigger picture of animal social competence can be explored through its expression in corvids.

Co-authors: Jim McGetrick, Thomas Bugnyar  
Co-author affiliations: Department of Behavioral and Cognitive Biology,  
University of Vienna, Austria

## SOCIAL CONTEXTS & GROUPS

### VO TAKEOVER. INTERSECTIONAL INTERVENTIONS

*Seda Pesen*

Department of Art History  
Feb 1 14:30 - 14:55 Großer Festsaal  
Discussant: Markus Tünte

I will present the initiative "VO Take Over: Intersectional Interventionen", which I organized and conducted with my colleagues Teresa Kamencek and Carola Korhummel. The initial and lasting imprint on young academics occurs primarily in the first semester's introductory lectures. In addition to the traditional content of these courses, the professors function as role models. However, there is still a lack of diversity among professors and thus a lack of tangible role models for an increasingly diverse student body. The "glass ceiling" and the drop-out rate of young academics, which is a reoccurring issue in university equality reports, affect marginalized persons even more. The pioneering project "VO Take Over. Intersectional Interventions" starts in these seminars where structural change is possible and must take place: Eight professors and lecturers of the Faculty of Historical and Cultural Studies at the University of Vienna voluntarily ceded one date of their introductory lecture series to young experts to open up canon-critical and intersectional perspectives on the respective historiographies. Voices of young scholars from Vienna and the surrounding area (PhD students and postdocs) who are FLINTA\*, queer, BiPoC, affected by classism or have a disability are explicitly welcomed. In my presentation, I will present how we came up with the concept, talk about the realisation and discuss ways to break barriers and make academia more diverse.

## LAUGHING TOGETHER – DO PEOPLE SYNCHRONIZE AND BOND WHEN THEY LAUGH TOGETHER? (WORK IN PROGRESS)

*Verena Schäfer*

Research Unit Developmental Psychology,  
Department of Developmental and Educational  
Psychology

Feb 1 14:55 - 15:20 Großer Festsaal

Discussant: Markus Tünte

In this study, we investigate the mechanisms of laughter in the context of Interpersonal synchrony. Laughter is a rhythmic, audiovisual expression of emotion, often occurring during social interactions, and has been shown to increase bonding in a social group through endorphin release. Being a multimodal, rhythmic social stimulus, laughter could be hypothesized to facilitate interpersonal synchrony. This, in turn, could contribute to increased affiliation and prosociality between interaction partners. It has already been shown that frontal and temporal brain areas such as IFG, TPJ and STG are activated during laughter and neural synchrony tasks. In Addition, there is evidence that there are also synchrony patterns on a behavioural level during realistic social interactions. However, there is still little known about the exact mechanism how laughter facilitates synchrony. The present study aimed at testing these hypotheses using fNIRS hyperscanning and behavioural measurement with video cameras. For this purpose, pairs of same-gendered strangers were assigned to a laughter or a control condition. First, depending on condition, participants had to play a funny (or neutral) interactive game and watch funny (or neutral) animal videos. After that, they were left alone for 10 minutes of free interaction, in which interpersonal neural synchrony was measured. Finally, participants completed questionnaires about rapport, liking and prosocial intentions towards the interaction partner. To analyse the behavioural data, we use OpenPose and for analysing synchrony, we plan to use the wavelet-transform-coherence approach.

## EXAMINING AREA USE PATTERNS OF JUVENILE RAVENS (CORVUS CORAX) INTEGRATING INTO A FREE-FLYING NON- BREEDER FLOCK

*Awani Lalitkiran Bapat*

Department of Behavioral and Cognitive Biology

Feb 1 15:45 - 16:10 Großer Festsaal

Discussant: Markus Tünte

In social species with structured groups, individuals can maximise their fitness through social relationships. However, individual variations in the number and nature of social relationships may result in varying degrees of social integration. The first challenge of social integration may be encountered by individuals dispersing from their natal groups to join new groups with potentially unknown individuals. Further, their ability to successfully integrate may reflect differences in social competence, the development of which can be affected by social opportunities during early life. Adult common ravens defend large territories, whereas juveniles, sub-adults and non-territorial adults form dynamic non-breeder flocks that are structured by dominance and social bonds. Little is known about how juveniles integrate into these non-breeder groups when they leave the family unit. In this study, we examine whether the early life social experience plays a key role in the social integration of juvenile ravens. As part of a long-term project, young ravens are raised in captivity in small or large families. At five months old, they are equipped with GPS transmitters and released into free flight to join a local non-breeder flock. Focussing on the four-month period after release into free-flight between 2017-2022, we use movement data to look at their presence at known sites used by the non-breeder flock, the overlap between their home ranges with those of others, and the proximity to other ravens during roosting. In this talk, I present the first results from this study examining the patterns across age-class, sex, family size and time.

## PERCEPTIONS OF MENTAL HEALTH AND ATTITUDES TOWARDS SEEKING MENTAL HEALTH SERVICES IN SYRIAN REFUGEES IN AUSTRIA

*Rojan Amini-Nejad*

Outpatient Unit for Research, Teaching and Practice  
Feb 1 16:10 - 16:35 Großer Festsaal  
Discussant: Markus Tünte

Before and during their flight as well as after arriving in the destination countries, refugees are confronted with enormous physical and psychological stressors, which often lead to mental disorders. Despite the elevated rates of mental disorders, the diagnosis and treatment have proven to be difficult. This is partly due to refugee-specific factors influencing the perception of mental disorders, the thematization of which is accompanied by cultural stigma. This study investigates the relationship between Syrian refugees' mental health, their perception of post-traumatic stress disorder (PTSD) and depression, and attitudes toward seeking mental health services using a methodological triangulation strategy. We hypothesize that the illness perception of PTSD and depression influences the attitude toward seeking mental health services. Further, we hypothesize the relationship to be moderated by one's symptomatology. So far, 152 adult refugees of Syrian origin with a maximum stay of 36 months in Austria have completed questionnaires, and ten of them participated in focus group discussions. The investigation was based on case vignettes describing a fictional person suffering from symptoms of PTSD or depression, in line with diagnostic criteria. Bivariate correlation analyses were run to determine the associations between participants' mental health, their perception of PTSD and depression, and attitudes toward seeking mental health services. In the presentation, the preliminary results will be discussed in detail. As the utilization of mental health services in the refugee population is low and often hindered by cultural stigma, this study aims to foster the development of culture-sensitive psychoeducational programs on flight-associated mental disorders.

## DYNAMIC COLOR CHANGE PROMOTES RAPID MATE RECOGNITION IN AN EXPLOSIVE BREEDING TOAD

*Susanne Stückler*

Department of Behavioral and Cognitive Biology  
Feb 1 16:35 - 17:00 Großer Festsaal  
Discussant: Markus Tünte

In some anuran species (frogs and toads), males rapidly change their body color during brief mating aggregations. In such explosive breeding events, many males actively search and compete for a limited number of females. From a mechanistic perspective, we know that stress hormones are able to elicit this rapid color change. Male Asian Common toads (*Duttaphrynus melanostictus*) change body coloration from brown to bright yellow during breeding. We hypothesize that male yellow color is either a male quality signal which influences mating success and/or a male-male signal to facilitate mate recognition. To test this idea, we measured male body color of mated and non-mated males in their natural habitat during breeding and correlated the coloration with body fitness derived from morphometric measurements. In behavioral experiments we tested the interactions of male toads with a yellow (resembling a breeding male) and a brown (resembling a female) 3D model toad. Coloration did not differ between mated and non-mated males, suggesting that male yellow color does not act as quality signal for females. Males had twice as much physical contact with the brown model ( $p < 0.05$ ) and clasped 40 times more often the brown model ( $p < 0.001$ ) than yellow models. Our results suggest that dynamic dichromatism has evolved as a sexual signal mediating fast mate recognition in dense breeding aggregations.

## PERFORMANCE, STRESS, AND SELF-CONTROL

### EXPLORING THE INTERPLAY OF GLUCOCORTICOIDS, DAILY TIMING, SLEEP AND PSYCHOLOGY-BASED TASK PERFORMANCE

*Lakshmi Kalathinkunnath*

Department of Microbiology, Immunobiology and Genetics

Feb 1 14:30 - 14:55 Erika-Weinzierl-Saal  
Discussant: Bence Szaszko

Organisms possess multiple biological timers that help them in adjusting their behaviour and physiology in accordance with the environment that they thrive in. Chronotypes are the differences in the circadian clock between individuals and can be measured by the start and end of sleep on days without temporal restrictions like alarm clocks (Roenneberg et al, 2015). Several studies have shown that a broad range of activities vary across the 24-hour time period in human beings, corresponding to their inner circadian clock (Salehinejad et al, 2021). Glucocorticoids are a class of steroid hormones, which, alongside being a circadian output of the adrenal gland, contributes to the synchronization of cell autonomous clocks in the body (Dickmeis, 2008). Failure of glucocorticoid cortisol synthesis and secretion is what characterizes the clinical condition primary adrenal insufficiency, and individuals diagnosed with the disease are likely to have a disrupted circadian clock. My study aims in characterizing and exploring the interconnection of the circadian biology and performance in psychology-based tests of control versus patient population suffering from adrenal insufficiency. All participants in the study were assessed for their chronotypes and were subjected to various psychological tasks online, and experiments were performed at repeated intervals to allow for the analyses of possible relationships to circadian-preferred time. We observe that the patient cohort show highly variability in chronotype and sleep parameters in comparison to the controls, and suspect that the performance in the tests would differ significantly between cohorts.

## REGISTERED REPORT: GERMAN TRANSLATION AND VALIDATION OF THE SELF-CONTROL STRATEGIES SCALE (SCSS)

*Leopold Roth*

Department of Occupational, Economic and Social Psychology

Feb 1 14:55 - 15:20 Erika-Weinzierl-Saal  
Discussant: Bence Szaszko

Self-control has been frequently shown to be beneficial for individuals. Whether it is about staying healthy, successfully attending school or resolving conflicts in close relationships. Usually, it is conceptualized as the ability to suppress immediate urges (e.g. laying on the couch after work) to defend long-term goals (e.g. preventing against back pain through movement). In recent times, a more nuanced perspective on self-control has emerged, indicating a more complex picture. Katzir et al. (2021) developed a scale, which assesses eight different strategies, such as pre-commitment, cognitive change and the firmly studied inhibitory strength (suppression). To support the usage of the scale under the maintenance of high psychometric standards, we decided to translate and validate the scale in the German population across four different samples. Using the PeerCommunityIn Registered Report platform, we currently undergo stage 1 submission, detailing out the planned analysis for: model fit, model superiority, factor loading, sub-scale reliabilities, measurement invariance and test-retest reliability. Further, a battery of measures is planned to evaluate the predictive value of the specific strategies as well as the discriminant validity against neighbouring concepts.

## COMPLETING FIVE DAYS OF WORK IN ONLY FOUR? EFFECTS OF THE IMPLEMENTATION OF A COMPRESSED WORK WEEK AND THE ROLE OF EMPLOYEE EXPECTATIONS

*Arabella Mühl*

Department of Occupational, Economic, and Social  
Psychology, Faculty of Psychology

Feb 1 15:20 - 15:45 Erika-Weinzierl-Saal  
Discussant: Bence Szaszko

In Austria, similarly to other European countries, companies are reporting a shortage of skilled professionals. As a consequence, organizations are highly motivated to establish themselves as attractive employers to retain their staff and attract prospective employees by implementing measures, such as compressed work schedules. In a first wave of popularity in the 1970s, research findings regarding the effects of a compressed work week were inconsistent. With a refreshed surge of interest in alternative work schedules, such as the compressed work week, as a tool to increase employer attractiveness, the question of the effects of such work arrangements recurs. In light of inconsistent research findings, we examined the effects of the implementation of a four-day compressed work week on time pressure, fatigue, perceived productivity, and work-life balance within a construction company. Moreover, we investigated the effect of employee expectations. A two-wave study among employees of an Austrian construction company was conducted (N = 247). Using Latent Change Score Modelling (LCSM), we found that work-life balance increased, while fatigue and time pressure decreased. Perceived productivity remained stable three months after implementing a compressed work schedule. These effects were contingent on individuals' expectations regarding the effect of the compressed schedule. The results highlight the importance of employee expectations in shaping the outcomes of the adoption of alternative work schedules.

## SAVING THE ENVIRONMENT? THAT'S BEYOND MY (WILL)POWER!

*Julia Jankowski*

Department of Occupational, Economic and Social  
Psychology

Feb 1 15:45 - 16:10 Erika-Weinzierl-Saal  
Discussant: Bence Szaszko

Many people see climate change as a major problem that needs to be addressed. However, many still do not engage in the necessary pro-environmental behavior. A core problem is that pro-environmental behavior is effortful now and beneficial only in the future leading to a self-control conflict. The present study aims to test the causal effect of lay beliefs about willpower on performance of pro-environmental behavior and effort exertion as assessed by cardiovascular reactivity. Study 1 (N = 165) tested the correlational relationship, while Study 2 (N = 208) assessed the causal effect by experimentally manipulating participants' willpower beliefs. Participants with a nonlimited willpower belief (either measured or induced) performed better and exerted more effort as measured by effort-related cardiovascular response in pre-ejection period (Study 1) and systolic blood pressure (Study 2) on an environmental task. The results show that promoting a nonlimited willpower belief can be a good starting point to foster pro-environmental behavior. Thereby, the results add to the growing body of research showing that self-control processes are involved in pro-environmental behavior and need to be targeted in order to promote a more environmental lifestyle.

## REDUCTION OF IMPAIRMENT CAUSED BY SOMATIC SYMPTOMS IN STRESSED INDIVIDUALS AND PEOPLE WITH MENTAL DISORDERS

*Nadja Plumbaum*

Department of Clinical and Health Psychology

Feb 1 16:10 - 16:35 Erika-Weinzierl-Saal

Discussant: Bence Szaszko

Physical complaints that aren't exclusively attributed to medical diseases and the associated limitations in the lives of those affected constitute a major health problem. Persistent somatic symptoms are commonly observed in clinical settings, with around 30% of primary care patients meeting somatic symptom disorder criteria and up to half having at least one somatic symptom, as highlighted in a meta-analysis. Among the treatment strategies, behavioral therapy is considered the most effective, albeit with moderate effects. However, the availability of therapies is limited and does not offer the necessary flexibility to effectively meet the diverse and specific needs that arise from persistent somatic complaints in everyday life. The primary aim of the dissertation project is to investigate whether two interventions, implemented in the daily life (EMIs), can alleviate the intensity of and impairment by somatic symptoms. The first study comprises a randomized controlled trial with a control group, targeting stressed individuals with at least mild somatic complaints. The second study focuses on individuals with somatic symptom disorder utilizing an intraindividual randomized control design. I assume that the investigated interventions, including stress management and cognitive restructuring among other approaches, will result in greater reduction of somatic symptoms in the intervention group/condition compared to the control group/condition. These assumptions will be examined through multilevel analyses. This project marks an initial exploration into the efficacy of EMI, contributing to the closure of research and eventually also treatment gaps in this field.

## STRESS MANAGEMENT “TO GO” – A PILOT STUDY INVESTIGATING AN ECOLOGICAL MOMENTARY INTERVENTION FOR STRESS REDUCTION IN EVERYDAY LIFE

*Hannah Tschenett*

Faculty of Psychology, Department of Cognition,  
Emotion, and Methods in Psychology

Feb 1 16:35 - 17:00 Erika-Weinzierl-Saal

Discussant: Bence Szaszko

While many interventions have been shown to effectively reduce stress, there remain open questions regarding the impact of stress management interventions designed for and investigated in everyday life, known as ecological momentary interventions (EMIs). Particularly interventions providing stress-reducing techniques during moments of acute stress in everyday life are underresearched. Therefore, we have developed an individually tailored, app-based stress management EMI including various evidence-based techniques, also applicable during acute stress events. Our pilot study aimed to assess (1) the intervention's feasibility, (2) its immediate stress-reducing effects following acute stress events, and (3) its effects on post-intervention stress levels in everyday life.  $N = 27$  undergraduate psychology students ( $21.6 \pm 1.9$  years, 74% female) completed ecological momentary assessments over 45 days (5-day baseline, 5-week intervention, 5-day post phase). They provided data on momentary stress four times daily and whenever they experienced stress events. Throughout the intervention phase, participants used the EMI in their daily lives. Additionally, when triggering a stress event, participants were randomly assigned to either the intervention condition (5-20 minutes of intervention use) or the control condition (proceeding as usual). Feasibility was assessed via a questionnaire and semi-structured group interviews with the participants. Results showed that the intervention was experienced as feasible, while some elements of the study design (e.g., number of assessments) and technical issues with the app were criticized (1). Linear mixed models revealed that the intervention (2) significantly reduced event-related stress ( $p = .002$ ) and (3) average post-intervention levels of stress ( $p = .005$ ) in everyday life.

## COMMUNICATION & PERCEPTION

### INVESTIGATING NEURAL CORRELATES OF THE AUDITORY LOOMING BIAS AND UNDERLYING EVIDENCE ACCUMULATION DIFFERENCES

*Tobias Greif*

Institute for Sound Research (ISF)  
Feb 1 14:30 - 14:55 Elise-Richter-Saal  
Discussant: Maximilian Kathofer

Spatial hearing is a vital mechanism that has shown to be adaptive to changing auditory circumstances. It enables us to continuously monitor our auditory environment and can thus warn us about potential incoming threats. Here, we present interim results for an ongoing study where we train listeners to localize sounds with novel, physically implausible, spectral cues and investigate to what extent this newly acquired knowledge generalizes to a hazard protection mechanism: the auditory looming bias (ALB). We use Electroencephalography (EEG) to assess the neural correlates of ALB with novel spectral cues pre- vs. post-training, in terms of amplitude and latency differences for N1 and P2 event-related-potential (ERP) components. Behaviourally, we analyse the ALB in a linear-ballistic-accumulator (LBA) modelling framework and focus on differences in terms of speed of evidence accumulation (drift rate) between our experimental conditions (pre- vs. post-training). Initially, we expect ALB correlates for novel spectral cues to be significantly degraded (compared to native spectral cues), but recovering over the course of our training procedure. This would underscore the huge potential for plasticity our auditory system exhibits, even extending to physically implausible stimuli.

## THE ADAPTIVE FUNCTION OF THE CHEETAH

### CHIRP

*Katharina Prager*

Department of Behavioral and Cognitive Biology  
Feb 1 14:55 - 15:20 Elise-Richter-Saal  
Discussant: Maximilian Kathofer

Acoustic signals are used by many animals to communicate and obtain information both within and between species. Cheetahs (*Acinonyx jubatus*) produce high-pitched sounds called “chirps” that resemble bird calls in sound quality and structure when calling for conspecifics. The cheetah chirp has sparked much interest among researchers, as its frequency is considerably higher than would be expected for an animal this size and for a sound used in long-distance communication in a savannah habitat. While foundational research has been conducted on the structure and information content of this specific sound type, little attention has been paid to its adaptive function. In an effort to close this gap in knowledge, our proposed four-year project will examine the hypothesis that the cheetah chirp represents a form of acoustic crypsis. Playback experiments will be undertaken incorporating prey species (mainly ungulates) and lions, which serve as significant predators and competitors of the cheetah and contribute significantly to its mortality. In order to compare the responses of prey and lions to control playbacks of the chirp, other predator sounds, avian sounds, and cheetah sounds will be used as stimuli. We are planning to conduct these experiments in South African National Parks, working with wild animals, in the years 2024 to 2026.

## EXPLORING RAVENS' (CORVUS CORAX)

### MULTIMODAL DISPLAYS IN THE WILD

*Luise Fabbri Anna*

Department of Behavioral and Cognitive Biology  
Feb 1 15:20 - 15:45 Elise-Richter-Saal  
Discussant: Maximilian Kathofer

In social animals, forming and maintaining relationships impacts dominance and can be crucial for reproductive success, and ultimately survival. Common ravens go through a highly social phase as

non-breeders, when they form structured groups with clear and steep dominance hierarchies and affiliative relationships that vary in quality and duration. In the context of these dynamic groups, they display sophisticated forms of vocal and non-vocal communication. One particularly intriguing element of their inter-individual communication is a multimodal display referred to as Self-Aggrandizing Display (SAD). SADs consist of visual and acoustic components and are performed by both sexes. Whether they signal dominance status to conspecifics and what role they play in ravens' social interactions and relationships in general, remains uncertain. To better understand what influences the occurrence of SADs, we here analyzed observational data collected on individually marked wild raven. We expected SADs to be performed predominantly by more higher-ranking ravens such as males and/or older individuals. We also expected SADs to be negatively correlated with the likelihood of being involved in agonistic interactions. Our results indicate that males are more likely to initiate and are more often involved in SAD interactions. Additionally, individuals performing more frequently SADs are older and are more likely to initiate aggression. Taken together, these findings support the "show-off" function of SADs in ravens and provide first hints towards a selective use depending on context.

## USING MULTIDIMENSIONAL SCALING AND CONVOLUTIONAL NEURAL NETWORKS TO PROBE MENTAL REPRESENTATIONS

*Mengfan Zhang*

Department of Cognition, Emotion, and Methods in Psychology

Feb 1 15:45 - 16:10 Elise-Richter-Saal  
Discussant: Maximilian Kathofer

Understanding the mechanisms of anxiety disorders requires an understanding of how fear-inducing stimuli are mentally represented. Because similarity is central to recognizing objects and structuring representations, similarity judgment data are often used in cognitive models to reveal psychological dimensions of mental representations. However, both collecting similarity data and predicting the positions of newly

added objects in the existing database are resource-intensive. Thus, previous studies mainly focused on small-scale databases, and characterizing representations for large-scale fearful stimuli is still limited. In this work, we conducted an online experiment using a large image database of 314 spider-relevant images to collect similarity judgments. Participants first completed the Fear of Spider Questionnaire (FSQ). We then used a rejection sampling method to select participants and ensure that the resulting FSQ scores were uniformly distributed. Next, selected participants performed the Spatial Arrangement Task, in which they arranged spider images on a 2D canvas according to the subjective similarity between each pair of images. With the collected data, metric multidimensional scaling (MDS) was applied to create low-dimensional embeddings. We compared Bayesian information criterion and cross-validation as model selection procedures in a simulation and these two methods were used to determine the dimensionality. We then reproduced these embeddings and predicted the positions of new images using convolutional neural networks (CNNs). Taken together, this work explores the application of MDS and CNNs to large-scale complex images for the first time, and the methodology employed could be applied to a wide range of stimuli in psychological research.

## VOCAL REPERTOIRE DEVELOPMENT IN THE SOOTY MANGABEY

*Ryan Sigmundson*

Cognitive Science Research Platform

Feb 1 16:10 - 16:35 Elise-Richter-Saal  
Discussant: Maximilian Kathofer

The combinatory potential of human language is one notable feature that apparently sets it apart from the communication systems of non-human primates (NHPs). Mastery of these capabilities in humans is not fully present at birth, but instead emerges over the course of ontogeny due to neuronal maturation and the effects of learning. Though some NHPs combine different calls into sequences, development of the vocal sequence repertoire across the lifespan has rarely been examined in NHPs. Our study investigates the development of vocal sequence usage in an Old

World monkey to determine whether they too improve over the lifespan. We recorded 1844 utterances from a wild population of sooty mangabeys in Taï National Park, Ivory Coast. An utterance could be either a call produced singly or a vocal sequence as a whole. We used total number of unique utterances and maximum sequence length to make comparisons across the lifespan of the species. Additionally, we developed a statistical model to account for under sampling that took into consideration the probability of production for each utterance and the propensity for certain age-sex classes to be more or less vocal. We found that infants produce more unique utterances than all other age groups. These results demonstrate that mangabeys are capable of producing vocal sequences from infancy onward and their capacity to produce vocal sequences does not increase over their lifespan. The inflated vocal repertoire size of infants may be attributable to their production of distress vocalizations that frequently combine different calls into lengthy sequences.

## VISUAL ATTRIBUTES OF SPIDER IMAGES ASSOCIATED WITH AVERSIVENESS IN SPIDER-FEARFUL INDIVIDUALS. A MACHINE LEARNING ANALYSIS.

*Alexander Karner*

Department of Cognition, Emotion, and Methods in Psychology

Feb 1 16:35 - 17:00 Elise-Richter-Saal

Discussant: Maximilian Kathofer

With more than 50,000 described species, spiders are among the most evolutionary successful and ecologically useful taxa in the animal kingdom. Nevertheless, their popularity with humans is low, and spider phobia, which is characterized by irrational fear of spiders, is one of the most common specific phobias. While it is clear that spiders evoke aversive responses in humans, it is a highly understudied question which visual attributes of spiders trigger these emotions. Here, we categorized a set of 313 images depicting spiders and spider-related content according to a variety of visual attributes, and performed a machine learning analysis to investigate which attributes were associated with the mean fear-

disgust-, and avoidance-ratings of 152 spider-fearful adults. We found that the subjective size, hairiness, legs, and overall presence of a spider were significant predictors of aversive responses. This knowledge can help with the selection of stimuli that are particularly beneficial with respect to the maximization of treatment outcome for spider-fearful individuals. Our results shed further light on the characteristics of spider phobia and are useful with respect to classical exposure therapy, as well as for novel computerized exposure-based treatments.

## BRAIN & TECHNOLOGY

### HARDER, BETTER, FASTER, STRONGER: WORDS NOT OFTEN USED IN REFERENCE TO SOCIAL MEDIA USE (AN EYE TRACKING STUDY)

*Zoya Dare*

Lab for Cognitive Research in Art History

Feb 2 10:00 - 10:25 Großer Festsaal

Discussant: Tobias Greif

Instagram and other social media platforms often face criticism for their perceived negative effects on users. The results of this study suggest, however, that there may be positive cognitive adaptations of frequent Instagram use on image viewing behavior. Participants, exposed to 50 images which included artworks, Instagram posts, and everyday photos, controlled their time spent on each image and answered comprehension and engagement questions. A subsequent questionnaire recorded their phone use behaviour and assessed their recollection of the images shown in the viewing task. While Instagram users exhibited shorter viewing time and fixation duration, initially pointing to the decreased attention spans expected from digital device and social media use, they scored similar or better on the memory test and reported the a comparable level of engagement to the non-users. These findings imply that Instagram users' heightened exposure to visual content may result in quicker visual processing abilities without compromising detail comprehension and attention. This study opens up new perspectives on the

cognitive impacts of social media, suggesting a more nuanced understanding of digital device use.

## DECISION-MAKING IN LEADER-FOLLOWER DYNAMICS WITH ASYMMETRIC INFORMATION

*Guilherme Henrique Lima Marques Silva*

Department of Cognitive Science, Central European University

Feb 2 10:25 - 10:50 Großer Festsaal  
Discussant: Tobias Greif

A subordinated position is usually associated with a lack of access to valuable resources. Nevertheless, deferring to a knowledgeable individual may enable a subordinate to acquire valuable information that facilitates coordination between both individuals. However, within some coordination problems, individuals' interests are not perfectly congruent, allowing leaders to leverage their influence or enforce solutions that are better aligned with their own interests. The ongoing project explores the decision-making processes underlying strategic voluntary deference aimed at solving coordination problems under information asymmetries. More precisely, we employ an experiment in which the establishment of a leader-follower relationship enables the transference of relevant information between two individuals in order to solve a coordination problem. In order to uncover an individual's ability to strategically use voluntary deference we evaluate participants' decisions to be a follower in situations where it is advantageous to do so in order to acquire relevant information (i.e., aligned interests condition), and when it is not (i.e., conflict of interests condition) within a task-based experiment (i.e., a card game). In summary, we predict that, in the absence of the influence of specific social preferences, the frequency of adoption of both the follower and the leader strategies will be significantly higher than chance in the aligned interests condition and the conflict of interests condition respectively. The data collection will be completed within the next months at the SOMBY Lab (CEU) and the results will be presented in the proceedings at the VDS CoBeNe PhD Academy.

## LARGE LANGUAGE MODELS (LLMs) AS METHODOLOGY CONSULTANT: APPLICATIONS, EVALUATION AND SOLUTIONS

*Leonardo Jose Bergmann*

Department of Cognition, Emotion, and Methods in Psychology

Feb 2 10:50 - 11:15 Großer Festsaal  
Discussant: Tobias Greif

Large language models (LLMs) have garnered substantial attention this year, and applications of artificial intelligence (AI) have already brought revolutionary changes to various research fields. Therefore, this development also seems promising for overcoming the challenges associated with the use of questionable research practices (QRPs) in scientific studies. This potential could be actualized by leveraging LLMs to assist scientists in selecting appropriate research methods and ensuring adherence to guidelines for good research practices. Various strategies, including prompt engineering, fine-tuning, and the development of open-source methodology consulting chatbots, present avenues for enhancing the use of LLMs and overcoming current challenges. Hence, the first research objective in the PhD program involves conducting a scoping review to provide a comprehensive perspective on the current utilization of LLMs in the research process. The second publication aims to assess the effectiveness of LLMs in aiding researchers in study planning, incorporating guidelines and principles to counter QRPs. The third study focuses on creating an open-source methodology consulting chatbot to democratize access to this technology.

RESTING-STATE BRAIN NETWORKS:  
ASSOCIATIONS WITH  
DECLARATIVE/PROCEDURAL MEMORY AND  
WITH MULTILINGUAL EXPERIENCE

*Sevil Maghsadgh*

Department of Behavioral and Cognitive Biology  
Feb 2 11:15 - 11:40 Großer Festsaal  
Discussant: Tobias Greif

Consistent with the Declarative/Procedural Memory language model, studies have revealed brain structural differences in language, executive control, and memory regions (e.g. caudate nucleus and hippocampus) between mono- and bilinguals. Whole-brain resting-state functional connectivity (FC) was analyzed in 117 participants with diverse multilingual language experience, using bilateral hippocampi and caudate nuclei as seeds. We looked for relationships between FC and performance on procedural and declarative memory tasks, and further tested for how multilingual experience influences these relationships. Higher verbal declarative memory performance was associated with increased FC of bilateral hippocampi with bilateral thalamus and caudate nuclei, which are critical for memory-guided attention and episodic memory, respectively. Higher procedural memory performance was associated with increased FC of bilateral caudate nuclei with left postcentral, precentral gyri and middle frontal gyrus, regions which play roles in action behavior and cognition. The interaction of multilingual experience and verbal declarative memory was associated with increased FC of right hippocampus with bilateral precuneus, supramarginal gyrus, thalamus, caudate nucleus and cerebellum, and of left hippocampus with bilateral posterior cingulate cortex (PCC), precuneus and left cerebellum. The precuneus and supramarginal gyrus are involved in episodic memory retrieval and verbal working memory, respectively. Previous work has shown a relationship between grammar learning and FC between the right hippocampus and cerebellum. These findings carry significant implications for our understanding of the relationships between multilingualism and memory, and of the underlying resting state FC patterns of brain function.

THE IMPACT OF AI INTEGRATION ON JOB  
AUTONOMY AND CREATIVE SELF-  
EFFICACY: A CULTURAL PERSPECTIVE

*Deeviya Francis Xavier*

Department of Work and Organizational  
Psychology  
Feb 2 11:40 - 12:05 Großer Festsaal  
Discussant: Tobias Greif

This paper explores the relationship between Artificial Intelligence (AI) integration in the workplace, cultural orientation and its impact on job autonomy and creative self-efficacy. Our study employs a mixed-method experimental design across 480 individuals from different cultural backgrounds, specifically individualistic (United Kingdom) and collectivistic (Mexico) cultures. We evaluate how they perceive AI's role in their professional lives. We focus on two key aspects: job autonomy, the level of control and discretion employees have over their tasks, and creative self-efficacy, the confidence in one's ability to generate innovative ideas. Our findings revealed a significant decrease in job autonomy following AI integration across all participants. Interestingly, this decrease was more pronounced in the individualistic participants. Regarding creative self-efficacy, we found gender-specific impacts, with male participants experiencing a decrease, contrary to our expectations. Finally, our results supported the hypothesis that cultural orientation influences perceptions of AI, with collectivistic participants being more receptive to AI integration. These findings have significant implications for organizations integrating AI in multicultural environments. They highlight the importance of considering cultural differences in AI deployment strategies and suggest a need for culturally sensitive AI systems. The study also opens avenues for future research, particularly in exploring the role of other cultural dimensions, conducting longitudinal studies, and investigating ethical and bias-related aspects of AI in the workplace.

## PERCEIVING ART, PERCEIVING OTHERS II

### THE ROLE OF THE OPIOID SYSTEM IN PAIN EMPATHY AND PROSOCIAL BEHAVIOR

*Julia Braunstein*

Vienna Cognitive Science Hub

Feb 2 10:00 - 10:25 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

Several studies on empathy have found correlational evidence for ‘shared representations’ underlying our ability to tune into others. This theory proposes that individuals recruit similar neural representations both during the first-hand and empathic experience of a specific affective state. Recently, scientists have started to move towards causal manipulations to test this account. In psychopharmacological experiments it was discovered that the dampening effects of placebo analgesia on self-experienced pain, as well as empathy for pain, could be diminished by administering an opioid antagonist. Furthermore, in a prosocial helping task, placebo analgesia also reduced the amount of effort participants were willing to exert in order to reduce the pain of another person. Reduced pain empathy accounted for the observed differences in prosocial behavior. Although the analgesic effects of placebo induction are thought to be mediated via the release of endogenous opioids, there still remains the possibility that these observed effects could have been driven by participant’s expectations and beliefs about the administered substance. To circumvent the unspecific effects of placebo analgesia and eliminate expectancy effects we employed a double-blind within-subject design with opioid administration. In my talk I will present the results of this study and discuss potential implications. Keywords: opioids, empathy, shared representations, prosocial effort

### THE NEUROBIOLOGY OF CREATIVITY - GAINING NEW INSIGHTS WITH ULTRASONIC NEUROMODULATION

*Franz Schmid*

Vienna Cognitive Science Hub

Feb 2 10:25 - 10:50 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

Many scholars consider human creativity one of the most fundamental characteristics of our species (e.g. Beaty et al., 2016; Wiggins & Bhattacharya, 2014). Yet, only little is known about the neurobiological mechanisms that drive creative cognition, and the existing knowledge is mostly correlative in nature (Crone, 2023). Non-invasive brain stimulation (NIBS) methods can help to overcome this limitation. Especially low-intensity ultrasound stimulation (LIFUS) is considered a promising new technology to investigate causal mechanisms underlying different cognitive functions (Crone, 2023; Kathofer et al., 2023). LIFUS bears many advantages over other NIBS methodologies, such as higher spatial precision and depth of stimulation, longer-lasting effects, as well as good fMRI compatibility (Rezayat & Toostani, 2016). As I just recently started my PhD, this contribution to the PhD Academy 2024 will be a work-in-progress and overview presentation of the state of my project, in the course of which we will use LIFUS to stimulate key hubs of the dopaminergic reward system to elicit changes in creative behavior. As recent literature suggests, creative cognition can be seen as a balance between cognitive flexibility and stability, modulated mainly by dopaminergic interactions between the striatal and prefrontal regions (Boot et al., 2017). We will combine LIFUS, behavioral assessments of creative cognition and cognitive flexibility, as well as fMRI to test this hypothesis and potentially unravel important aspects of the neurobiological underpinnings of human creative cognition.

## HOW DO WE BEST COMBAT PREJUDICE AND DISCRIMINATION WITH THE ARTS:

### INTRODUCING A DECOLONIAL, COLLABORATIVE AND TRANSDISCIPLINARY APPROACH TO EMPIRICAL AESTHETICS

*Srestha Chakraborty*

Department of Cognition, Emotion, and Methods in  
Psychology

Feb 2 10:50 - 11:15 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

An urgently demanded focus for a decolonial, collaborative and transdisciplinary approach in psychological research of empirical aesthetics (247 words) The application of arts to impact attitudes and behaviours regarding contemporary societal challenges, particularly in the context of migration, has gained a substantial focus of resources and interests not only across multilateral socioeconomic policymaking and federal institutions, but also within empirical and cognitive psychology of aesthetics. However, due to lack of empirical evidence of its efficacy, and ethical issues involving agency and researcher–target-group relationships, this remains an unexplored area for collaborative transdisciplinary psychology. Using empirical data points of a preliminary study investigating the socially transformative power of public art exhibitions in bridging diverse communities, I will expand on the potential ethical pitfalls of agency, accountability, and representation that need to be overcome in research involving marginalised stakeholders from migrant backgrounds. The study assessed whether changing the language of signs of an open, street-level exhibition in Berlin made it more accessible to migrant populations, and made them feel more connected to, and satisfied with their neighbourhood. Initial analyses of the language intervention showed no effects, raising critical questions of: Who is involved? Who is this for? Who is speaking, and for whom? Thus, I propose a decolonial research framework that: (i) encourages active, intentional collaborations with marginalised stakeholders instead of them being passive test subjects, (ii) gives them more agency in sensitive matters that directly affect them at individual, systemic levels, (iii) is sensitised to the intersectional nuances of discrimination, and (iv)

puts more accountability on those who discriminate rather than those who are being discriminated against.

## HOW DO WE EXPERIENCE ART? USING NETWORK AND LATENT PROFILE ANALYSES TO IDENTIFY AND CHARACTERIZE VARIETIES OF ART-EXPERIENCE.

*Stephanie Louise Miller*

Department of Cognition, Emotion, and Methods in  
Psychology

Feb 2 11:15 - 11:40 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

Standing in awe at a painting, mesmerized by beauty, gripped with anger or a moving sadness, finding oneself transformed — the range and intensity of these reactions stand as a constant basis for lasting interest in the arts from both the humanities and science. However, because of the wide variety of factors in arts engagement, empirical investigations of the scope of possible experiences are scarce. This leaves us without a firm understanding of what kinds of reactions we might actually have, how they may relate to typically assessed evaluations, and if/how reactions might be shared across individuals and artworks. Here, I present preliminary results of a large-scale museum study, consisting of over 2700 responses from museum visitors across a wide range of artworks (31 in total), from 11 art-institutions in and beyond Vienna. After viewing a select artwork, participants shared in depth reports of their experience via a scale-based list of 90 phenomenal, emotional, and cognitive terms, selected based on existing theoretical models of aesthetic experience (VIMAP, Pelowski et al., 2017). On the individual level, reports varied greatly, even between responses to the same artwork. But when a procedure of network modeling and latent profile analyses is applied across all individuals and artworks, 5 supraordinate varieties of art-experience emerge, each with a clear phenomenal profile that can be tied to a range of other evaluations and impact measures. These findings provide a compelling and practical basis for conducting future research into contributing factors and underlying processing mechanisms.

## URBAN AESTHETICS: A SCOPING REVIEW

*Margot Madeleine Régine Dehove & Kirren  
Kartar Kaur Chana*

Vienna Cognitive Science Hub  
Department of Cognition, Emotion and Methods in  
Psychology, (EVALab)  
Feb 2 11:40 - 12:05 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

In this talk, we will present the key findings from a scoping review conducted regarding aesthetic components in the urban environment. The urban environment has been explored from an array of fields, but with different approaches – some scientific research has placed an emphasis on green spaces, usability, or general aspects of design. However, the importance and extent to which aesthetic aspects have been considered within this research it is not yet clear. With the notion of urban aesthetics gaining popularity as a research topic, we aim to obtain a more comprehensive overview of how and which components have been investigated in the existing literature. Moreover, given the widespread literature centring on wellbeing in our cities, a further interest is the extent to which wellbeing outcomes have been considered for such aesthetic components within the urban environment. Thus, to gain a deeper understanding as to how urban environments are explored through the lens of aesthetics, we identify what components of the urban environment are considered, how they have been aesthetically evaluated, and whether they have any wellbeing benefits.

## THE FUNCTION OF AESTHETICS IN EVERYDAY LIFE: A MOBILE EYE-TRACKING APPROACH

*Tristan David Barriere*  
EVA Lab; Department of Cognition, Emotions and  
Methods in Psychology; Uni Wien  
Feb 2 12:05 - 12:30 Erika-Weinzierl-Saal  
Discussant: Lukas Nemestothy

Beauty can be found in every aspect of our lives and is essential to the human experience. Our study aims to investigate the role that our aesthetic sense plays in our lives. We hypothesize, based on

evolutionary theory, that aesthetic experiences are common, influence our perception of the world, positively impact our wellbeing, and can be measured physiologically. In addition, we explore how individual differences may influence these effects. Finally, we are also interested in the elicitors of the aesthetic experience, differentiating between man-made (e.g. art) and natural objects. We employed a multi-method approach where participants equipped with mobile eye-trackers and a heartrate monitor walked along the “Donaukanal” in Vienna, which contains natural elements and street-art. Eye-tracking was used to assess how aesthetically evaluated objects influence our perception of the world by capturing and directing visual attention. Participants provided continuous beauty ratings of the objects encountered using their mobile phones. We investigated the effect of aesthetic experiences on wellbeing in terms of positive mood, measured by Heartrate variability and the German version of the PANAS (Breyer & Bluemke, 2016). Participants were invited to a lab follow-up and shown the footage from their walk, where they provided beauty ratings while their HRV and eye-movements were recorded. Participants completed a measure on nature-relatedness (NR-6, Nisbet & Zelenski, 2013) and art interest (VAIAK, Specker et al., 2018) as additional measures of individual differences. Combining beauty ratings, eye-tracking data and questionnaires allows us to investigate the connection between visual attention, wellbeing, and subjective beauty ratings.

## MENTAL & PHYSICAL HEALTH

### PREMENSTRUAL SYMPTOMS AND STRESS: A META-ANALYTIC INVESTIGATION

*Celine Bencker*  
Department of Clinical and Health Psychology  
Feb 2 10:00 - 10:25 Elise-Richter-Saal  
Discussant: Hannah Tschennett

Despite ample evidence that stress plays an important role in premenstrual syndrome (PMS), a synthesis and meta-analysis of the current state of research is lacking. The present study systematically examined the association between

stress and PMS symptoms by conducting a systematic review and three multilevel meta-analyses, addressing the following aims: (1) estimate the correlation between PMS symptoms and stress, (2) examine differences in stress levels between women with PMS and controls over the menstrual cycle, and (3) assess the impact of traumatic experiences on the development of PMS. In total, 199 effect sizes from 85 studies were synthesized, including 40,666 regularly menstruating women. Meta-analytic results showed (1) a positive correlation between the severity of PMS symptoms and stress ( $r = .34$ ), (2) higher stress levels in women with PMS compared to controls ( $d = 0.90$ ), especially during the luteal phase ( $d = 1.19$ ), and (3) more than twofold higher odds ( $OR = 2.33$ ) for women with traumatic history to develop PMS. Heterogeneity was high in all meta-analyses (I<sup>2</sup> values ranging from 85.20 to 94.39%) and was only partially explained by investigated moderator variables. Influential studies and evidence of publication bias affected the results somewhat. Overall, the findings suggest a significant role of stress in PMS symptoms. At the forthcoming conference, the results from an update of the systematic review and related meta-analyses will be presented. In addition, an outlook on future projects arising from the findings will be given, focusing on the longitudinal study of this relationship and biopsychological interactions.

## ECOLOGICAL MOMENTARY MUSIC INTERVENTION FOR THE REDUCTION OF STRESS IN TURKISH IMMIGRANT WOMEN PERCEIVING CHRONIC ETHNIC DISCRIMINATION – A PILOT STUDY

*Stefanie Hirsch*

Department of Clinical and Health Psychology  
Feb 2 10:25 - 10:50 Elise-Richter-Saal  
Discussant: Hannah Tschenett

**Objective:** Perceived ethnic discrimination (ED) may lead to mental and physical health impairments, most likely due to dysregulations of psychobiological stress systems. Consequently, reducing stress levels in everyday life can be an important component of health promotion for

affected individuals. We tested the feasibility and preliminary effectiveness of an ecological momentary music intervention for stress reduction in everyday life in Turkish immigrant women perceiving chronic ethnic discrimination. **Methods:** Using an intraindividual-randomized design, we determined the effects of music listening in moments of acute perceived ED and/or stress on psychological and biological (cortisol, alpha-amylase) stress parameters. For 35 days, twenty participants answered items on their momentary subjective stress levels and perceived ED four times a day via a smartphone-based app. Additionally, they reported every discriminatory and/or stressful event they perceived. To examine biological reactions, participants collected saliva samples after every data entry. **Results:** High usage rates of the app as well as participants' positive ratings on the usability of and satisfaction with the intervention indicated feasibility of the intervention. We found immediate (post 1:  $b = -14.64$ ,  $p = .045$ , post 2:  $b = -14.62$ ,  $p = .047$ ) and intermediate ( $b = -1.11$ ,  $p < .001$ ) effects of music listening on subjective stress levels but not on biological stress levels. **Conclusion:** Targeted music-listening in everyday life seems to be a feasible and effective self-management tool to reduce psychological stress levels in the daily life of chronically discriminated individuals.

Co-authors: Authors: 1Theresa Wagner, 2Nourhan Makled, 3Nadine Brunevskaya, 4Anna Kitta, 5Matthias Unseld, 6Eva Katharina Masel, 7Elisabeth Lucia Zeilinger

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## BARRIERS AND FACILITATORS TO BREAST CANCER SCREENING IN WOMEN WITH INTELLECTUAL DISABILITIES

*Theresa Wagner*

Department of Clinical and Health Psychology  
Feb 2 10:50 - 11:15 Elise-Richter-Saal  
Discussant: Hannah Tschenett

**Background** People with intellectual disabilities (ID) experience major health inequalities and face multiple barriers and obstacles to their health and health care. Breast cancer is the most common cancer in women and the cancer with the highest

mortality rate in women. When women with ID are diagnosed with breast cancer, they often present with an advanced stage of cancer and a poor prognosis. This study examines barriers and facilitators to participation in breast cancer screening programmes from the perspective of support persons of women with ID. Methods Semi-structured qualitative interviews were conducted with ten support persons of women with ID in Austria. The sample included family caregivers, professional support persons, as well as legal guardians. Thematic analysis was used to analyse the qualitative data. Data was coded independently by two researchers, with a third person involved in discussion and in the identification and naming of themes. Results/Aims Results will be presented according to the social-ecological model including intrapersonal, interpersonal, organisational, and community aspects. Conclusions To date, there is a lack of evidence-based data on whether women with ID can be reached by the breast cancer screening programme in Austria. The present study examines, for the first time, barriers and facilitators to the inclusion of women with ID in this well-established health prevention measure. Implications for research and practice are discussed. Disclosures No disclosures

## POSSIBLE RISK FACTORS AND CONSEQUENCES OF DEPRESSION AMONG AUSTRIAN SECONDARY SCHOOL STUDENTS

*Flora Fassl*

Department for Teacher Education  
Feb 2 11:15 - 11:40 Elise-Richter-Saal  
Discussant: Hannah Tschenett

Adolescents spend most of their formative years in school, making it an important context to consider when investigating crises. A personal crisis that often has its onset during adolescence is depression. In order to gain a better understanding of depression in school, we explore possible individual and social risk factors (peers and parents) and outcomes of depression in line with current models. In a first step, we identify possible individual vulnerabilities for depression from an intersectional perspective (gender, first language, socioeconomic status). Second, we investigate factors on an individual (personality, parental expectations) and classroom level (social

relatedness) that might lead to heightened depressive symptoms. Third, we investigate possible detrimental effects of depression on school functioning (lower achievement, test anxiety). The representative data was collected from 30 Austrian secondary schools in a survey study with three waves. The sample consisted of 1338 12th grade students from 93 classes. We used well-established self-report scales for all constructs that showed good reliability ( $\omega=.76-.89$ ). Academic achievement was assessed using the students' mean grade of the last tests. Analyses were pre-registered (<https://osf.io/4zg65>). To answer our research questions, we calculated a mediator model using cluster-robust standard errors and bootstrapping. Preliminary results showed gender effects for depression ( $b=.28$ ) with higher scores for female students. Consciousness ( $b=-.25$ ) and social relatedness with peers ( $b=-.14$ ) negatively and parental expectations positively ( $b=.17$ ) predicted depression symptoms. Students with depression symptoms also showed higher test anxiety ( $b=.31$ ) and lower achievement ( $b=-.07$ ). Directions for future research and implications for educational practice are discussed.

Co-authors: Flora Fassl<sup>1</sup>, Maximilian Hofleitner<sup>1</sup>, Joy Muth<sup>1</sup>, Marko Lüftenecker<sup>1,2</sup> <sup>1</sup> University of Vienna, Centre of Teacher Education, Vienna, Austria <sup>2</sup> University of Vienna, Faculty of Psychology, Department of Developmental and Educational Psychology, Vienna, Austr  
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## BREATHING EXERCISES AND COLD EXPOSURES IN COMBINATION WITH MINDSET TRAINING AS A POSSIBLE TREATMENT FOR ANXIETY, DEPRESSION, AND POST-TRAUMATIC STRESS

*Kenji Haas*

Department of Cognition, Emotion, and Methods in Psychology  
Feb 2 11:40 - 12:05 Elise-Richter-Saal  
Discussant: Hannah Tschenett

Introduction: A significant part of the global population is suffering from anxiety (~3.7%), depressive (~3.5%), and post-traumatic stress disorder (PTSD; ~4%). Prevalence rates for anxiety and depression are constantly rising while 30-40%

of patients remain treatment resistant even after multiple attempts of psycho- and pharmacotherapy. A combination of mindset training, deep breathing exercises, and cold exposure (i.e., the Wim Hof Method) may be effective in treating mental disorders by reducing their symptoms according to preliminary research findings, although a synthesis of the available evidence and the establishment of a theoretical framework is yet missing. A systematic review about the possible effects of deep breathing and cold exposure on anxiety, depression, and PTSD might shed light on the underlying psychobiological mechanisms. Methods: Databases Web of Science, Scopus, Medline, PsychInfo, and Google Scholar (first 500 results) will be searched. Main search terms will be "breathing exercis\*" OR "breathing practi\*" OR "breathing techniqu\*" OR breathwor\* OR "cold exposur\*" OR "cold therap\*" OR "ice-bat\*" OR "cold bat\*" OR "cold showe\*" OR "cold water" OR "wim hof method" OR cryotherapy OR mindset AND anxi\* OR depressi\* OR "post-traumatic stress" OR PTSD OR stress AND case OR cohort OR "cross-sectional" OR longitudinal OR trial OR review OR "meta-analysis" NOT protocol. Risk of bias factors (such as study quality and sponsorship bias) and reporting biases (such as p-hacking) will be investigated in the identified studies. Results: Some preliminary results and possible psychobiological mechanism will be presented.

## GENDER MINORITY STRESS AND COPING IN GENDERQUEER YOUTH IN A TIME OF ONGOING CRISES

*Teresa O'Rourke*

Department of Clinical and Health Psychology  
Feb 2 12:05 - 12:30 Elise-Richter-Saal  
Discussant: Hannah Tschenett

Background: In a time of ongoing crises, adolescents and young adults constitute a particularly burdened group, experiencing high levels of depression, anxiety, and stress. In genderqueer adolescents, the risk for negative mental health is 5x higher than in cis youth, but data on this demographic group is scarce. The objectives of this study are to 1) assess gender minority stress and coping in TIN and cis youth in a

time of ongoing crises, and 2) identify protective variables for (gender minority) stress in this group. Methods: An ecological momentary assessment (EMA) study was conducted with the mobile application ESMira over 14 days in November 2023. Participants were asked to fill out a baseline questionnaire containing the GMSR-A, a short daily questionnaire regarding perceived stress and coping 3x per day, and a weekly questionnaire containing the PSS-10. Linear multilevel models will be conducted with R to test the effects of coping strategies on (gender minority) stress. Preliminary Results: A total of 123 participants, aged 14 to 21 (M=18.7) completed the baseline questionnaire. The sample reached a high gender diversity including 35 individuals identifying as cis female, 4 cis male, 28 trans male, 25 non-binary, 8 genderfluid, 5 agender and other gender identities. Outlook: Results of this study will add important data to the striking research gap concerning the mental health of LGBTQ youth in Austria and contribute scientific grounding mental health promotion strategies for genderqueer youth in a time of ongoing crises.

## RESEARCH FOR FUTURE

### MATERNAL AND INFANT INTEROCEPTION

Department of Developmental and Educational Psychology  
Feb 2 14:30 - 14:55 Großer Festsaal  
Discussant: Leonardo Bergmann

Interoception is the perception of internal bodily signals such as hunger or heartbeat. The communication of internal bodily states is crucial for early development as infants depend on their primary caregiver for co-regulation. However, there is little empirical research on interoception in infancy. Here, we present studies investigating whether infants are sensitive to their interoceptive signals, and whether maternal interoception infant interoception. We bring together data spanning 3-, 9-, and 18-month-old infants and their primary caregiver. In two preferential looking paradigms we find that infants' cardiac interoceptive sensitivity shows similar characteristics across the 3-, 9-, and 18-month-old samples, while respiratory

interoceptive sensitivity increases towards 18 months. Further, we measured several facets of maternal interoceptive abilities using behavioral tasks and self-report measures. We find evidence that maternal interoception is related to infant interoceptive sensitivity. However, this relationship depends on facet of maternal interoception and modality of infant interoception investigated. In sum, we present evidence that infants are sensitive to their interoceptive signals, and that there is a relationship between infant and maternal interoceptive perception. Given that interoception has been related to mental health or autism spectrum, our research might provide an empirical basis to investigate their emergence early in life.

## EXPERIENCING BEAUTY IN EVERYDAY LIFE

*Lena Knoll Anna*

Department of Cognition, Emotion, and Methods in Psychology

Feb 2 14:55 - 15:20 Großer Festsaal  
Discussant: Leonardo Bergmann

Beauty surrounds us in many ways every day. In 3 experience sampling (ESM) studies we investigated frequency, category of eliciting stimuli (natural vs man-made) and, the potential moderating role of several individual difference measures of such everyday experiences of beauty in an ecologically valid manner. Further, we explored the impact of such experiences on mood (valence & arousal). Study 1 re-analysed data from Weigand & Jacobsen (2022), in line with the current aims. In Studies 2 and 3, we asked participants to report daily experiences of beauty using a mixed random and event-contingent sampling schedule. Mobile notifications (random sampling) prompted participants to take a photo and rate the beauty of their surroundings. Further, current valence and arousal were assessed. Notification frequency and total days of participation differed between these two studies. Participants were able to report additional experiences outside of the notification windows (event-contingent sampling). Our results indicate that we frequently encounter beauty in everyday life and that we find it in nature, in particular. Our results further suggest a mood-boosting effect of encounters with beauty. Lastly, our results indicate influences of individual

differences however, these were inconclusive and require further attention.

## AESTHETICS AND SUSTAINABILITY: THE ROLE OF MATERIALS IN ACTIVATING THE AFFORDANCES OF EVERYDAY OBJECTS

*Eduardo Naddei Grasso*

University of Bologna and EVA labs

Feb 2 15:20 - 15:45 Großer Festsaal  
Discussant: Leonardo Bergmann

The study of beauty and its perception are related with several aspects of human cognition, including emotion, action, and interpretation of art. Interestingly, neural foundations afferent to aesthetic perception of beauty constitute perceptual phenomena that share a variety of formal and processual features with the activation of affordances related to object perception (Xenakis & Arnellos, 2013). By linking cognitive and neuroaesthetics research on affordances and beauty, we explored the effects of materials and the role that beauty can play as an environmental nudge. In our first pilot study, we investigated the influence of more or less sustainable materials in activating the affordances of everyday objects with varying degrees of familiarity and pleasantness. Re-adapting a well-established paradigm (Ambrosini et al. 2012), objects shown had the same shape but were made from different material (namely, plastic vs. wood), positioned at a near or far distance, and followed by different kind of verbs (observation, manipulation, function, interaction). Participants also completed the Pro-Environmental Behaviours Scale (PEBs, Italian version by Menardo et al. 2019), and objects' ratings were collected, including pleasantness, prototypicality, sustainability and sociality. As expected, results show a significantly greater facilitation with plastic objects when present in the near space and followed by function verbs. However, a main effect of the material was surprisingly found, with response times significantly shorter for wooden objects, especially when followed by interaction verbs. Since no correlation with the PEBs results was found, we hypothesize that beauty might have transversely promoted the activation of affordance.

## WEATHER CONDITIONS ON THE MEDITERRANEAN ROUTE AFFECT THE STRESS RESPONSE OF TRANS-SAHARAN MIGRANTS AT A STOPOVER STAGE

*Erica Calabretta*

Konrad Lorenz Institute of Ethology

Feb 2 15:45 - 16:10 Großer Festsaal

Discussant: Leonardo Bergmann

Corticosterone (CORT) is an adrenocortical hormone (also known as the stress hormone) generally associated with the energy demands of predictable life-history stages such as migration. For migratory species, crossing large ecological barriers on a non-stop flight, while inevitable, remains a significant challenge to address. Birds experiencing unpredictable meteorological perturbations could be exhausting, and consequently alter their ability to cope with a stressor. This study evaluates the effects of weather conditions encountered during the Mediterranean Sea crossing on birds' physiology. Specifically, we tested the stress response of two trans-Saharan species upon their stopover stage. In the whitethroats (*Curruca communis*), the increase of CORT levels is evident when facing tailwinds at different pressure levels (i.e., from sea surface up to 5600 m). Contrarywise, the garden warblers (*Sylvia borin*) shot down their stress response. However, both species reduce their fuel reserves with the presence of adverse weather conditions. Birds mediate their response to a stressor because of their need to refuel and save energy before continuing their migratory flight. Our analyses suggest that different species respond differently to meteorological variations during the spring season. Species-specific adaptations, and various ecological contexts experienced before migrating, could prompt the adoption of diverse strategies to deal with the increasing unpredictability of weather conditions.

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## IMPORT OF SPECIFIC NUCLEAR tRNAs COULD EXTEND THE VERTEBRATE MITOCHONDRIAL GENETIC CODE

*Sarah Emser*

Department of Behavioral and Cognitive Biology

Feb 2 16:10 - 16:35 Großer Festsaal

Discussant: Leonardo Bergmann

Vertebrate mitochondrial DNA (mtDNA) is translated by a genetic code that slightly differs from the standard genetic code. For example, the two codons AGG and AGA (AGR) recognized by tRNA<sup>Arg</sup> in the standard genetic code were believed to terminate translation in the vertebrate mitochondrial code. Recent studies determined the release factor responsible for translation termination at the ARG codons. However, the innate ability of vertebrate mitochondria to import nuclear-encoded tRNAs might change the coding potential of mitochondrial translation in that the AGR codon translates to arginine. Here, we review the evidence of nuclear tRNA import and involvement in vertebrate mitochondrial gene expression. While the thirteen classical mitochondrial gene products are not affected by the import, the molecular interplay of nuclear and mitochondrial DNA could explain the translation location and code usage of several recently identified mitochondrial-derived peptides (MDPs), and the existence of a novel mitochondrial-derived protein Rudel detected in public RNA-sequencing and mass spectrometry data.

## REFRAMING MALE GENDER IDENTITY TO PROMOTE PRO-ENVIRONMENTAL BEHAVIOR

*Olena Vitkovska*

Department of Occupational, Economic and Social Psychology

Feb 2 16:35 - 17:00 Großer Festsaal

Discussant: Leonardo Bergmann

To be effective, pro-environmental efforts should involve a diverse range of people. This project aims to encourage pro-environmental actions among men, who, according to various studies, tend to be less environmentally conscious in Western societies. The project's goal is to make pro-

environmental behavior more accessible to men by resolving the perceived identity incompatibility between male identity and the typical image of an eco-friendly person. The upcoming presentation will offer an overview of the project and share the results of the first study.

## INFORMATION & RELATION SEEKING

### USING A DECISION AID TO FACILITATE ANTIBIOTIC USE AFTER A DELAYED PRESCRIPTION

*Marina Jutta Groß*

Social and Economic Psychology group  
Feb 2 14:30 - 14:55 Erika-Weinzierl-Saal  
Discussant: Julia Braunstein

The global health problem of antimicrobial resistance is driven by the overprescription of antibiotics in primary care. One proposed intervention to address this is the implementation of delayed antibiotic prescriptions to monitor symptom progression. However, the effectiveness of this strategy is compromised by many patients who take antibiotics immediately upon receiving a delayed prescription. We conducted a preregistered online experiment involving 663 adult participants from the United Kingdom. We tested whether a decision aid developed by the World Health Organization (WHO) facilitates prolonged antibiotic intake in a delayed prescription task with behavior-contingent incentives. Participants were randomly assigned to one of four treatment conditions (leaflet vs. leaflet with value integration vs. leaflet with active monitoring vs. leaflet with value integration and active monitoring) or a control condition with no decision aid to improve their decision whether to take antibiotics when being exposed to viral symptoms. Our results revealed that all four treatment conditions decreased antibiotic use in contrast to the control condition. Additionally, receiving a decision aid was associated with less decisional conflict and improved clarity regarding the values underlying the decision process. These findings highlight the potential of decision aids to improve the judicious use of antibiotics: Decision aids can contribute to a more informed and responsible approach to antibiotic

intake by providing relevant information and tools.  
Keywords: antimicrobial resistance, antibiotics, delayed prescription, decision aid, values

Co-authors: Authors: Marina Groß, Elisabeth Sievert, Lars Korn, Cornelia Betsch, Robert Böhm

## WHEN TALKING MAKES THINGS WORSE – CHANGING MINDS BY DOING THINGS

*Peter Hochenauer*

Faculty of Philosophy and Education, Department  
of Philosophy, OCKO - Organizing Cognition in  
Knowing Organizations (Research Group)  
Feb 2 14:55 - 15:20 Erika-Weinzierl-Saal  
Discussant: Julia Braunstein

Today's grand challenges, such as climate change, social and gender inequalities, new technologies, migration, urbanization, and mobility, pose as "wicked problems": pressing societal issues characterized by their inherent complexity, uncertainty, and political dimension. These challenges involve diverse stakeholders, cut across various disciplines, and span public and private spheres. In such contexts, the space of possible solutions is often already significantly constrained by the stakeholders' divergent worldviews. While rational discourse and methods can articulate and elaborate on different perspectives, it often falls short of resolving fundamental disagreements. To broaden and transform the space of potential solutions, I propose to understand (collaborative) work on wicked problems through the lenses of transformative learning and a radical enactive view of cognition. Specifically, I explore how a radical enactive view of cognition, which focuses on pre-linguistic, embodied agent-environment interaction and incorporates extra-rational factors (such as bodily feelings, emotions, intuitions, etc.), can foster transformative learning from the bottom-up. This, in turn, lays the foundation for novel ways of thinking about the issues at stake.

## DEEPLABCUT – RECENT DEVELOPMENTS AND THE HOW-TO OF AN ARTIFICIAL INTELLIGENCE DRIVEN ANIMAL TRACKING TOOLKIT

*Jeroen Hendrikus Maria Van der Aa*

Department of Behavioral and Cognitive Biology  
Feb 2 15:20 - 15:45 Erika-Weinzierl-Saal  
Discussant: Julia Braunstein

Artificial intelligence has become a powerful and popular tool in recent years. Especially in the field of animal biology, algorithms have become apt at alleviating a lot of the work required for animal tracking. Not everyone might be aware of how accessible some of the tools have become, and as such might be reluctant to start using them. One of these tools that has become available recently is DeepLabCut, a flexible toolkit intended for markerless tracking of any animal species, including multi-animal tracking. Since the DeepLabCut is pre-trained, training a model for your own dataset requires a substantially lower amount of training data. As such, I want to share the process of training your own model using DeepLabCut, and some of the recent developments, possibilities, and limitations of the toolkit.

## AWARENESS OF AGE-RELATED GAINS AND LOSSES SHAPE OUR SOCIAL MOTIVATION AND PERCEPTION OF AVAILABLE RESOURCES

*Christina Ristl*

Department of Developmental and Educational  
Psychology  
Feb 2 15:45 - 16:10 Erika-Weinzierl-Saal  
Discussant: Julia Braunstein

Appreciative, satisfying, social relationships are a strong predictor for how we age, how long we live as well as how healthy and happy we live (Baumeister & Leary, 1995; Hawkey & Cacioppo, 2010; Holt-Lunstad et al., 2015). When it comes to older age, studies indicate that the number of friends (especially weak ties) decreases with age but there is great inter-personal variability (Wrzus,

2013; Fiori et al., 2007; Van Tilburg, 1998). In an experience sampling study of 159 participants aged 18 to 85 years ( $M = 40.4$ ;  $SD = 17.1$ ; 65% women), we examined subjective Views of Aging (VoA; i.e. how we anticipate aging or older people in general), as a predictor of social approach (i.e., behavior that is directed by a positive and desirable end state) and social avoidance motivation (i.e., behavior that is directed by a negative and undesirable end state) in social situations (state) and on personal level (trait). Furthermore, we hypothesize that the perception of available resources (e.g., self-determination, social integration, competence) in a social situation is affected by participants VoA and the perception of available resources again are associated with social approach and avoidance motivation in a social situation (state). We found that VoA predicted participants dispositional social approach and avoidance motivation (trait) and that relationship was moderated by age, suggesting that Views of aging operate like a self-fulfilling prophecy for relationships.

## SUBCELLULAR LOCALIZATION OF THE CALCIUM CHANNEL CAV2.3 IN CULTURED HIPPOCAMPAL NEURONS

*Stephan-Matthias Schulreich*

Department Pharmacology, Physiology and  
Microbiology, Division Physiology, Karl Landsteiner  
University of Krems, Austria.  
Institute of Physiology, Medical University of  
Innsbruck, Austria.  
Feb 2 16:10 - 16:35 Erika-Weinzierl-Saal  
Discussant: Julia Braunstein

Voltage-gated  $Ca^{2+}$  (Cav) channels mediate  $Ca^{2+}$  influx in living cells and are necessary for essential physiological functions such as muscle contraction and neuronal activity (e.g., excitation-contraction coupling, learning, and memory). In particular Cav2 channels are highly expressed in the central nervous system (CNS) and play an important role in the mammalian brain. They are involved in pre- and postsynaptic functions and are critical regulators of synaptic transmission. Especially, Cav2.3 ( $\alpha 1E$ ) is involved in neuronal development and compared to the other Cav channels, shows the strongest expression in mouse hippocampus. Nevertheless, little is known about the subcellular localization of

Cav2.3 in neurons of the CNS. Here, we aim to investigate the potential role of Cav2.3 in hippocampal neurons. To this end, we are employing primary cultured hippocampal neurons of mice, transfected with HA-epitope tagged  $\alpha 1$  subunit of calcium channels, immunofluorescence staining, and high-resolution microscopy. Fluorescence microscopy of live-cell-labelled hippocampal neurons revealed a clustered localization of Cav2.3 channels in the neuronal plasma membrane of somata, dendrites, and axons as well as in pre- and postsynaptic expression in synapses. In addition, Cav2.3 channels show also a pre- and postsynaptic expression in excitatory (glutamatergic) and inhibitory (GABAergic) neurons. Next, the pre- and postsynaptic calcium currents will be measured using electrophysiology and calcium imaging. Taken together, our results show a pre- and postsynaptic localization pattern of Cav2.3 channels, which is further supported by its proposed roles in synaptic transmission and postsynaptic calcium signalling.

Co-authors: Ruslan Stanika<sup>1</sup>, Sabrin Haddad<sup>1,2</sup>, Cornelia Ablinger<sup>2</sup> & Gerald J. Obermair<sup>1</sup>

## NUTRITION & CONSUMPTION

### COCKATOO'S KITCHEN: GOFFIN'S COCKATOOS INNOVATE TWO NEW FORAGING TECHNIQUES WITH DIFFERENT FUNCTION TO PREPARE THEIR FOOD.

*Jeroen Stephan Zewald*

Comparative Cognition, Messerli Research  
Institute, VetMed

Feb 2 14:30 - 14:55 Elise-Richter-Saal  
Discussant: Leopold Roth

Foraging innovations reflect an animal's ability to use new food types or new foraging techniques, thereby showing cognitive flexibility. One type of foraging innovations are food preparations. Food can be prepared by animals in two ways: either by making food edible/available for consumption or by improving the quality of an already edible food item. We observed captive Goffin's cockatoos (*Cacatua goffiniana*), a model species for technical cognition and tool use, dunking food in two different contexts. In two experimental setups, we

investigated the functions of these behaviours. First, we observed 7 out of 18 birds dunking dry rusk in water, often leaving it in to get soft before eating it. Other food types were not dunked and/or also often eaten dry, suggesting the function of softening/moistening the rusk. In the second experiment, we observed 9/18 individuals dunking potatoes and noodles in flavoured soy yogurt, but less in neutral yoghurt or water, and thereafter eating it. They left the food significantly shorter in yoghurt ( $3.2 \pm 0.9s$ ) than in water ( $19.8 \pm 13.3s$ ). Thus, suggesting the function of seasoning their food, which has rarely been reported in animals. Both behaviours suggest that cockatoos innovated two new methods of distinct functions to prepare their food prior to consumption. Based on two completed studies: Zewald & Auersperg, (in press), Zewald et al., (in prep.)

Co-authors: Zewald, J.S.1; Auersperg, A.M.I.1

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### HOW CAN HEALTH LOOK TASTY? INFLUENCE OF PACKAGING COLOR FIT AND PACKAGING COLOR SATURATION ON PRODUCT EVALUATION.

*Katharina Steiner*

Department of Occupational, Economic and Social  
Psychology

Feb 2 14:55 - 15:20 Elise-Richter-Saal  
Discussant: Leopold Roth

In today's fast-paced environment, consumers take an average of only 2.5 seconds to select a product from a wide range of options on the shelf. Therefore, the first impression of a product, which often comes from the product's packaging, plays a critical role in product evaluation and purchase decisions. In particular, packaging color is a dominant design cue that influences consumer perceptions of a product, including health and taste impressions. Many studies have found a negative correlation between the health and taste perception of a product. For example, they have shown that healthy-designed products with green packaging colors and low color saturation are often perceived as healthy but less tasty than products with red and highly saturated packaging colors. However, some studies have shown contradictory

results. Previous research has found that consumers perceive soft drinks as healthier and tastier when the packaging color is more saturated than when it is less saturated. We hypothesize that this effect is moderated by matching the color of the package to the color of the main ingredient in the drink (e.g., orange for an orange juice). We will conduct the study using juice packages in which we vary the saturation of the color and the match of the package color to the color of the juice's main ingredient.

## DO RAVENS SEIZE THE DAY OR CHICKEN OUT? RAVENS<sup>1</sup> FORAGING DECISIONS IN UNFAMILIAR AND UNPREDICTABLE ENVIRONMENTS.

*Silvia Damini*

Department of Behavioural and Cognitive Biology,  
Bugnyar lab

Feb 2 15:20 - 15:45 Elise-Richter-Saal  
Discussant: Leopold Roth

Human environments provide animals with a variety of useful resources, but they can be dangerous, as they are full of unfamiliar and unpredictable stimuli, so only some species exploit them. Ravens are among this species, as they have been observed foraging both in highly and scarcely anthropized areas. We want to understand what effects unfamiliar and unpredictable food sources have on raven's foraging behavior. To do this, we performed two different experiments on a raven population that habitually scrounges food from the animal enclosures in an Austrian wildpark. In the first experiment, we gave ravens the opportunity to choose to forage in a reliable and familiar location, or in an unfamiliar and unpredictable one. In the second, both food locations were reliable, but an anthropogenic object was randomly presented near one. In the first experiment, ravens took longer to approach the new location, but this effect disappeared over time. When the anthropogenic object was introduced, the time to approach the new site increased again, but the object had a more aversive effect when presented at the familiar site. In both experiments, more ravens were present at the new site than at the old one, and scrounging was more common at the new site. Our results

indicate that ravens are highly motivated to exploit unfamiliar and unpredictable food sources, while still perceiving them as risky. The next steps are to look at the behavior of individual ravens and at the effect of the behavior of the heterospecifics present in the enclosure.

## KEA NEOPHILIA- COSTS & LIMITATIONS

*Cornelia Habl*

Core Facility for Behaviour and Cognition, Konrad  
Lorenz Research Centre

Feb 2 15:45 - 16:10 Elise-Richter-Saal  
Discussant: Leopold Roth

An interest in novel stimuli forms the basis for behaviours like play and exploration. These novel stimuli usually elicit opposing tendencies, which are governed by independent motivations: avoidance (neophobia) and approach (neophilia). While these concepts are often attributed on a species level (e.g., the island dwelling kea parrot), individual differences of neotic responses (i.e., responses to novelty) highlight the range of neophilic expressions within a species. This study aims to investigate the costs and limitations of neophilia on the individual level in kea (*Nestor notabilis*). Subjects were presented with three separate tests, during which they could choose between a a) novel object vs. a familiar object, b) novel object vs. familiar food, and c) novel food vs. familiar food. Different availabilities of resources were simulated by presenting the tests in two conditions each: ephemeral (subjects only got to interact with the item they first chose) and stable (both items remained available throughout the trial). Individuals willing to incur a cost were expected to choose the novel objects or the novel food instead of consuming the familiar food, particularly in the ephemeral condition. The results show that birds did not make different novelty choices between the conditions, but between the different tests. Specifically, their preferences for novelty were more pronounced when choosing among familiar and novel items (Object-Object test) and less so when food was involved (Object-Food or Food-Food test), suggesting that kea are not willing to forego food in order to investigate novelty. Further analyses on individual variation are still ongoing.

## HUMAN ACTIVITY INFLUENCES RESOURCE EXPLOITATION IN COMMON RAVENS

*Varalika Jain*

Department of Behavioral and Cognitive Biology  
Feb 2 16:10 - 16:35 Elise-Richter-Saal  
Discussant: Leopold Roth

Rhythms in human activity create patterns of disturbances and opportunities that can shape wildlife behaviour. The weekend effect hypothesis posits that weekly cycles in human activity impact animal behaviour and physiology, suggesting that weekdays and weekends are distinct, environmentally predictable site conditions that animals can learn to respond to. We were interested in whether ravens, foraging consistently at a site, alter their behaviour according to environmentally predictable fluctuations in human activity (varying by weekdays and weekends), if they are avoiding or attracted to the site when human activity levels change, and if they respond differently to varying human pressures on weekdays versus weekends. Across three temporal contexts, we found no support for the weekend effect hypothesis, but rather observed that ravens responded negatively to increases in human activity. We suggest that ravens avoid direct human pressures and discuss the implications of an anthropogenic disturbance at a food resource that is important for the ravens, energetically and socially. Our study highlights the importance and complexity in uncovering how patterns in human activity affect wildlife.

## UNDERSTANDING THE EFFECT OF CONSUMPTION REDUCTION ON AFFECTIVE EXPERIENCE

*Ho Yin Chung*

Department of Occupational, Economic and Social  
Psychology  
Feb 2 16:35 - 17:00 Elise-Richter-Saal  
Discussant: Leopold Roth

Consumption is an important aspect of our society. Much research has been done on whether and when the purchase and consumption of products contribute to satisfaction and affective experience. However, little research has examined the consequences of reducing consumption for

affective experience. As various psychological theories suggest that losing often has stronger negative consequences than not gaining, we conducted a study to investigate whether people generally associate giving up consumption with negative affective experiences, or whether they expect stronger effects when giving up certain types of consumption. We expected that different types of consumption would moderate the affective experiences associated with reducing consumption and that the negative effects would be stronger for giving up consumption experiences than for giving up material consumption. We predicted that 1) affective experience is lower after consumption reduction compared to before; 2) experiential consumption reduction is associated with worse affective experience than material consumption reduction, and 3) the model would be mediated by social relationship satisfaction. 300 participants completed the online survey, which included questions about current feelings, current financial stress, opinions about what they would buy with a given amount of money, how not being able to buy the product would affect their social relationships, and their feelings in such a situation. As expected, we found that reducing consumption had a negative effect on affective experience. Furthermore, reducing experiential consumption had a greater negative effect on affective experience than reducing material consumption. We also found that social relationship satisfaction was a significant mediator in the model. Keywords: consumption reduction, affective experience, sustainable behaviour

# Posters

## DO DOGS UNDERSTAND AND ACT UPON HUMAN GOALS IN A COOPERATIVE HERDING SITUATION?

Celine König

Sheepdogs have been cooperating closely with humans for centuries to herd livestock. Though a lot of research has been focusing on human-dog cooperation and dog cognition, this complex interspecific interaction has received limited attention. One unresolved question revolves around whether dogs merely follow commands blindly during herding or are able to understand their handler's goal. This study aims to investigate whether herding dogs not only have the ability to comprehend human goals but can also cooperate and act independently to reach them. To address this question, 11 sheepdogs were tested in two experiments that each involved a task resembling the ones used in sheepdog trials. In the first experiment it was tested whether the dog would herd a flock of sheep through a gap in a sequence of gaps, if the handler did not give commands and was out of view. In the second experiment it was investigated whether the dog would independently attempt to retrieve sheep that escaped from a pen into which it has just herded them. The majority of the dogs did not bring the sheep through the gap, nor attempt to retrieve the escaping sheep. These results suggest that the dogs did not understand the goal of the handler or did not act independently to reach them. Further studies are needed to investigate whether the dogs are unable to understand the goals of others in general or whether their goal understanding did not show because they are used to only follow commands.

## HABITUATION OF WILD CROWS TO THE CROWBUDDY, AN AI-DRIVEN TOKEN- EXCHANGE MACHINE

Kristina Wastl

Department of Cognition, Behaviour and  
Neurobiology, University of Vienna

Humans and non-human animals have developed strong interrelations throughout history. While synanthropic animals, like many of the Corvidae family, have mastered benefitting from living in proximity to humans, humans have not paid much attention to doing so vice versa. In this explorative study, we took a first step towards a new approach in how to interact with wildlife around us: Establishing a mutualistic relationship between humans and wild populations of carrion/hooded crows (*Corvus corone* ssp.) by providing a food reward when the birds, in exchange, collect and dispose litter. The current study focused on habituating crows to a fully autarkic, automatic "vending machine", the Crowbuddy, which is designed to perform this token-exchange without any need for direct human contact. The AI-driven apparatus was placed in an unoccupied, fenced enclosure at a popular scavenging site at Zoo Schönbrunn (Vienna). By collecting video recorded behavioural data over a period of 4 months with 34 data collection days, the aim of this study was to answer the following research questions: i) Will crows interact with the apparatus and, if so, how will this change over time? ii) What influence will social context (i.e., the presence of conspecifics) have on the behaviour towards and around the apparatus? Video coding was conducted in Solomon® to precisely evaluate, inter alia, frequency and duration of visits, latency to the first approach of the novel apparatus and explorative behaviour in 3 predefined zones, differing in proximity to the Crowbuddy. In this poster, we will present results on neophobia and innovation propensities related to the Crowbuddy in an urban crow population while taking social context and learning into account. By this, we attempt to set the baseline for future studies to further investigate the potential of mutually beneficial human-wildlife-interactions.

Co-authors: Prof. Mag. Dr. Thomas Bugnyar

## RETHINKING BEHAVIOURAL OBSERVATIONS — A DIRECT COMPARISON OF SAMPLING METHOD PERFORMANCE

Pia Marlena Böhm

Reliably and efficiently generating social networks is an essential part of the research of the evolution of social relationships. As it is often impossible to capture a complete record of all social interactions animals engage in, it is crucial to systematically sample behaviour using standardized observation methods. But what methods are most fit to create robust social networks? Traditionally, researchers have relied on continuous focal sampling, assuming it provides the most accurate results. However, recent simulation studies suggest that instantaneous scan sampling might be more effective. In this project we are comparing the performance of focal continuous sampling with an adapted version of scan sampling by recording social interactions and constructing social networks of a group of Japanese macaques (*Macaca fuscata*) at the Affenberg Landskron. For three months, two observers (AS & PMB) are simultaneously collecting social interaction data. One observer uses focal sampling, while the other uses scan sampling, with a daily alternation of observer-method. The networks created from both datasets will be compared in their similarity and confidence levels and robustness of the estimated network metrics. With the results we will be able to gain valuable insights into the trade-offs between sampling strategies for collecting behavioural data. Drawing preliminary conclusions, scan sampling proves to be more time efficient, generating higher data quantity in the same time period while also taking less time to digitize. However, the advantage of continuous focal sampling as a way to collect qualitative data e.g., sequences or durations of behaviour remains.

## NEURAL SIGNATURES OF BAYESIAN PERCEPTUAL ADAPTATION DURING AUDITORY MOTION DISCRIMINATION

Roman Hans Fleischmann

Auditory perception is subject to sensory noise and rapidly changing environments. To deal with ambiguous input, the auditory system needs to find the correct balance between flexibility and robustness. Bayesian inference determines the statistically optimal solution. We investigated on a behavioral and neurophysiological level whether auditory motion perception employs Bayesian inference. We had 26 young adults indicate the final direction of auditory motion sequences with random length and change points (CPs), while monitoring their neural activity via EEG. Participants' accuracy changed significantly based on the occurrence of CPs with a sharp decrease directly following a CP and a steady increase with additional motions in the same direction, revealing a strong bias towards momentarily established priors directly following a CP. Cluster-based permutation analysis of the EEG data revealed a centrally distributed P3b component showing later and longer sustained activity for motions directly following a CP. Momentary estimates of perceptual surprise were estimated by a Bayesian CP model and significantly predicted the cluster amplitudes on a single-sound level. These findings suggest auditory motion perception to continuously adapt to unpredictable changes as the Bayesian observer would do.

## RETHINKING BEHAVIOURAL OBSERVATIONS — A DIRECT COMPARISON OF SAMPLING METHOD PERFORMANCE

Angela Stojan

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## BORED AT UNIVERSITIES: THE ROLE OF DIFFERENT TYPES OF VALENCE AND OVER- AND UNDERCHALLENGE AMONG STUDENTS

Anna Matyk

This thesis focused on the antecedents of academic boredom in educational settings at the University of Vienna. The main interest lies in the effects of different types of valence (intrinsic value, attainment value, utility value, cost) and over- or underchallenge on academic boredom among students. The theoretical assumptions are based on the control-value theory (CVT). This study hypothesized that both over- and underchallenge lead to academic boredom. We further expected that academic boredom shares a negative correlation with intrinsic value, attainment value, utility value, and a positive relationship with cost. Since over- and underchallenge, as well as different types of valence, might occur simultaneously, it was

also interesting to investigate the interaction. Further hypotheses assumed that both over- and underchallenge moderate the relationship between each type of valence and academic boredom. Using a quantitative questionnaire consisting of 57 items 572 students were asked about their experiences in university settings. Results showed significant positive correlations between academic boredom and overchallenge, underchallenge and cost as well as significant negative correlations between academic boredom and intrinsic value, attainment value, and utility value. Over- and underchallenge was only in some relationships a significant moderator, indicating that the presence of over- and underchallenge does not always influence the effect of valence on academic boredom. These findings show further support for CVT and are in line with previous empirical evidence. With an understanding of the relationships between academic boredom and its antecedents, students can create their learning experience in the best way possible.

## TESTING THE WATERS: COMPARING WEIGHT PERCEPTION IN KEA (*NESTOR NOTABILIS*) AND TWO RELATED CORVIDS (*CORVUS CORAX* AND *CORVUS CORNIX*)

MASTER-THESIS IN PROGRESS

Anna Elisa Kempf

Humans have a sophisticated understanding of weight as a property that is inherent to all objects, but it is not yet clear whether other species are also able to reason about properties of their physical environment (e.g. weight) in an abstract fashion. Results from Chimpanzees and Kea parrots suggest nonhuman animals can only perceive weight while directly experiencing it. However, New Caledonian Crows have been able to infer weight based on an objects' movement in a breeze. Ecological differences between Corvids and Kea parrots imply that the neophilic Kea may rely heavily on immediate tactile experience whereas the neophobic Corvids may also use visual cues to gather information about their physical environment. To test this, I present corvids (crows and ravens) and kea parrots with four different

weight discrimination tasks to tease apart species differences in exploration strategies and get a comparative measure for weight discrimination. I also want to examine whether non-tool-using corvids are able to infer the weight of objects based on environmental cues and cues inherent to the objects themselves. Once the study is completed, results may highlight the importance of a species' ecology for the evolution of certain information gathering strategies.

## RECEIVING MIXED SIGNALS? INTEGRATION OF MULTIMODAL COURTSHIP DISPLAY IN FEMALE RING DOVES (STREPTOPELIA RISORIA)

Denise Piringer

Although animals often utilize more than one sensory channel simultaneously for communication, this has largely been neglected by animal communication research. In recent years, the field of multimodal signaling has gained increasing attention, aiming to determine the evolutionary advantages of such signals. Two hypotheses, the backup signal hypothesis stating that some components may contain the same (redundant) information and the multiple messages hypothesis suggesting others may contain different (non-redundant) information, have been formulated to answer this question. In the present study, we investigated whether one of these hypotheses applies for the audiovisual bow-coo display of the male ring dove (*Streptopelia risoria*), an important element of the courtship sequence comprising both visual (bowing movement) and auditory (cooing) components. Twelve female ring doves were presented with four playback conditions integrating stimuli in both the visual and the auditory channels: (1) audiovisual courtship, (2) visual courtship combined with vacuum cleaner noise, (3) auditory courtship and foliage and (4) control containing neutral stimuli. Vacuum cleaner noise and foliage served as occlusion stimuli to enhance ecological relevance. Additionally, this study aims to investigate interindividual differences in female responses, employing a within-individual approach. Video recordings of females obtained during the experiment were manually analyzed

according to an established ethogram. Data analysis is ongoing and I will present preliminary results.

## WHICH FACTORS INFLUENCE DISPLAYING BEHAVIOR IN THE COMMON RAVEN?

Lisa Canaval

In birds, displays such as courtship displays are a common form of multimodal communication. For polygamous bird species extensive and complex displays seems to fit the theory of sexual selection. However, the same cannot be affirmed when it comes to monogamous bird species. Displays are hypothesized to aid pair formation and to be a tool for partner selection but in monogamous birds displaying continues beyond the process of pair formation therefore their role is not as clear. This report investigates Self-Aggrandizing Displaying (SAD) behavior in common ravens and its role in pair behavior with the aim to determine some factors that influence its occurrence. We looked at the effects of pair-bond duration, sex and housing location on occurrence of these displays in captive raven pairs. Consistent with our expectations, our results suggest that birds with shorter pair bond duration display more often and that there is no difference in the frequency of displaying between the sexes. Additionally, the results of a descriptive post hoc analysis showed that breeding success may also affect displaying. We argue that these findings provide hints towards balanced sex roles in ravens due to an equal investment by males and females into the relationship. Authors: Lisa Canaval, Anna Fabbri, Thomas Bugnyar

## IT'S ME! – GREYLAG GOOSE CALLS ENCODE INDIVIDUALITY

Jonas Lesigang

Individuals in group-living species often exist within a complex network of social relationships. To manoeuvre well within this network, it is important to recognize individuals: Who is my ally, enemy, mate? One way of encoding individual identity is via vocal communication, which also helps receivers to recognize socially important individuals among

conspecifics. Greylag Geese (*Anser anser*) are individually distinct in their distance call and respond to its playback consistent with the view that they recognise the caller. In this study, we aim to measure individuality cues in three undescribed call types in Greylag Geese: contact call (low amplitude bouts of calls near conspecifics during movement on the ground), recruitment call (higher amplitude bouts of calls prior to flight departure), and departure call (high amplitude single call usually produced just before taking flight). The study system was the free-ranging, human-habituated and food-supplemented flock living around the Konrad Lorenz research institute in Grünau im Almtal, Upper Austria. At the time of data collection, it consisted of 90 individuals, which were individually marked with coloured leg bands. This allowed not only the recording of thousands of Greylag Goose calls over a period of two months, but also noting the individual that called. To calculate acoustic individuality cues, spectrographic parameters were correlated within and between individuals for all three call types. Preliminary data suggest a gradient of individuality signatures across call types. These findings will inform further research into the role of individual vocal signatures for coordinated movement and vocal communication in group-living species. work in progress, but planned completion in time for the conference

## CARDIO-OCULAR COUPLING IN INFANCY

Lisa Triebenbacher

Cardio-ocular coupling, the modulating influence of the cardiac cycle on oculomotor behaviour, remains a relatively unexplored phenomenon with potential implications for human cognition. A recent paper found that more eye movements were generated during the early phase of the cardiac cycle, namely in systole. The opposite was found for the late phase of the heartbeat. In diastole, more fixations and blinks were generated. To date, there is no study investigating the developmental trajectory of cardio-ocular coupling. To address this gap this master's thesis aims to examine whether the phase of the cardiac cycle modulates oculomotor behaviour in 3-, 9-, and 18-month-old infants. The study hypothesizes that a higher frequency of eye

movements (saccades) will occur in the systolic phase, while a higher rate of blinks and fixations will be observed in the diastolic phase. For this purpose, a secondary analysis of data conducted in an experiment simultaneously recording the heartbeat and eye movement originally designed to measure interoceptive sensitivity in infancy, known as the iBEAT paradigm, will be performed. Additionally, the impact of age and condition (synchronous and asynchronous heartbeat rhythms presented in the iBEAT paradigm) on cardio-ocular coupling will be examined.

## DYNAMIC PREDICTIONS OF AUDITORY

### TEMPO CHANGES

Valentin Pellegrini

Department of Cognition, Emotion and Methods in Psychology, University of Vienna, Austria

Bayesian inference posits, that the brain constantly generates and updates a model of our surroundings, and that perception results from the integration of bottom-up sensory evidence and top-down expectations reflecting prior knowledge. Although Bayesian inference is well studied for visual and spatial tasks, much less is known regarding auditory and temporal processing. Thus, the present study investigates the conditions under which sensory evidence and prior knowledge are integrated and how this integration is neurally implemented in the case of auditory temporal estimations. To that end, we presented 27 participants (11 female) with sequences of sounds that alternated between acceleration and deceleration (i.e., intervals between the sounds decreased or increased, resp.), while high-density Electroencephalogram (EEG) was being recorded. Each trial consisted of a random number of sounds ranging from three to 43, after each of which there was a 20% chance of a changepoint (CP) occurring (i.e., changing from acceleration to deceleration and vice versa). Thus, following each CP, participants needed to accumulate evidence in order to correctly update their internal model (e.g., from acceleration to deceleration). At the end of each trial, participants had to report whether the immediately preceding sound sequence was speeding up or slowing down. Data collection has been completed and analyses are currently still

ongoing. We will present both behavioural results (hit rates) as well as event-related potentials associated with the processing of CPs and updating of the internal auditory predictions.

Co-authors: Bayram, B.1, Meijer, D.2, Barumerli, R.2, Spierings, M.3, 4, Baumgartner, R.2, Pomper, U.1  
Co-author affiliations: (1) Department of Cognition, Emotion and Methods in Psychology, University of Vienna, Austria (2) Acoustics Research Institute, Austrian Academy of Sciences, University of Vienna, Austria (3) Department of Behavioral and Cognitive Biology, University of Vienna

## VISUAL ATTENTION: THE DEGREE OF FEATURE SPECIFICITY IN TOP-DOWN SUPPRESSION OF NEGATIVE FEATURES AND THE INFLUENCE OF BOTTOM-UP SALIENCE

Laurie Girres

Earlier experiments found that when searching for a target defined alternately and unpredictably by a positive or negative feature, negative features guide attention in a less feature-specific way than positive features (e.g., a positive feature refers to the feature "yellow", a negative feature refers to the absence of that feature, in this example "not yellow"). In my master's thesis I therefore investigate how feature-specific the top-down suppression is when searching for a target defined by a negative feature. To do so I conduct a spatial cueing experiment with two independent variables: 1) search task condition: positive search versus negative search and 2) cue condition: yellow-singleton cue versus yellow-nonsingleton cues. In both cue conditions the remaining cues are grey and are not relevant to the task because the colour grey never appears in the search display. Depending on how feature-specific the suppression is in the negative search, different results are possible. For the negative search with yellow non-singleton cues, two different results are possible: If top-down suppression is feature-specific, yellow non-singleton cues should be suppressed and thus a validity effect for the grey singleton should occur. However, if the salient but irrelevant grey singleton is also suppressed no validity effect should occur. For the negative search with a yellow singleton cue, an inverse validity effect for the yellow singleton is expected. It is thus assumed that the grey non-singleton cues are not top-down suppressed. Hence, significantly different validity effects are

expected between the two cue conditions in the negative search.

## STRESSFUL THOUGHTS: INVESTIGATING THE RELATION OF RUMINATION AND STRESS IN AN EXPERIMENTAL SETTING

Lea Schenk

In the affect-regulation framework (Troy et al., 2023), affect regulation methods are elicited by an adversity and lead the individual either towards or away from resilience. The concept of rumination stems from theory on emotion regulation and describes a response pattern involving repetitive thoughts about the stress-inducing stimulus and its causes or consequences. Traditionally, it has been considered a maladaptive mechanism guiding away from resilience. Stress is a powerful trigger of such regulation methods and past research has established substantive evidence for a causal relation between stress and rumination. Additionally, both are implied in the pathogenesis of several somatic and psychiatric health disorders. However, findings diverge on the direction of effects which has been partially attributed to methodological issues. This study aims to provide insight by employing a stress task that incorporates both physiological and socio-evaluative components which have been shown to successfully produce a stress response and induce rumination. However, most experimental studies relied on artificially inducing rumination after a stressor and thus may have introduced bias to the observed effect. Here, participants have a waiting period immediately after the stress task in which they are free to think and feel, and are evaluated for state rumination only afterwards. By modelling the physiological data in a mixed-effects growth curve framework and applying landmark registration, this study wants to portray rumination and stress in their manifold relations and explore, whether an experimental design without rumination induction is feasible.

## THREE-YEAR-OLDS HEMODYNAMIC BRAIN RESPONSES IN AN OBJECT-VIEWING- LISTENING-NAMING PARADIGM

Tiziana Srdoc

In this ongoing study, we aim to reveal the brain regions involved in visual object recognition, comprehension of object labels, and production of object labels in 3-year-old children. While neuroimaging studies in adults have identified specialized brain regions for object recognition and language-related tasks, how these areas develop remained unclear. Using functional near-infrared spectroscopy (fNIRS), we will record hemodynamic responses related to children's brain activity during an object-viewing-listening-naming paradigm. We hypothesize increased activation of 1) the lateral occipital cortex during the object perception task, 2) left-lateralized language regions during the comprehension task, and 3) greater activation of prefrontal, frontal, and temporal language regions during production compared to the comprehension task. Understanding the shared and specialized neurocognitive resources underlying speech-related processes in the developing brain has important implications for language research and neuroscience.

## VOXEL-BASED LESION AND ADVANCED LESION METHOD ANALYSIS FOR ANOSOGNOSIA IN STROKE PATIENTS.

Jan Knaak

This study focuses on lesions associated with patients who suffer from anosognosia after a stroke. In the literature, several regions are associated with anosognosia; such as the anterior cingulate cortex, anterior insular cortex, supplementary-motor-area and fronto-temporo-parietal structures. A voxel-based-lesion-symptom-mapping is used to find significant regions associated with strong cases of anosognosia, measured with the VATA scales. Furthermore, a structural connectivity analysis based on the lesion sites will be applied, to identify possible aberrant functional connectivity. Anosognosia could be

explained as a multi-modal structural deficit, since severe anosognosia is not associated with specific regions, but rather a variety of regions in the neocortex and subcortex areas. Studies support the notion that anosognosia can be considered as a dysfunction in a multimodal attentional system and an aberrant connection between systems regarding self-evaluation and self-referential processes. Advanced lesion methods will therefore be applied to identify possible mechanisms underlying that assumption.

## THE IMPACT OF SMARTPHONE DEPRIVATION AND DIGITAL MATURITY ON SMARTPHONE DESIRE IN YOUNG PEOPLE Christopher Schrub

Considering the prevalence of digital device use among young people, it is important to understand the distracting influence phone use can have on young people with different abilities in mature digital device use. In this experimental study which is currently being conducted, we investigate the relationship of digital maturity, defined as the self-determined use of digital technologies that supports psychological growth and social integration, with young people's desire to use their smartphone and distractibility by smartphone-relevant stimuli during a visual search task. Prior to the task, in the smartphone-deprivation group participants are not allowed to use their smartphone during a 10-minute waiting period, in the smartphone-use group participants can use their smartphone during this time. During the visual search task, eye-tracking is used to measure attention towards a smartphone-relevant distractor, which signals being allowed to use the smartphone later during the experiment. Phone use desire is measured using self-report at several stages of the experiment. Based on pilot testing, we expect to find that phone desire increases during the waiting period for the smartphone-deprivation group. However, this effect is expected to be smaller for individuals with higher digital maturity. Regarding distractibility during the visual search task, we expect that phone deprivation will relate to more fixations on smartphone-relevant distractors. The results can provide valuable input

regarding the relevance of digital maturity for young people's phone desire, and the ability to shield attention from smartphone-relevant distractors.

## COORDINATION AND BENEFITS OF BONDING IN NON-BREEDER RAVENS

Ilona Koskela

Social bonds in non-reproductive contexts are common in socially complex species, yet the significance of bonds is not fully understood, particularly in avian species. This study focuses on non-breeder ravens, whose social dynamics parallel socially complex mammals presenting an opportunity to explore the convergent evolution of sociality. Research indicates that raven bonds provide various benefits including coalitionary support in food competition and rank acquisition but, more research is needed to better comprehend the significance of raven bonds. In addition, research shows non-random co-occurrences, suggesting that ravens might actively coordinate at feeding sites to enhance foraging success, but this remains to be studied. With my master's thesis project, I aim to gain insight into the significance of social bonds among non-breeder ravens by addressing the following questions: Do bonded individuals coordinate their presence in time and space? Does having a bonding partner impact conflict- and foraging success? Does the strength of the bond affect coordination, conflict success, and foraging success? Studying these questions may not only add to our knowledge of raven sociality but can also help us understand group formation and sociality in a broader ecological and evolutionary context. The study is conducted from Nov 23 to Feb 24 at the Cumberland Wild Park, which is a year-round destination for a group of free-ranging non-breeding ravens. My methods include behavioral observations during the socializing and foraging of the ravens focusing on individuals that are marked as a part of a larger raven research allowing individual identification.

TBA

## Benedikt Schmidt

Background: Anhedonia, a diminished capacity to experience pleasure, is prevalent in a range of neuropsychiatric disorders, notably depression, and largely resistant to conventional treatments. The multifaceted nature of anhedonia, involving dysfunctions in 'liking', 'wanting', and 'learning' within the brain's reward system, requires innovative therapeutic approaches. Objective: This study examines the post-acute effects of ketamine, renowned for its rapid antidepressant qualities and influence on neuroplasticity, on the experience of aesthetic chills during music listening. The focus is on assessing ketamine's impact on post-acute BOLD signal variability, exploring this as a potential indicator of neural plasticity, and the interaction of pharmacological and non-pharmacological modalities in modulating hedonic responses. Methods: A cohort of healthy individuals is employed to establish a foundational understanding of how ketamine and musical stimuli interact to affect hedonic responses. The investigation centres on the post-acute effects of ketamine on BOLD variability and emotional responses elicited by music, with particular attention to the consummatory elements of reward processing. Results: It is hypothesised that ketamine administration will modulate post-acute BOLD signal variability, indicative of changes in neural plasticity, and thereby influence various aspects of reward processing. A key expected outcome is the enhancement of the hedonic experience, especially the induction of aesthetic chills. Conclusion: By combining the post-acute pharmacological effects of ketamine with music-induced emotional responses, the study aims to illuminate new approaches to treating anhedonia, especially in depression, through the lens of enhanced neuroplasticity and emotional reactivity.

## WORKING MEMORY CAPACITY OF DOGS IN A SELF-ORDERED SEARCH TASK

Angelika Reichert

Working memory (WM) is a central cognitive ability that enables individuals to maintain and update information and to use it in the execution of cognitive tasks. WM, however, has a limited capacity, and little is known about the storage capacity in non-human animals, which could serve as a useful measure for between-species comparisons and therefore help to understand the demand of WM capacity of varying ecologies and promote a reconstruction of evolutionary processes. In this study, we examined the working memory capacity of dogs (*Canis familiaris*) in a radial maze task. The radial maze consisted of 8 arms of which each was baited with food rewards. Dogs had to collect rewards in a free search while avoiding revisiting depleted food locations. In a forced choice condition dogs were walked in two predetermined arms before they could explore the maze freely. We assessed WM capacity of dogs by comparing their performance to stochastic models generated to simulate the performance of dogs in a radial maze with different memory sizes. The comparison revealed that WM size of dogs ( $n = 58$ ) constitutes 2-3 items. Additionally, we analyzed the test-retest reliability of individual differences of dogs' maze performance to evaluate the psychometric qualities of WM updating tasks and found that individual differences in performance were stable over a period of 2-8 weeks. This leads to the conclusion that the approach can be used for assessing individual differences in cognitive test batteries. With our results, we hope to establish a measure for WM capacity in dogs that can be used to compare this core executive function with that of humans and other non-human animals.

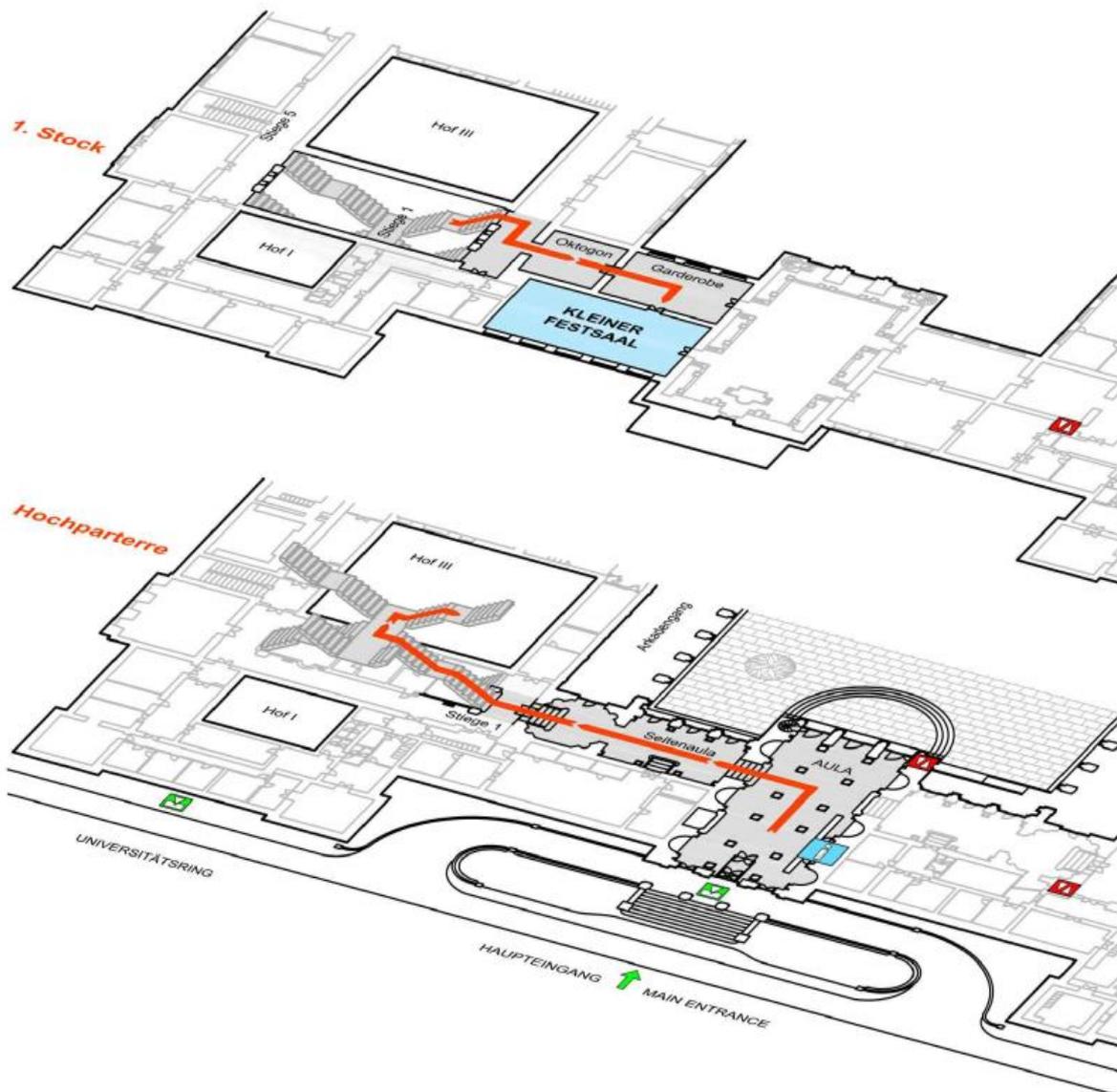
TBA

Johannes Ploderer

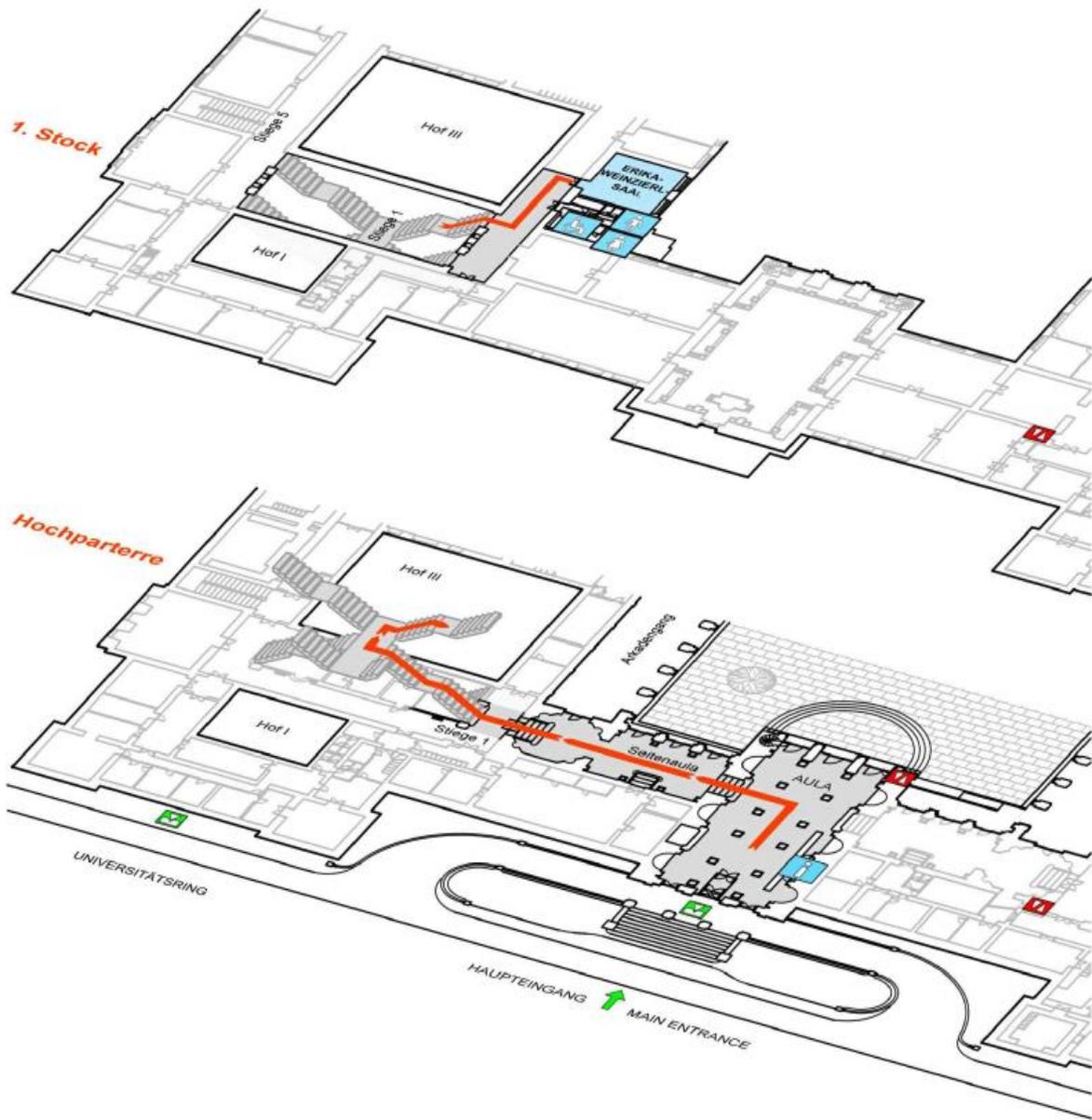
Understanding how animal personality links to individual home range (i.e., area traversed by an animal) in keystone species is of great importance for conservation management. The Galapagos short-eared owl (*Asio flammeus* ssp. *Galapagoensis*) is the only endemic, terrestrial predator on Floreana island, Ecuador, feeding on a variety of prey such as native birds, lizards, or moths, but also invasive rodents like rats and mice. Home range and personality have been studied separately in owls, but the association between both has never been explored. The aim of my master's thesis was to close this knowledge gap by identifying personality traits in owls and correlating them to home range sizes. 31 individuals were captured and tagged with GPS and ACC loggers to determine their home range on Floreana island. Four different personality traits (boldness, activity, aggressiveness, and sociability) were measured in the wild across different contexts. We used both established and novel methods to link these traits to their home range. We found a trend between the measurements ascribed to boldness across contexts and a strong correlation between three movement-inferred activity measurements. Additionally, we found a strong correlation between home range size and activity. These results could help inform conservation decisions on these unique island predators, particularly those involving the eradication of invasive prey, translocation, and capture-and-release programmes. My thesis provides further insight into the personality of an understudied taxa and is the first study to have found a link between personality and home range in an owl species.

# Room Plans

## Grosser Festsaal (access through Garderobe of the Kleiner Festsaal)

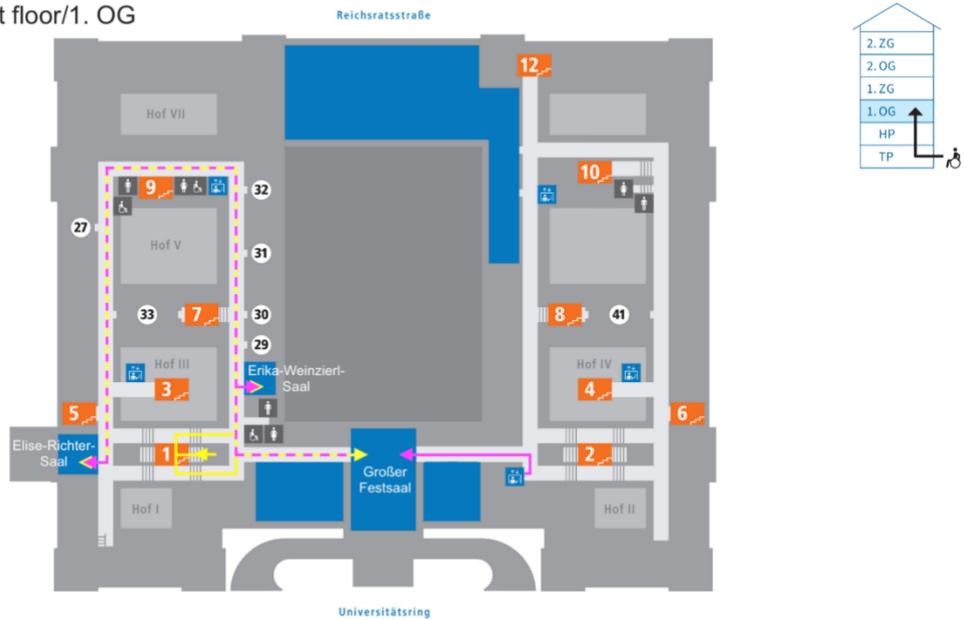


## Erika-Weinzierl-Saal



## Barrier-free & Staircases

Stair access ■  
Barrier-free access ■  
1st floor/1. OG



Barrier-free access  
Ground floor/TP



