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

CoBeNe PhD Academy 2023



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Agenda

	FEBRUARY 1
18:00 - open end	Pre-conference SOCIAL EVENT @ Café Einstein

	FEBRUARY 2		
	Kleiner Festsaal	Erika-Weinzierl-Saal	Marietta-Blau-Saal
08:30 - 09:00	Welcome Address		
09:00 - 10:00	Keynote 1: BeCog (Jim McGetrick)		
10:00-10:10	COFFEE BREAK		
10:10 - 12:00	INPUTS & SENSE- MAKING	Relating to humans & machines	Attention, willpower, and learning
12:00 - 13:00	LUNCH BREAK		
13:00 - 14:00	Keynote 2: Cognitive Humanities (Sabrina Turker)		
14:10-16:00	Social & environmental contexts	Perceiving art, perceiving others I	Information and relation seeking
16:00 - 16:10	COFFEE BREAK		
16:10 - 18:00	Attitudes towards the environment	Communication & perception	Growing up & caring about the environment
18:15-21:00	Conference dinner @ University main building		

	FEBRUARY 3		
	Kleiner Festsaal	Erika-Weinzierl-Saal	Marietta-Blau-Saal
09:00 - 10:00	Keynote 3: Psychology (Helena Hartmann)		
10:00 - 10:10	COFFEE BREAK		
10:10 - 12:00	Looking inwards & outwards - perceiving oneself & others	Perceiving art, perceiving others II	Clever animals & clever humans
12:00 - 13:00	LUNCH BREAK		
13:00 - 15:00	POSTER SESSION		
15:00 - 16:00	Keynote 4: Neuroscience (Dominic Kargl)		
16:00 - 17:00	PANEL DISCUSSION		
17:00 - 18:00	Conference conclusion, prizes for best talk and best poster		
18:00 - open end	Post-conference drinks @ Café Einstein		

Social Events

The night before the conference, February 1, we would like to kick off the event over a couple beers @ Café Einstein (Rathausplatz 4, 1010 Wien). Start is at 18.00.

For our conference dinner on February 2, we will have a delicious warm and cold buffet, prepared for you by [Habibi & Hawara](#).

After the conference has concluded on February 3, we would once again like to see many of you for an additional round of drinks, again @ Café Einstein.

Links

[Whova](#)

The conference will take place on the online platform *Whova* (<https://whova.com>). The platform will open after registrations are complete. If you have registered online, you should receive an email with your log-in data one week prior to the conference.

[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 to the University website

[Kleiner Festsaal](#)

[Erika-Weinzierl-Saal](#)

[Marietta-Blau-Saal](#)

Contact

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Keynote Talks

THINKING ABOUT TEAMWORK? THE COGNITION OF COOPERATION IN ANIMALS

Jim McGetrick

Institute of Animal Welfare Science, University of Veterinary Medicine, Veterinärplatz 1, 1210
Vienna, Austria
2/2/2022 09:00-10:00 Kleiner Festsaal

Cooperation is displayed in nature by a multitude of non-human animal species in a variety of behavioural contexts ranging from cooperative hunting to anti-predator defence. Major leaps forward in our understanding of the evolution of cooperation occurred in the 20th century. However, empirical and theoretical work on cooperation has been dominated by a focus on ultimate explanations and evolutionary theory. Consequently, very little is known about the proximate mechanisms underlying, and the cognition associated with, cooperation in animals. In particular, it is unclear whether instances of seemingly complex cooperative feats are governed by complex cognition or whether simpler processes explain these cooperative behaviours. In this talk, I will present an assortment of new studies which aim to fill this gap and shed light on the cognition involved in cooperation in animals. Each study centres around a unique study system and question such as (1) do pigs understand the need for a partner in a cooperation task, (2) do pet dogs respond to inequity in an experimental inequity aversion task involving a social partner, and (3) do sheepdogs understand the goal of their handler when herding cooperatively?

FUNCTIONAL CONNECTIVITY AND SHORT-TERM ADAPTIVE PLASTICITY IN THE READING NETWORK

Sabrina Turker

Research Group 'Cognition and Plasticity', Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig
2/2/2022 13:00-14:00 Kleiner Festsaal

The reading network in the human brain comprises several regions, including the left inferior frontal cortex, the ventral occipito-temporal cortex (vOTC) and the dorsal temporo-parietal cortex (TPC). In recent work, we could reveal aberrant brain activation, a connectivity-specific disruption of hypoactive brain areas, and differences in the functional organization of reading networks during word and pseudoword reading in dyslexia. This aberrant functional organization was linked to reading performance, suggesting a conceptualization of dyslexia as network disorder. Since the left TPC is crucial for phonological decoding, i.e., for learning and retaining sound-letter mappings, we further hypothesized that facilitating this core node with neurostimulation could lead to improvements in reading performance. In a study combining neurostimulation and neuroimaging, we found that facilitatory stimulation of the left TPC improved reading performance of dyslexics, which was accompanied by changes in brain activation and connectivity. To be more specific, stimulation led to strong differences in activation primarily in the right hemisphere and weaker coupling from left vOTC to left TPC. Our results provide evidence for a crucial role of left vOTC to TPC coupling and emphasize the relevance of functional interactions in the reading network in dyslexia.

ANOTHER'S PAIN IN MY BRAIN — UNDERSTANDING HOW WE PERCEIVE AND REACT TO THE PAIN OF OTHERS

Helena Hartmann

Clinical Neurosciences, Department for Neurology, University Hospital Essen, Essen, Germany
2/3/2022 09:00-10:00 Kleiner Festsaal

Empathy and prosocial behavior are crucial skills for social cohesion and bonding among individuals. Previous research has highlighted that we empathize with the pain of other individuals by activating neural processes that are also engaged when we feel pain ourselves – so-called ‘shared representations’. Causal evidence for such shared representations has been shown through sophisticated psychopharmacological manipulations such as placebo analgesia – the downregulation of one’s own pain by means of a placebo painkiller. Placebo analgesia reduced both subjective ratings for pain empathy as well as decreased neural activation in the affective-motivational component of pain processing, namely in anterior insula, and anterior midcingulate cortex. While this research already set the basis for understanding how empathy is processed in the brain, several crucial questions that concern the specificity of shared representations between first-hand and empathy for pain remain unanswered. My work aimed to specify how our own pain processing is related to empathizing with and reacting to others’ pain, by focusing on the role of regions such as the somatosensory and dorsolateral prefrontal cortex. I will present work combining tailored experimental designs and psychological tasks with placebo analgesia, functional magnetic resonance imaging and repetitive transcranial magnetic stimulation.

THE BODY’S GUIDE TO INTUITIVE DECISIONS

Dominic Kargl

Department of Neuronal Cell Biology, Center for Brain Research, Medical University of Vienna
2/3/2022 15:00-16:00 Kleiner Festsaal

Intuitive decisions are fast affective responses relying on abstract knowledge without conscious awareness. Such affective responses require assigning value to environmental predictors of threat or reward. However, the affective value of novel predictors is inherently uncertain. To resolve uncertainty, brains are thought to form abstracted representations of their environment, integrating primary sensory stimuli, such as sounds (conditioned stimuli, CS), with bodily states to inform affective responses. Yet, the neural circuits, interactions and mechanisms mediating this process are largely unknown.

Using fMRI and electrophysiology in mice, we mapped a cortico-limbic circuit between the insula and amygdala, integrating bodily states into CS value. Uncertainty on CS value in the amygdala recruited these CS representations in the insula bottom-up. In this way, the amygdala incorporated interoceptive feedback from the insula to facilitate future affective responses to the CS. We provide a potential circuit module for affective learning under states of uncertainty. That is, linking the environment with our bodily states to support affective responses, a potential neural basis for intuitive decision-making. Dysfunctions in the insula↔amygdala network may therefore underlie intolerance to uncertainty, observed in psychiatric conditions.

Track Overview

INPUTS & SENSE-MAKING

HOW DIFFERENTIAL GUIDANCE OF ATTENTION SHAPES INFANTS' VISUAL CORTICAL PROCESSING

Anna Bánki

AN EXISTENTIAL AND ENACTIVE APPROACH TO CULTURAL EVOLUTION: EXPLORING
THE PROCESS OF CREATIVELY LIVING IN SPHERES OF MEANING

Felipe Gonzales T. Machado

MIDDLE SCHOOLS STUDENTS' CHALLENGES PERFORMING THE CONTROL-OF-VARIABLES STRATEGY:
RECOGNIZING ERRORS IN THIRD-PARTY EXPERIMENTS IS EASIER.

Linda Hämmerle

THE NEUROPHARMACOLOGY OF SOCIAL ATTENTION AND REINFORCEMENT LEARNING IN ASD

Raimund Buehler

RELATING TO HUMANS & MACHINES

THE MINTREP STUDY OR HOW MUSIC-LISTENING INTERVENTIONS CAN HELP REDUCING PAIN

Eva Luna Munoz Vidal

IS IT A MATCH? OVERALL PERSON ATTRACTIVENESS JUDGEMENTS OF VIDEO AND AUDIO RECORDINGS AS
POTENTIAL PREDICTORS OF ONLINE AND REAL-LIFE SPEED-DATING PERSON'S ATTRACTIVENESS JUDGEMENTS.

Christina Krumpholz

ENACTIVISM AND TECHNOLOGY

Peter Rantasa

EXAMINING THE RELATIONSHIP BETWEEN DEATH ANXIETY AND ART EXPERTISE

Christina Makri

ATTENTION, WILLPOWER, AND LEARNING

THE INFLUENCE OF HATHA YOGA ON STRESS AND ATTENTION

Bence Szaszko

TOWARD AN ENACTIVIST THEORY OF TRANSFORMATIVE LEARNING

Peter Hochenauer

PROBABLE SOUND PATTERNS AS SIGNALS FOR WORD STRUCTURE: AN ARTIFICIAL LANGUAGE LEARNING
EXPERIMENT

Irene Amparo Böhm

THE ROLE OF LAY THEORIES ABOUT WILLPOWER AND DAILY DEMANDS IN DAY-TO-DAY PRO-
ENVIRONMENTAL BEHAVIOR

Julia Jankowski

SOCIAL & ENVIRONMENTAL CONTEXTS

THE INCONSISTENT EFFECT OF LACK OF CLARITY ON RELATEDNESS SATISFACTION AMONG REMOTE WORKERS

Arabella Mühl

DOES OBJECT-HANDLING BEHAVIOUR ELICIT SOCIAL INTERACTIONS IN FREE-FLYING COMMON RAVENS?

Awani Bapat

WELCOME TO HELL - THE INFLUENCE OF GALLERY LIGHTING ON AESTHETIC EXPERIENCE OF THE LAST
JUDGEMENT BY H. BOSCH

Stephanie Miller

DIET EXPERIENCES EARLY IN LIFE MOLD INDIVIDUAL FORAGING NICHES AND PERSONALITIES OF OMNIVOROUS
PREDATORY MITES

Thi Hanh Nguyen

READING IN THE CITY: VIEWING AND EVALUATING TEXT AS IMAGES

Kirren Chana

PERCEIVING ART, PERCEIVING OTHERS I

IS IT THE PRIME OR THE PROVENANCE? – INVESTIGATING ART EXPERIENCE WITH AI AND HUMAN GENERATED
ART USING FNIRS

Theresa Rahel Demmer

WHAT I THINK OF OTHERS THINK ABOUT CLIMATE CHANGE: PUBLIC PERCEPTIONS OF CLIMATE CHANGE BELIEFS
ACROSS 11 COUNTRIES

Sandra Geiger

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

Tristan Barriere

RHYTHMS AND SOCIAL BONDING

Dhwani Sadaphal

INFORMATION AND RELATION SEEKING

RELATIONSHIPS BETWEEN DISCRETE EMOTIONS AND POLITICAL LEARNING: A CROSS-DISCIPLINARY SYSTEMATIC
REVIEW AND META-ANALYSIS

Elisabeth Graf

HEALTH INFORMATION SEEKING BEHAVIOR AND VACCINATION

Marina Groß

HOW DO CORVIDS CHOOSE EACH OTHER? PAIR-BOND FORMATION AND MAINTENANCE IN RAVENS AND CROWS

Anna Luise Fabbri

RESPIRATORY AND CARDIAC INTEROCEPTIVE SENSITIVITY IN 9- AND 18-MONTH-OLD INFANTS

Markus Tünte

TEMPORAL IMPRECISION AND PHASE INSTABILITY IN SCHIZOPHRENIA RESTING STATE EEG

Stephan Lechner

ATTITUDES TOWARDS THE ENVIRONMENT

FIGHT OR FLIGHT? DEVELOPMENT OF THE ANTIPREDATOR RESPONSE IN YOUNG RAVENS (*CORVUS CORAX*).¹

Silvia Damini

LONGITUDINAL EFFECTS OF NATURE EXPERIENCES ON MIDDLE SCHOOL STUDENTS' ENVIRONMENTAL
ATTITUDES, INTEREST AND KNOWLEDGE

Petra Bezeljak

WALK WITH ME THROUGH VIENNESE STREETS

Margot Dehove

AGGRESSIVE DARWIN'S FINCHES HAVE SMALLER HOME RANGE SIZE: FINDINGS FROM BOTH RANGE RESTRICTED
AND WIDESPREAD SPECIES

Jefferson García-Loor

COMMUNICATION & PERCEPTION

MICROPLASTICS IN FOOD AND DRINKING WATER: KNOWLEDGE AND PERCEPTIONS OF DIFFERENT RELEVANT
GROUPS ALONG THE HUMAN FOOD CHAIN.

Leonie Fian

HOW ELEPHANTS SAY "HELLO": MULTIMODAL COMMUNICATION IN THE GREETING BEHAVIOUR OF SEMI-
CAPTIVE AFRICAN SAVANNAH ELEPHANTS

Vesta Eleuteri

A SHORT SHLP6 PEPTIDE VARIANT OF RODENTS RELATES TO HETEROOTHERMY

Sarah Emser

LAUGHING TOGETHER

Verena Schäfer

GROWING UP & CARING ABOUT THE ENVIRONMENT

HOW DO INDIVIDUALS NARRATE THE ROLE OF SOCIAL INTERACTIONS IN ADOPTING AND MAINTAINING PRO-ENVIRONMENTAL BEHAVIOUR?

Jana Köhler

CHARACTERISTICS OF SIGNIFICANT LIFE EVENTS ACROSS ADULTHOOD

Sonja Radjenovic

ASSOCIATIONS BETWEEN CHILDREN'S ADHD SYMPTOMS AND THEIR FAMILY INTERACTIONS IN EVERYDAY FAMILY LIFE – AN ELECTRONIC DIARY STUDY

Jessica Schirl

LOOKING INWARDS & OUTWARDS - PERCEIVING ONESELF & OTHERS

THE ROLE OF EMPATHY IN AESTHETIC EXPERIENCES

Marta Pizzolante

MECHANISMS FOR COOPERATION IN DOGS

Juliana Wallner Werneck Mendes

A PILOT STUDY TO INVESTIGATE THE FEASIBILITY AND EFFECTS OF A DIGITAL MINDFULNESS-BASED INTERVENTION FOR COPD PATIENTS

Hannah Tschenett

HIDDEN BEHIND THE MEAN SCORE: INTER-INDIVIDUAL DIFFERENCES IN TEMPORAL FLUCTUATIONS OF CLASSROOM BOREDOM

Lisa Stempfer

PERCEIVING ART, PERCEIVING OTHERS II

INTERACTIVE TEXT READING: A TEXT 2.0 IMPLEMENTATION

Akshay Mendhakar

HOW SLEEP HELPS TO SOLVE DAILY PROBLEMS - THE RELEVANCE OF SLEEP QUALITY AND MINDFULNESS FOR CREATIVITY AT WORK

Tabea Maier

THE ROLE OF ATTACHMENT FOR OVERIMITATION IN 5-YEAR-OLD CHILDREN

Louise Mackie

THE SMART VIEWER: EFFECTS OF SMARTPHONE USE ON ART VIEWERSHIP

Zoya DARE

AESTHETIC EXPERIENCES IN THE MIND: COMMON NEURONAL SIGNATURES BETWEEN PERCEIVED AND MENTALIZED AESTHETIC STIMULI

Maximilian Kathofer

CLEVER ANIMALS & CLEVER HUMANS

WHO IS CALLING?: DO COMMON MARMOSETS USE PITCH TO RECOGNIZE CONSPECIFICS?

Julia Victoria Grabner

PERSONALITY DIFFERENCES BETWEEN HIGHLY INTELLIGENT INDIVIDUALS AND THE GENERAL POPULATION.

Jonathan Fries

TEACHING TO THE TEST - KILLING STUDENT'S MOTIVATION FOR THE SAKE OF GOOD GRADES?

Joy Muth

THE EVOLUTIONARY HISTORY OF ELABORATE COURTSHIP PERFORMANCES IN THE BIRDS-OF-PARADISE

Thomas MacGillavry

ONLINE: PRE-RECORDED

HOW DOES BEAUTIFUL ART INFLUENCE PAIN AND STRESS EXPERIENCE?

Anna Fekete

ACTING PRO-ENVIRONMENTALLY FRIENDLY BECAUSE OF SOCIAL RECOGNITION: HOW TO FRAME
ORGANIZATIONAL GOALS

Eva Straus

BOOTSnap: AN IMPROVED DETECTION AND CLASSIFICATION METHOD FOR MOUSE ULTRASONIC
VOCALIZATIONS

Reyhaneh Abbasi

PhD TALKS

INPUTS & SENSE-MAKING

HOW DIFFERENTIAL GUIDANCE OF ATTENTION SHAPES INFANTS' VISUAL CORTICAL PROCESSING

Anna Bánki

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

Feb 2 10:10-10:30 Kleiner Festsaal

In the first year of life, infants develop the ability to selectively attend to objects in their environment. Social interactions influence infants' attention: when looking at novel objects, infants' neural responses increased following eye contact with an adult. However, it is not fully established how social interactions shape infants' visual processing. In this study, we investigated if differential attention guidance during social interaction can shape infants' attention to visual scenes depicting an object in front of a background. To measure infants' visual processing, we used electroencephalography (EEG) with a frequency tagging approach. This is, presenting object and background at different driving frequencies elicits separate evoked responses for each element. We recorded EEG from 11-12-month-old infants ($n = 53$) while they watched flickering visual scenes with an object in front of a background, flickered at 5.67 and 8.5 Hz (counterbalanced). We applied a between-group, pre-post design with a training phase in between: in the pre- and post-phases, infants observed the scenes. During training, an experimenter guided infants' attention by consistently pointing either to

the object or the background of the scene. We hypothesised that differential attention guidance will shape infants' visual processing, resulting in increased evoked responses to the element pointed out. Additionally, we expected that attention guidance will have a lasting effect on infants' visual processing beyond the social interaction. In this presentation, we will discuss first results on how differential attention guidance during early interactions can shape infants' visual cortical processing.

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AN EXISTENTIAL AND ENACTIVE APPROACH TO CULTURAL EVOLUTION: EXPLORING THE PROCESS OF CREATIVELY LIVING IN SPHERES OF MEANING

Felipe Gonzales T. Machado

Cognitive Humanities, CoBeNe, University of Vienna

Feb 2 10:30-10:50 Kleiner Festsaal

The enactive approach and its conception of mental life as an ongoing adaptive regulation and co-definition between embodied agents and their environment has been influential in cognitive science. The coupling between humans and their cultural environment, however, needs further development. More specifically, it is assumed that more investigation is needed into the concept of mutual shaping when the process of human becoming is analyzed as constructed from within

communities of people and their shared history. This talk explores this research gap by introducing the notion that when examining adaptive regulation in the human coupling with culture, the existential function provided by cultural spheres must be considered. The literature in existential psychology emphasizes that the questioning of spheres of culture is unattractive because they provide the framework in which meanings and values can be realized. In doubting those structures, uncertainty is necessarily unleashed and existential anxiety increases. People would then tend to prefer the comfort of the previously established order to the anxiety of doubt. If adaptive regulation in the cultural domain is modulated by escaping existential concern, would uncertainty acceptance enable cultural adaptation? I will present a work in progress to argue that the synthesis between enactivism and existential psychology might provide a relevant research tool for investigating the process of creatively living in spheres of culture.

MIDDLE SCHOOLS STUDENTS' CHALLENGES PERFORMING THE CONTROL-OF-VARIABLES STRATEGY: RECOGNIZING ERRORS IN THIRD-PARTY EXPERIMENTS IS EASIER.

Linda Hämmerle

Austrian Educational Competence Centre (AECC)
Biology, University of Vienna
Feb 2 10:50-11:10 Kleiner Festsaal

The understanding of scientific practices plays a key role in Scientific Literacy (SL) and is therefore implemented in science standards worldwide. One of the key scientific practices are experiments, as they provide the basis for argumentation about causality. Learners face various challenges during experimentation, especially regarding the Control-of-Variables strategy (CVS). However, most studies use non-practical performance assessments. Practical performance is important as challenges and errors could be presented as a starting point for scaffolds or learning of experimentation itself. For the latter, learners must realize that a solution is erroneous. Focusing on experimentation, only few

studies have analyzed whether learners recognize errors. Hence, we investigated 1) learners' CVS-challenges during experimentation, 2) learners' capability to recognize CVS-errors, and 3) whether the recognition varies when identifying one's own or third-party CVS-errors. In an experimental mixed-method study design with middle school students (N = 191, grades 7 and 8) group A conducted an experiment themselves while group B worked with an erroneous third-party experiment. Both groups received instructions on the CVS before re-analyzing the experiments. We analyzed photos of learners' experimental setup and their lab journals. Results show that handling the material is especially challenging. Interestingly, it is significantly easier for students to recognize errors in third-party experiments than in their own ($p < 0.001$, $r = .57$). Data will be discussed in detail at the COBENE PhD Academy.

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THE NEUROPHARMACOLOGY OF SOCIAL ATTENTION AND REINFORCEMENT LEARNING IN ASD

Raimund Buehler

Institute of Clinical and Health Psychology, Faculty
of Psychology, University of Vienna
Feb 2 11:10-11:30 Kleiner Festsaal

Autism spectrum disorder (ASD) is a heterogeneous disorder characterized by deficits in social communication and social interaction as well as restricted and repetitive behaviors, interests and activities. Despite substantial efforts, the etiological mechanisms of this disorder remain poorly understood and clinical interventions to improve social deficits are sparse. Social impairments in ASD, such as reduced eye contact and diminished social learning have been investigated in terms of alterations to underlying neural substrates, specifically the opioid and the oxytocin system. However, pharmacological interventions that have targeted each system in isolation seem to exert only

weak effects on social behavior. Intriguingly, oxytocin and opioids interact on the neural level and recent evidence from animal studies suggests this to also manifest on the level of social attention. In order to investigate such interactional effects of oxytocin and opioids, we have devised a naturalistic eye tracking paradigm. This allows fixations to socially important facial regions (such as the eye region) to be measured during a real-life conversation. Additionally, we aim to tap into social learning by employing a reinforcement learning task using emotional faces as rewarding feedback stimuli. Computational modelling of trial-by-trial responses is used to determine more comprehensively which parameter of learning is affected. By developing paradigms that tap into different aspects of social behavior on varying levels of abstraction, we hope to contribute to a diversification of methods in ASD research that will enable a more complete picture of the effects of pharmacological interventions on social impairments.

Co-authors: Giorgia Silani

Co-author affiliations: Institute of Clinical and Health Psychology, Faculty of Psychology, University of Vienna

RELATING TO HUMANS & MACHINES

THE MINTREP STUDY OR HOW MUSIC- LISTENING INTERVENTIONS CAN HELP REDUCING PAIN

Eva Luna Munoz Vidal

Department of Clinical and Health Psychology

Feb 2 10:10-10:30 Erika-Weinzierl-Saal

Pain is a current global health problem. It is estimated that 40% of the general population suffers from chronic pain and, despite the large variety of medical treatments, nearly half of the patients receiving pharmacotherapy still experience constant pain and report inadequate analgesia. In addition, more than two thirds of patients with chronic pain report using nondrug remedies to treat their pain. In the pain research

field, these premises put a spotlight on non-pharmacological treatments such as musical interventions. Music-induced analgesia refers to the pain-relief achieved through exposure to music. This phenomenon has been studied in several laboratory and clinical conditions nevertheless, current literature regarding the biopsychological mechanisms and characteristics giving rise to music-induced analgesia treatments' optimal efficacy remains inconclusive and presents multiple shortcomings. Which are the psychological and biological mechanisms underlying music-induced analgesia? To which extent do structural elements of music and choice over musical selection influence the music-based intervention? Which is the stability of the effects? With the purpose of bringing insight and a deeper understanding of the efficacy of music-induced analgesia treatments, the MINTREP project, a randomized controlled, laboratory-based, double-blind, three-armed pilot trial has been designed. The trial addresses these scientific questions by measuring multiple outcomes of pain and stress (biological markers and subjective measures) on healthy participants randomly allocated to one of the three music-listening intervention conditions. In this contribution we will present the overview of this ground-breaking investigation as well as the preliminary results of the data already collected.

IS IT A MATCH? OVERALL PERSON ATTRACTIVENESS JUDGEMENTS OF VIDEO AND AUDIO RECORDINGS AS POTENTIAL PREDICTORS OF ONLINE AND REAL-LIFE SPEED-DATING PERSON'S ATTRACTIVENESS JUDGEMENTS.

Christina Krumpholz

Department of Cognition, Emotion, and Methods in Psychology

Feb 2 10:30-10:50 Erika-Weinzierl-Saal

Research has found evidence for audiovisual integration in several fields related to human social interactions, including speech, identity recognition,

and emotion recognition. Surprisingly, few studies have examined audiovisual integration in attractiveness judgments. Are judgements based on auditory information (i.e., the voice) and judgements based on visual information (i.e., the face) combined when assessing overall person attractiveness? If so, what is the predictive value of each modality? We defined several possible outcomes: a) one modality (auditory or visual) is the better predictor, b) overall attractiveness is the result of an integrative process of both modalities (additive or interactive), or c) overall attractiveness cannot be modelled by any of the modalities. To address this question, we conducted an online experiment (Study 1) using video material and a field study (Study 2) using video material and real-life interactions. In both studies, participants first judged person attractiveness based on information from either audio recordings or muted video recordings, and second based on information from an audiovisual video (i.e., voice and face) in an online experiment. Additionally, in Study 2, participants met a subset of the previously rated individuals in a real-life speed-dating context. Here they interacted with each other for a short time period and judged person attractiveness again, this time using all the information available in a real-life interaction. These studies allow us to define relative contributions of face and voice on person attractiveness judgements and, furthermore, to examine how these effects behave in a real-life speed-dating context. Preliminary results are presented.

Co-authors: Katharina Krug, Kyra Sendler, Cliodhna Quigley, Leonida Fusani, Helmut Leder

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ENACTIVISM AND TECHNOLOGY

Peter Rantasa

Forschungsverbund Kognitionswissenschaft;
Philosophy of Media and Technology, Department
of Philosophy

Feb 2 10:50-11:10 Erika-Weinzierl-Saal

Enactivism holds that mind and life are interwoven in a circular process between inside and outside of an organism. In my talk I address how the use of technologies - not only by Homo Sapiens - shapes the "autopoiesis" of living organisms. Drawing on the postphenomenological types of human-technology-world relations, I show that technology modulates all domains of cognition (embodied, embeddedness/situatedness, extended, enacted).

EXAMINING THE RELATIONSHIP BETWEEN DEATH ANXIETY AND ART EXPERTISE

Christina Makri

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

Feb 2 11:10-11:30 Erika-Weinzierl-Saal

Terror Management Theory suggests that people reject stimuli that they consider meaningless or ambiguous because it triggers their death anxiety. This dislike for meaninglessness also seems to be the driving force behind the general public's distaste for abstract art. However, research has shown that artists and art experts respond differently to certain stimuli compared to lay people and oftentimes display a preference for ambiguity and abstraction, unlike the latter group which tends to avoid it. Additionally, previous research has shown that a correlation exists between personality type and choice of career.

Consequently, what has yet to be examined is whether frequent interaction with abstraction (e.g. through abstract art) has the potential to influence one's perception of meaninglessness and thus help reduce death anxiety levels. The purpose of this study is three-fold: (i) explore whether individuals

who have chosen to pursue an artistic career display lower death anxiety levels, (ii) determine whether similar findings could extend to individuals who have not received extensive art training, but who have significant exposure and interest in art (e.g. frequent museum goers) and (iii) confirm whether one's death anxiety levels can predict their need for life to have meaning. Three groups of participants will be formed: artists, art experts and non-artists. Volunteers will be given five questionnaires to complete and the collected data will be appropriately analysed using both within and between group comparisons.

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ATTENTION, WILLPOWER, AND LEARNING

THE INFLUENCE OF HATHA YOGA ON STRESS AND ATTENTION

Bence Szaszko

Department of Cognition, Emotion, and Methods in Psychology
Feb 2 10:10-10:30 Marietta-Blau-Saal

Mindfulness-based interventions may be able to promote human stress management and reduce anxiety or depression. They also seem to positively influence cognitive performance. In our current study, we want to find out how Hatha Yoga, a well-established mindfulness intervention and the most common form of yoga, affects emotional and cognitive processes. Building on Attentional Control Theory, that states that anxiety and stress impair the inhibition and shifting functions of attention, we hypothesize that an eight-week yoga intervention improves inhibition, multimodal task switching and switching between different attentional control sets. We additionally hypothesize that these changes are achieved by lowering stress and anxiety levels and restoring the balance between goal-directed and stimulus-driven

attention. We seek to prove these hypotheses by conducting a randomised controlled trial with an experimental and a waitlisted control group (N per group = 51), with the experimental group actively participating in a 60-minute hatha yoga intervention at least three times a week for 8 weeks. We use a combination of questionnaires, electroencephalography (EEG), biological measures and behavioral experiments.

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TOWARD AN ENACTIVIST THEORY OF TRANSFORMATIVE LEARNING

Peter Hochenauer

Faculty of Philosophy and Education, Department of Philosophy, OCKO - Organizing Cognition in Knowing Organizations (Research Group)
Feb 2 10:30-10:50 Marietta-Blau-Saal

Transformative learning (TL) is an approach to adult education that addresses how people and their worldviews change in significant ways. Since its initial development by Jack Mezirow in the late 1970s, researchers have applied different disciplinary perspectives to TL theory, resulting in a fragmented field and divergent learning outcomes. My goal is to develop an integrative theory of TL from the perspective of enactivist cognitive science. On the one hand, this enables an understanding of TL as a cognitive phenomenon beyond pedagogical contexts. On the other hand, an enactivist theory of TL shifts the focus from individuals to the dynamic relationships between them and their environments. In this way it creates new opportunities for designing support structures and interventions for TL. Facilitating TL is becoming increasingly important for solving wicked problems and achieving breakthrough innovations in teams and organizations.

PROBABLE SOUND PATTERNS AS SIGNALS FOR WORD STRUCTURE: AN ARTIFICIAL LANGUAGE LEARNING EXPERIMENT

Irene Amparo Böhm

Department of English and American Studies
Feb 2 10:50-11:10 Marietta-Blau-Saal

This talk will present an ongoing artificial language learning study on speakers' sensitivity to occurrence frequencies of sound patterns as cues to word structure.

In my dissertation, I examine if the ease with which a sound sequence can be identified as a word or word form on the basis of distributional frequencies plays a role in sound change. For example, the voicing of /s/ to /z/ in English noun plurals made them more recognisable plural forms because /z/ was much rarer at the end of word stems than /s/. Extant research has demonstrated that speakers prefer words whose sound shapes are probable, and/or predictable indicators of word structure, since they are easier to recognise, process, learn, and retrieve in use. However, how these cognitive preferences interact with sound change is still under-researched.

In order to explore this relationship and its underlying causalities, I examine whether speakers prefer to use words whose sound shapes are predictable signals of word structure in an artificial language learning experiment. Participants are tasked with acquiring a miniature language in which different word forms share the same phonotactic pattern. The aim to reveal if they experience difficulty in learning unpredictable sound patterns and alter them in a systematic, disambiguating manner. In my talk, I will discuss designing and implementing such an experiment, with a focus on the challenges I have encountered.

Co-authors: Elisabeth Oberzaucher

THE ROLE OF LAY THEORIES ABOUT WILLPOWER AND DAILY DEMANDS IN DAY-TO-DAY PRO-ENVIRONMENTAL BEHAVIOR

Julia Jankowski

Department of Occupational, Economic and Social Psychology
Feb 2 11:10-11:30 Marietta-Blau-Saal

Many people report pro-environmental attitudes but fail to integrate pro-environmental behavior into their daily lives. One reason might be that other high demands in daily life (e.g., from work) make people vulnerable to the temptation to choose easier, but environmentally unfriendly options. Research from other domains indicates that believing that one's willpower is nonlimited facilitates adhering to one's intentions, especially in the context of high demands. This study aimed to investigate the effect of these lay theories about willpower and daily demands in the environmental context. The hypotheses were (1) that a nonlimited willpower theory would be related to more engagement in day-to-day pro-environmental behavior and (2) that this effect would be stronger on days with high demands. Participants (N = 387) of an online daily diary study reported their lay theories about willpower and their daily demands and pro-environmental behavior over three days. Results confirmed that a nonlimited willpower theory was related to more pro-environmental behavior, mainly because it facilitated sustained pro-environmental behavior on more demanding days. Additionally, we found that people who faced more demands across the entire study period engaged in less pro-environmental behavior irrespective of their willpower theory. These results indicate that interventions aiming at promoting pro-environmental behavior need to involve and target people's overall demands. Simultaneously, fostering a more nonlimited willpower theory might create a useful buffer to keep pro-environmental behavior up during more demanding times.

Co-authors: Veronika Job

SOCIAL & ENVIRONMENTAL CONTEXTS

THE INCONSISTENT EFFECT OF LACK OF CLARITY ON RELATEDNESS SATISFACTION AMONG REMOTE WORKERS

Arabella Mühl

Department of Occupational, Economic, and Social
Psychology, Faculty of Psychology
Feb 2 14:10-14:30 Kleiner Festsaal

The satisfaction of the need for relatedness at work is an important prerequisite for motivation, performance, and wellbeing. Remote work, however, often leaves remote workers with a sense of isolation and loneliness because it is characterized by physical distance and reduced communication and feedback opportunities. This ensues daily challenges such as a lack of clarity regarding one's work tasks, which potentially threaten remote workers' feelings of relatedness by emphasizing their isolation. Contrarily, a lack of task clarity may also increase feelings of relatedness. Drawing on uncertainty management theory, we argue that a lack of clarity fosters team interactions and, in turn, increases relatedness satisfaction. A daily diary study among 779 remote workers confirmed our hypotheses. We observed a direct negative relationship and an indirect positive relationship between daily lack of task clarity and relatedness satisfaction via increased coordination behaviors. Our results corroborate the assumption that a lack of clarity represents a challenge for remote workers' relatedness satisfaction. However, we also find that remote workers draw on others when they need to clarify their tasks and responsibilities and that they can, thereby, elude negative consequences.

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DOES OBJECT-HANDLING BEHAVIOUR ELICIT SOCIAL INTERACTIONS IN FREE-FLYING COMMON RAVENS?

Awani Bapat

Department of Behavioral and Cognitive Biology
Feb 2 14:30-14:50 Kleiner Festsaal

Social play has been shown to facilitate the formation and development of social relationships between individuals. However, not much is known about how individuals may use objects to initiate social interactions with others. Mediating social interactions using objects may be less costly as compared to interactions involving food or potentially harmful social play, especially when interacting with unknown individuals for the first time. Ravens (*Corvus corax*) in captivity have been shown to use objects while play caching to understand the intentions and competitive strategies of others. In this study, we looked at the patterns of object-handling in free-flying non-breeder ravens to examine if object-handling elicits social interactions from others. Preliminary data seems to indicate an effect of age with juvenile ravens playing more than older ravens. Further, the data shows a trend that object-handling may attract the attention of and elicit social interactions from others. These patterns and their implications will be discussed.

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WELCOME TO HELL - THE INFLUENCE OF GALLERY LIGHTING ON AESTHETIC EXPERIENCE OF THE LAST JUDGEMENT BY H. BOSCH

Stephanie Miller

Department of Cognition, Emotion, and Methods in
Psychology

Feb 2 14:50-15:10 Kleiner Festsaal

The context in which art is viewed can significantly shape one's aesthetic experience; viewing art in a museum has been suggested to be uniquely able to elicit stronger responses and maximize arts' effects on viewers. One element that, presumably, should play a major role in best showcasing art is lighting. However, little research has investigated the specific effects of gallery lighting in ecologically valid conditions, and existing studies primarily examine the effects of only one lighting dimension (brightness, color temperature) on only basic appraisals (liking, interest, perceived valence). These studies have demonstrated little to no effect, but also omit the more nuanced lighting techniques that museums may employ to accentuate their flagship artworks. Here, we present new research which, grounded in application-based perspectives, examines the role of gallery lighting as an interventional design element shaping visitor experience. In collaboration with a professional lighting designer, we consider multiple designs for The Last Judgement by Hieronymus Bosch, assessing museum-visitors' experience and perceptions under the new lighting condition versus a condition aligning with current baseline standards. We will discuss results of both between and within-subjects studies, considering a range of levels from participants' ratings, their phenomenal and emotional experience, to their perception of their entire visit and of the importance of the museum itself. This research raises intriguing new insights on the potential for lighting to maximize arts' impact in museums and the value of investing more heavily in the framing of arts-experiences.

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DIET EXPERIENCES EARLY IN LIFE MOLD INDIVIDUAL FORAGING NICHES AND PERSONALITIES OF OMNIVOROUS PREDATORY MITES

Thi Hanh Nguyen

Department of Behavioral and Cognitive Biology

Feb 2 15:10-15:30 Kleiner Festsaal

The theory of individual niche specialization posits that members of local groups should diversify in their realized individual diet niches to alleviate inter-individual food competition and ensuing conflicts. Here we tested the hypothesis that early life experiences co-shape individual specialization in diet niches and animal personality expression in the omnivorous plant-inhabiting predatory mite *Amblyseius swirskii*. Before experiments, we exposed individual predators in their early life phase (larva and early protonymph) to one of three diets (pollen, two-spotted spider mites or thrips) or no food. Subsequently, individuals of all four treatments were reared under exactly the same conditions with pollen until they became adult and mated. In experiments, we first recorded the response of gravid females from the four early life treatments to familiar and unfamiliar diet cues in choice experiments. Then, the females were subjected to standardized experimental paradigms assessing their personalities in activity, exploration, and aggressiveness. Contextual and temporal behavioral consistency was assessed over two to three consecutive tests for each behavioral trait. Movement activity patterns of the predators were assessed in familiar environments. To characterize exploration, the predators were exposed to novel diets and objects in open field tests. Aggressiveness was judged by cannibalism propensity tests. For each behavioral trait, personality expression was analyzed by intraclass correlation coefficients (ICC). Taken together, our study suggests that diet experiences early in life have persistent influences on the foraging phenotypes and personalities expressed by adult individuals.

Behavioral & Cognitive Biology
Neuroscience

Psychology
Cognitive Humanities

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READING IN THE CITY: VIEWING AND EVALUATING TEXT AS IMAGES

Kirren Chana

Department of Cognition, Emotion and Methods in
Psychology, (EVALab)

Feb 2 15:30-15:50 Kleiner Festsaal

Little research to date has been conducted on engagements with text in everyday settings. The aim of this research is to investigate how people view and evaluate text signs that are present in the city of Vienna. The ideas presented here extend from an exploratory look at viewing behaviour, using mobile eye-tracking while walking on an urban street, followed by an assessment of memorability and aesthetic evaluations of text signs. From this, we consider the similarities in what captures our attention, as well as differences in subjective ratings to gauge a broader sense of reading experiences. Importantly, the notion of reading here extends from text reading to image reading, an idea that will be discussed further.

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PERCEIVING ART, PERCEIVING OTHERS I

IS IT THE PRIME OR THE PROVENANCE? – INVESTIGATING ART EXPERIENCE WITH AI AND HUMAN GENERATED ART USING fNIRS

Theresa Rahel Demmer

Department of Cognition, Emotion, and Methods in
Psychology

Feb 2 14:10-14:30 Erika-Weinzierl-Saal

In 2018 Christies sold “Portrait of Edmond de Belamy” for \$432,500. This is no unusual price for art. However, this artwork was made by an artificial intelligence (AI), leading to an uproar in the artworld, since—we all know—AI-produced artefacts lack art’s constituent aspect, intentionality and emotional transmission through the artwork. However—while evoking emotions or empathy is often seen as essential part of aesthetic experience—is it actually true that viewers cannot (or routinely do not) make such connections to AI art? What impact does provenance (actual or perceived), have on perception and emotional reactions? More basically, as art is increasingly seen as vehicle for fostering empathic, prosocial awareness, whether or not we have a sense/expectation of intentionality and how we bring empathic and emotional aspects online could be key for these ends. We explored these questions using abstract and representational human and AI produced artworks, which were shown to participants preceded by information on provenance— true half the time. Brain activation was measured via fNIRS during both the post-prime anticipation stage and when viewing, with participants asked to rate the artworks and to report whether they felt emotions or perceived intended emotions. Results showed that almost all viewers reported feeling emotions and assumed intentions when viewing both real and AI art, with little impact from the primes, but some evidence for stronger connection to human artworks. This was also related to brain activation over

empathy/TOM regions, highlighting implications for future understanding of art experience and AI/empathy research.

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WHAT I THINK OF OTHERS THINK ABOUT CLIMATE CHANGE: PUBLIC PERCEPTIONS OF CLIMATE CHANGE BELIEFS ACROSS 11 COUNTRIES

Sandra Geiger

Environmental Psychology

Feb 2 14:30-14:50 Erika-Weinzierl-Saal

The majority of people worldwide believe in climate change and its human contribution, yet this social consensus may be systematically misperceived. A 2013 study by Leviston and colleagues showed that Australians substantially underestimated the prevalence of pro-climate views and overestimated the prevalence of skeptical views in their country. This preregistered study tested the generalizability of this bias—known as pluralistic ignorance—across 11 countries (Brazil, Canada, China, Germany, India, Indonesia, Italy, Japan, Mexico, Poland, and Thailand) including countries that are traditionally underrepresented in psychological research. Extending the 2013 study, this work also investigated whether a simple disclosure intervention, namely informing participants about the social consensus on climate change in their country, can promote several proxies of climate actions. To achieve this, we conducted a 10-minute online survey experiment among cross-stratified samples in terms of age and sex (total N = 3,653 participants).

The data collection is completed, and we are currently in the process of analyzing the data.

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

Tristan Barriere

EVA Lab; Department of Cognition, Emotions and Methods in Psychology; Uni Wien

Feb 2 14:50-15:10 Erika-Weinzierl-Saal

Beauty can be found in every aspect of our lives and is a quintessential part of 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, have positive impacts on our wellbeing, and can be measured physiologically. In addition, we explore how individual differences and environmental context may influence these effects. Finally, we are also interested in the elicitors of the aesthetic experience, specifically differentiating between man-made (e.g. art) and natural objects.

We will employ a multi-method approach where participants equipped with mobile eye-trackers and a heart rate monitor walk along the “Donaukanal” in Vienna, which contains natural elements and street-art. Eye-tracking is used to assess how these aesthetically evaluated objects influence our perception of the world by capturing and directing visual attention. We will look at the effect of aesthetic experiences on wellbeing in terms of positive mood, measured by Heart rate variability and the I-PANAS-SF (Thompson, 2017). Participants

will also be asked to fill out a measure on nature-relatedness (NR-6, Nisbet & Zelenski, 2013) and art interest (VAIAK, Specker et al., 2018) as additional measures of individual differences. In a lab follow-up session, participants will be shown the footage from their walk and asked to rate the beauty of the objects they encountered in the field. This will allow us to investigate the connection between visual attention, wellbeing, and subjective aesthetic rating.

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RHYTHMS AND SOCIAL BONDING

Dhwani Sadaphal

Department of Behavioral and Cognitive Biology
Feb 2 15:10-15:30 Erika-Weinzierl-Saal

Human beings are capable of moving to rhythms with relative ease. Moving to a rhythm requires several cognitive and motor abilities. These include the cognitive mechanisms that enable us to extract a regular pulse and to form a representation of the rhythm in weighted terms by identifying an underlying metrical hierarchy.

As a result of having these capabilities, interesting rhythms allow large groups of human individuals to move together while transcending barriers of spoken communication. It is, therefore, interesting to ask how the dynamics of rhythm and interpersonal movement shape social bonds in humans.

The link between rhythmic movement and social bonding in humans has been explored in recent studies. Existing literature has further shown that humans show a high social preference for their counterparts when their rhythmic movements overlap perfectly in time. However, the question of how metrical representations affect social liking when moving rhythmically remains unexplored.

The talk will discuss preliminary data from a project that investigates this question through participants' ratings of human figures moving to rhythms. The rhythms used in the study are multiple regular

pulses with different metrical hierarchies that overlap periodically. By varying the movement of the figures and the degree of temporal overlap of the two rhythms, we hope to understand from participants' ratings of these stimuli whether meter plays a role in social bonding in humans.

INFORMATION AND RELATION SEEKING

RELATIONSHIPS BETWEEN DISCRETE EMOTIONS AND POLITICAL LEARNING: A CROSS-DISCIPLINARY SYSTEMATIC REVIEW AND META-ANALYSIS

Elisabeth Graf

Department of Developmental and Educational Psychology
Feb 2 14:10-14:30 Marietta-Blau-Saal

The study on emotions in political psychology has increased rapidly since the 1980s, and scholars have addressed the role of emotions during individual's learning about political matters from multiple perspectives. This study aims to systematically synthesize research about the relationship between discrete emotions and various aspects of learning about political matters, such as political attention, information seeking, discussions, knowledge and learning. The final dataset included 66 publications with 486 effect sizes, involving more than 101,216 participants. While studies were heterogeneous in research designs, investigated samples were mainly from the US (71%) and utilized adult (53%) or university and college student samples (32%). Most of the effect sizes were based on negative-activating emotions (64%; mainly anxiety: 31% and anger: 19%), and positive-activating emotions (32%; mainly enthusiasm: 15%). Based on multilevel random-effects models, we found small positive associations between negative-activating (e.g., anger) as well as positive-activating emotions (e.g., enthusiasm) and learning, the latter limited to

cross-sectional designs. The findings provide the first numeric synthesis of this research field, revealing directions for future research and implications for political educators. Additionally, we provide recommendations for reporting in future studies in order to foster research synthesis on cross-disciplinary topics.

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HEALTH INFORMATION SEEKING BEHAVIOR AND VACCINATION

Marina Groß

Social and Economic Psychology group

Feb 2 14:30-14:50 Marietta-Blau-Saal

Health information seeking behavior (HISB) is a way of dealing with situations where one's health is at risk or where decisions must be made that affect one's health. It is conceptualized as an active process of consciously seeking out information regarding the health issue. As my first study for my PhD, we investigate how HISB specifically relates to the topic of infectious diseases and vaccination. In particular, we look at how individuals seek information when faced with the decision of whether to get vaccinated against a disease. We used the incentivized vaccination game by Böhm et al. (2016) to create the vaccination decision situation: we placed the rules for the game inside a more extensive information catalogue for the participants to look at before deciding for or against vaccination. In my presentation, I will talk about this exploratory study, my first analyses and possible future studies that could follow these first insights.

Co-authors: Elisabeth Sievert, Ana Paula Santana, Lars Korn, Cornelia Betsch, Robert Böhm

Co-author affiliations: Social and Economic Psychology group

HOW DO CORVIDS CHOOSE EACH OTHER?

PAIR-BOND FORMATION AND

MAINTENANCE IN RAVENS AND CROWS

Anna Luise Fabbri

Department of Behavioral and Cognitive Biology

Feb 2 14:50-15:10 Marietta-Blau-Saal

Long-term monogamy is the prevalent mating system in birds, and it's thought that the challenges related to forming strong attachments were driving factors in the evolution of higher cognition in birds. However, dynamics of pair-bond formation and maintenance in monogamous avian species are underrepresented. We want to address this gap with an interdisciplinary approach by studying pair-bond in three closely related corvid species (*Corvus corax*, *Corvus corone* and *Corvus cornix*), paired as adults but that also spend time in non-breeder-groups before they find a partner. In the first project we will examine and quantify components of courtship displays as well as personality traits of ravens and crows to identify intra- and inter-species differences. We plan to use a combination of separation experiments of paired individuals, personality tests and focal observations after reunion. The second project will investigate aesthetic preferences for certain elements of courtship displays by using video playback experiments of individuals performing displays as stimuli. Finally, since crows and ravens form their relationships in non-breeder groups the third project will examine the effects of social context on pair-bond formation and maintenance. We plan on using an observational approach to study short and long-term effects of third-party interventions in affiliative interactions and in self-aggrandizing displays in non-breeder groups. With these projects we aim to investigate how intelligent birds choose and interact with their life-long partners to shed light on the dynamics of long-term monogamous relationships and how they relate to the evolution of intelligence.

Co-authors: Univ.-Prof. Leonida Fusani (co-supervisor), Univ.-Prof. Thomas Bugnyar (main supervisor)

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RESPIRATORY AND CARDIAC INTEROCEPTIVE SENSITIVITY IN 9- AND 18- MONTH-OLD INFANTS

Markus Tünte

Department of Developmental and Educational
Psychology

Feb 2 15:10-15:30 Marietta-Blau-Saal

Recent theoretical accounts have proposed that sensitivity to interoceptive signals, such as heartbeat, hunger, or respiration, plays a vital role in early human development. However, there is little empirical evidence as to date only one published study has found that 5-month-old infants are sensitive to their cardiac signals with others failing to find such results. In addition, existing results do not go beyond perception of cardiac signals and focuses only on the age range of 5-months, limiting the generalizability of the results. Here, we successfully replicate the cardiac interoceptive sensitivity paradigm introduced by Maister et al. (2017) in 9-month-old infants. Further, using a novel experimental paradigm we find that 9-month-old infants also show respiratory interoceptive sensitivity. In addition, we find that cardiac and respiratory interoceptive sensitivity are not related in 9-month-old infants, mirroring results in adults and children. Last, we followed up the same infants at 18-months of age and do not find that individual difference scores change from 9- to 18-months of age. However, an exploratory analysis indicates that respiratory, but not cardiac, scores might increase from 9- to 18-months. By examining early cardiac and respiratory interoceptive processing we provide strong evidence that infants are sensitive to their interoceptive signals.

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TEMPORAL IMPRECISION AND PHASE INSTABILITY IN SCHIZOPHRENIA RESTING STATE EEG

Stephan Lechner

The Royal's Institute of Mental Health Research,
Ottawa, Canada

Feb 2 15:30-15:50 Marietta-Blau-Saal

Schizophrenia is characterized by temporal imprecision and irregularities on neuronal, psychological cognitive, and behavioral levels which are usually tested during task-related activity. This leaves open whether analogous temporal imprecision and irregularities can already be observed in the brain's spontaneous activity as measured during the resting state; this is the goal of our study. Building on recent task-related data, we, using EEG, aimed to investigate the temporal precision and regularity of phase coherence over time in healthy, schizophrenia, and bipolar disorder participants. To this end, we developed a novel methodology, nominal frequency phase stability (NFPS), that allows to measure stability over phase angles in selected frequencies. By applying sample entropy quantification to the time-series of the nominal frequency phase angle time series, we found increased irregularities in theta activity over a frontocentral electrode in schizophrenia but not in bipolar disorder. We therefore assume that temporal imprecision and irregularity already occur in the brain's spontaneous activity in schizophrenia.

Co-authors: Georg Northoff

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ATTITUDES TOWARDS THE ENVIRONMENT

FIGHT OR FLIGHT? DEVELOPMENT OF THE ANTIPREDATOR RESPONSE IN YOUNG RAVENS (CORVUS CORAX).¹

Silvia Damini

Department of Behavioural and Cognitive Biology,
Bugnyar lab

Feb 2 16:10-16:30 Kleiner Festsaal

Common ravens can display different antipredator behaviors toward dangerous heterospecifics, like fight or flight responses that can include scolding. Scolding is behavior characterised by approaching the predator while alarm calling. To date, little is known about the development of antipredator behavior throughout life, if there are individual differences and how these vary across contexts. One largely overlooked aspect might be learning (vertical transfer from parents to chicks). We exposed 5 families of captive ravens to an artificial human predator, using an experimental paradigm that is capable to elicit antipredator behaviors, and in particular scolding behavior, in similar conditions. The experiment was repeated two times in the family context, when the chicks were at different developmental stages. When independent from the parents, the chicks were also tested in isolation, and again when re-integrated into juvenile peer groups representing a known social context outside the family. Here we present some preliminary results that indicate that in the family context the antipredator behavior is affected by the age of the chicks. The parents' mobbing behavior decreases as the chicks get older. Chicks ignore more the predator when they are younger and investigate the predator more as they grow older. We also found that only two of the chicks showed scolding behavior when tested in isolation, but did not do so in the family nor peer group context. These results indicate that antipredator behavior in ravens is influenced by social context, age, and potentially individual differences.

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LONGITUDINAL EFFECTS OF NATURE EXPERIENCES ON MIDDLE SCHOOL STUDENTS' ENVIRONMENTAL ATTITUDES, INTEREST AND KNOWLEDGE

Petra Bezeljak

Austrian Educational Competence Center Biology
(AECC Biology),

Feb 2 16:30-16:50 Kleiner Festsaal

Studies demonstrated that direct nature experiences have a positive influence on preadolescents' pro-environmental behavior. However, most studies conducted in the school context describe only effects of short-term interventions. This study explored the possible impact of a 3-year teaching intervention with direct nature experience on middle school students. We investigated 1) how environmental attitudes, interests and knowledge possibly progress, 2) whether there is a correlation between environmental knowledge, interests and attitudes and if yes, how they influence each other and 3) whether personal background, such as parents' education and cultural background impact the development of environmental attitudes, interests and progress of environmental knowledge. The intervention study with 4 data collection points (T0-T3) was conducted with 370 middle school students starting grade 6. The questionnaire included items from known scales, i. e. the "Major Environmental Values-2-Model", "Inclusion of Nature in One Self (INS)", and "Children's Environmental Attitudes Knowledge Scale (CHEAKS)". Results of the pre-test (T0) show positive attitudes toward nature but lack of general environmental knowledge. Results of T1 already indicate significant changes, depending on several factors. Data (T0-T3) will be presented in detail at the CoBeNe Academy and discussed in reference to environmental education programs.

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WALK WITH ME THROUGH VIENNESE STREETS

Margot Dehove

Vienna Cognitive Science Hub

Feb 2 16:50-17:10 Kleiner Festsaal

Past literature highlights a potential positive effect of urban greenspace (e.g., plants, trees, parks...) on wellbeing. In recent years, a growing number of evidence points to the contribution of art towards wellbeing. Nevertheless, its effects in the everyday-life urban context has been overlooked. This research assesses the impact of art and green installations in public urban spaces on well-being. Consequently, we built two spatially flexible parking-lot sized 'interventions', either equipped with art or green, on two streets in Vienna (Burggasse and Seestadt) in close collaboration with artists. We wanted to, first, see if these two interventions bring positive effects on people's wellbeing; and if they do, we wanted to specifically measure how the art intervention differed from the green one. A multi-method research paradigm combining psychological and physiological measures was imagined to answer this aim. It consisted of having participants freely exploring the street environment, where the intervention was placed and where the wellbeing outcome was measured at several timepoints. Participant' wellbeing was measured through different means: with a set of validated questionnaires as well as through physiological signals. To fully capture and understand participant's experience of the real world, which is a complex environment without a lot of experimental control, we also measured their visual attention with mobile eye-tracker. In this talk, I will present the paradigm we used in more detail, as well as the preliminary results of the eye-tracking data analysis.

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AGGRESSIVE DARWIN'S FINCHES HAVE SMALLER HOME RANGE SIZE: FINDINGS FROM BOTH RANGE RESTRICTED AND WIDESPREAD SPECIES

Jefferson García-Loor

Konrad Lorenz Research Center for Behavior and Cognition and Department of Behavioral and Cognitive Biology

Feb 2 17:10-17:30 Kleiner Festsaal

Information about an animal's home range size, the geographical area in which it accesses resources for survival and reproduction, is vital for understanding animal behavior broadly and for developing conservation management plans specifically. Personality traits—consistent individual differences in behavior across time and contexts—may affect home range size, but we still lack a range of empirical studies across systems to fully appreciate this influence. Here, we tested the relationship between personality and home range size in two Darwin's finch species on Floreana Island: the critically endangered and range-restricted Medium Tree Finch (*Camarhynchus pauper*, MTF) and the common and widespread Small Ground Finch (*Geospiza fuliginosa*, SGF). Using rapid-assessment assays during short-term captivity, we measured three personality traits (boldness, exploration and aggressiveness) in males from both species. We then used radio telemetry to calculate each bird's home range size over a week-long period. We predicted that more proactive individuals (bolder, fast-exploring and more aggressive) would have larger home ranges. We found that MTF had smaller home ranges than SGF and, in both species, aggressive individuals had smaller home ranges. Neither boldness nor exploration predicted home range size. In MTF, pairing status (paired, unpaired) was not associated with home range size, but, in SGF, paired males were more aggressive and had smaller home ranges. We conclude that personality can predict home range size, which may provide an important tool for conservation management of endangered species, for example, when selecting individuals with different personality profiles for translocation.

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COMMUNICATION & PERCEPTION

MICROPLASTICS IN FOOD AND DRINKING WATER: KNOWLEDGE AND PERCEPTIONS OF DIFFERENT RELEVANT GROUPS ALONG THE HUMAN FOOD CHAIN.

Leonie Fian

Environmental Psychology

Feb 2 16:10-16:30 Erika-Weinzierl-Saal

While microplastics (MPs) have recently been found in different food products and drinking water, considerable knowledge gaps exist regarding a standardised identification, relevant sources and pathways, and toxicity for humans. Public concern, however, is high, although with so far limited studies investigating concern regarding human health. With respect to calls for higher involvement of public opinion into policy making, efforts to gain insight into different relevant groups' perspectives are pivotal. Specifically, we aim to explore (1) knowledge about characteristics, causes and consequences of MPs (in food and drinking water); (2) perceptions and thoughts on: perceived scientific consensus, concern, social norms, emotions; (3) thoughts about potential measures to avoid/reduce MPs; and (4) people's willingness to accept policies aiming to avoid/reduce MPs.

Therefore, we will conduct N ~ 30 semi-structured interviews with representatives of the areas of food production/harvesting, processing/packaging, distribution/hospitality, consumption and regulation in Austria. Data collection will start in November 2022. The interview guide was developed inspired by the Climate Change Risk Perception Model and the interview transcripts will be analysed using Thematic Qualitative Analysis.

Preliminary findings of the qualitative interviews will be reported.

In order to develop and implement measures that will be widely accepted, gaining knowledge of experiences of those affected is key, and of particular relevance when scientific knowledge is scarce. Our results will provide insight into relevant groups' knowledge and perceptions of MPs in food and drinking water, potential human health effects as well as ways to reduce or avoid MPs in the human food chain.

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HOW ELEPHANTS SAY "HELLO": MULTIMODAL COMMUNICATION IN THE GREETING BEHAVIOUR OF SEMI-CAPTIVE AFRICAN SAVANNAH ELEPHANTS

Vesta Eleuteri

Department of Cognitive Biology

Feb 2 16:30-16:50 Erika-Weinzierl-Saal

Animals communicate using vocalisations, gestures, and other signals such as olfactory cues. Research on animal communication has focused on exploring signal modalities separately. Yet, many species communicate by combining different modalities together. But why did multimodal communication evolve? What do animals specifically need to communicate when combining signals of different modalities? Multimodal combinations might be used, for example, to enhance or to refine the information transmitted in single modalities. Elephants are long-lived, large-brained, social mammals living in a multi-tiered social structure and showing cognitively complex behaviour and a rich repertoire of signals. African savannah elephants use 8-10 vocalisation types, chemical signals, and over 80 described visual and tactile gestures, often combining them together in elaborate behavioural displays. However, a systematic study of multimodal signalling in elephants has never been conducted. Using a

mixture of behavioural, acoustic, and linguistic computational methods, we described the greeting behaviour of a group of semi-captive elephants in Zimbabwe, and examined when and how elephants simultaneously combine vocalisations and gestures in multimodal combinations. When greeting, elephants directed their gestures at their recipients, selecting gesture modality based on recipient visual attention, and combined vocalisations and gestures in non-random multimodal combination types. The most frequent combination was that of the vocalisation Rumble followed by the gesture Ear-flapping, and the combined use of Rumble and Ear-flapping was affected by individual and social factors. By exploring elephant multimodal communication, our study contributes to our understanding of the functions and evolution of this integrated form of communication.

Co-authors: Dr. Cat Hobaiter, Dr. Lucy Bates, Jake Rendell-Worthington, Dr. Angela Stöger-Horwath
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A SHORT SHLP6 PEPTIDE VARIANT OF RODENTS RELATES TO HETEROTHERMY

Sarah Emser

Department of Behavioral and Cognitive Biology
Feb 2 16:50-17:10 Erika-Weinzierl-Saal

Heterothermy requires the intricate regulation of physiological and biochemical adaptations to facilitate the decrease in metabolic rate and activation of prosurvival factors. Mitochondria play important roles in eliciting these responses and in coordinating the required energy shifts. Mitochondrial-derived peptides (MDPs), a series of peptides encoded by mitochondrial DNA (mtDNA), have been associated with cold adaptation and hibernation and were suggested to play a role in heterothermic physiology. Recently, we evaluated the degree of MDP conservation assessing their small open reading frames (sORFs) across hibernators. Especially, MOTS-c, SHLP4 and SHLP6 were found to be highly conserved.

Here we studied two frequently occurring length variants of SHLP6, either 20 or nine amino acids, in relation to heterothermic rodents with known information on the hosting gene, MT-RNR2. A significant enrichment of the shorter peptide resulting from the polymorphism m.3017C>T was found in heterothermic rodents ($p < 0.005$). Our finding extends the MDPs-associated phenotypes to mammalian heterothermy and argues to further explore this link.

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LAUGHING TOGETHER

Verena Schäfer

Research Unit Developmental Psychology,
Department of Developmental and Educational Psychology
Feb 2 17:10-17:30 Erika-Weinzierl-Saal

In this study I plan to examine the mechanisms and functions of laughter, in the context of synchrony and its effects on cooperative behaviour, from a neuroscientific perspective. Laughter is a rhythmic and acoustic pattern, which can promote prosocial behaviour in people. Even babies react to their environment with laughter. So far, the basic mechanisms of laughter are poorly understood, especially its functional brain basis. Gervais and Wilson (2005) hypothesized that laughter could cause synchronisation processes between people. Synchrony could lead to feelings such as affiliation and bonding, which in turn could strengthen cooperative behaviour. On a neural level, there is evidence that social synchrony is processed in the inferior frontal gyrus and the superior temporal gyrus. Furthermore, it could be shown that the temporoparietal junction is involved in social cognition and cooperation. However, there is still little research elucidating the possible connection of laughter, synchrony and cooperation. The goal of this study is to test whether mutual laughter leads to interpersonal neural, physiological and

behavioural synchronization, promoting cooperation.

The experiment is divided into three phases. In the first phase a funny game will be played and funny animal videos will be shown. In the second phase free interaction will take place and in the third phase a cooperation game will be played. We are going to investigate neuronal (functional near-infrared spectroscopy with a hyperscanning approach), physiological (ECG) and behavioural (video recordings, lavalier microphones) parameters. The study starts end of November.

Co-authors: Dr. Carolina Pletti

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GROWING UP & CARING ABOUT THE ENVIRONMENT

HOW DO INDIVIDUALS NARRATE THE ROLE OF SOCIAL INTERACTIONS IN ADOPTING AND MAINTAINING PRO-ENVIRONMENTAL BEHAVIOUR?

Jana Köhler

Environmental Psychology, University of Vienna
Feb 2 16:10-16:30 Marietta-Blau-Saal

People who engage in pro-environmental moralized minority practices (PE-MMP), such as eating vegan or not flying, are often disliked and discriminated against; a phenomenon called do-gooder derogation. While a considerable amount of work documents individuals' experience of such derogation by social others, there is only scarce literature on how derogation may influence the decision to adopt and maintain PE-MMP. In our study, we explore how individuals narrate the influence of social interactions on their decision to adopt and maintain PE-MMP. In doing so, we adopt an approach in-between nomothetic and idiographic. That is, we are interested in describing

individual experiences in-depth, as well as finding similarities and differences in the described experiences, to generate testable hypotheses for future studies.

Between December 2022 and February 2023, we aim to conduct 1.5 hour-long narrative interviews with n=20 vegan and n=20 non-flying participants. Recruitment of participants will be done through advertisements at Universities in Vienna and environmental protection activist groups.

We constructed a semi-structured interview guideline, drawing from stage-models of behaviour change, developmental psychology, and narrative methodology. We will ask participants to describe their decision process toward the behaviour in question, with a focus on the role social interactions played. We will use (1) personal narrative prompts, including a Life Story Chart, drawing from the Life Story Interview, and (2) a master narrative prompt, aimed at eliciting narratives about experiences of deviation from social norms.

Co-authors: R. Malwine Deckert, Mathew P. White, Sabine Pahl

Co-author affiliations: Environmental Psychology, University of Vienna

CHARACTERISTICS OF SIGNIFICANT LIFE EVENTS ACROSS ADULTHOOD

Sonja Radjenovic

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Feb 2 16:30-16:50 Marietta-Blau-Saal

Significant life events interfere with everyday life and have an impact on our well-being. Yet relatively little is known about how the characteristics of significant life events change through adulthood. Based on the reasoning that developmental losses increase, and developmental gains decrease with age, we hypothesize that older compared to younger adults report significant life events that are less normative, have lower valence, and are less controllable. At the same time, older adults should be better able to cope with less normative, less positive, and less controllable life events than younger adults because of their life experience and better emotion-regulation skills. We tested these

hypotheses on a sample of $N = 6'688$ participants aged 18-90 years who reported experiencing at least one of 19 significant life events (from a list) in the past two years (e.g., relocation, job change, illness). As predicted, life events were perceived as less age-normative, less positive, less controllable, and more strenuous with increasing age. At the same time, older adults were to some extent better able than younger adults to cope with less positive and less controllable life events (in terms of subjective well-being, mental health, or life satisfaction). This could be due to older adults adjusting their goals. However, most of the age-related moderations did not reach significance, suggesting that adaptation has limits at older ages.

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ASSOCIATIONS BETWEEN CHILDREN'S ADHD SYMPTOMS AND THEIR FAMILY INTERACTIONS IN EVERYDAY FAMILY LIFE — AN ELECTRONIC DIARY STUDY

Jessica Schirl

Department of Clinical and Health Psychology
Feb 2 16:50-17:10 Marietta-Blau-Saal

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common mental disorders in childhood and adolescence. Research assumes bidirectional effects between family interactions and child ADHD symptoms. ADHD symptoms of children are associated with heightened stress and frustration in parents and can influence daily family interactions and increase conflict levels. Destructive family conflicts on the other hand can influence the development, maintenance, and the course of the child's ADHD symptoms. The aim of the present electronic diary study is to examine the links between family interactions/conflicts (interparental, parent-child, and sibling interactions) and ADHD symptoms in children and adolescents in everyday family life using ecological momentary assessment. A total of 52 families (one parent and two siblings aged between 9 and 15

years) participated in the study. Family members reported via a smartphone app (Movisens XS) on family interactions and conflicts, child ADHD symptoms and mood, as well as parental mood and stress on three specific time points each day over a period of seven consecutive days. The data will be analyzed using the random intercept cross-lagged panel model to examine cross-lagged relationships at the within-person level, whilst controlling for differences at the between-person level.

Co-authors: Slava Dantchev, Martina Zemp
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LOOKING INWARDS & OUTWARDS - PERCEIVING ONESELF & OTHERS

THE ROLE OF EMPATHY IN AESTHETIC EXPERIENCES

Marta Pizzolante

Research Center in Communication Psychology,
Catholic University of Milan
Feb 3 10:10-10:30 Kleiner Festsaal

The discovery of mirror neurons was a first cornerstone in the explanation of the processes involved in the aesthetic experience from the most basic sensorial levels to higher-order ones, such as empathy.

However, to what extent could we just rely on the activation of mirror neurons to fully explain why we become empathic with an inanimate but sophisticated object, such as an artwork? This question was addressed by two different experimental interventions.

The first study aimed at investigating the impact of the emotional state of the subject in influencing the visual exploration of some abstract paintings, presented through a virtual reality viewer, integrated with an eye-tracking. The transformative power of art has to do with the emotional state of the observer and is thought to be emphasized by how much the spectator can enter in empathy with

the artwork. Analyses on the heat-maps produced by eye-tracking metrics provided strong support that individuals experiencing an induced positive mood broaden their visual attention by making more frequent saccades, with higher amplitude and higher speed.

A further study was designed to demonstrate the relationship between the appreciation of some aesthetic forms and the tendency to adopt more pro-social behaviors via the elicitation of aesthetic and positive emotions. Specifically, the project tested the potential of places (i.e., architectural buildings, squares, monuments) featuring curvilinear lines in promoting more prosocial behaviors compared to the vision of places featuring angles. Preliminary findings showed that participants in the curvilinear scenarios donated a larger amount of money to a respondent compared to participants exposed to scenarios with angles.

MECHANISMS FOR COOPERATION IN DOGS

Juliana Wallner Werneck Mendes

Domestication Lab, University of Veterinary Medicine, Vienna

Feb 3 10:30-10:50 Kleiner Festsaal

Dogs and humans present an unique opportunity to understand interspecific cooperation, as they have a long common evolutionary history and intense daily interactions. Previous studies show dogs can cooperate with humans in the string-pulling paradigm. However, it is not clear if they understand the role of the partner. We presented pet dogs and their owners with an adaptation of the string-pulling task with the economic game “stag-hare hunt”. Partners can coordinate (choose stag) to obtain a high value reward but risk obtaining nothing if the partner defects, or work alone and obtain a low value reward (choose hare). We tested eight dogs with their owners, who varied in which strategy was used: only choosing stag, only hare, or random. Dogs were presented 60 trials of each strategy. The GLMM shows that dogs were more likely to choose stag when the owner was doing the stag strategy than the hare or random strategy ($c 2 = 21.85$; 2 df; $N = 8$; $P < 0.001$), indicating they

were matching the owner’s choice. Regardless of the strategy, when owners chose stag, dogs matched with them 81% of the time, and when they chose hare dogs matched 54% of the time; dogs are significantly better at matching their owner’s choice at stag than at hare ($c 2 = 171.77$; 1 df; $N=8$; $P < 0.001$). Therefore, we conclude that dogs can match with humans and reach Nash-equilibrium, but by different mechanisms than truly understanding the contingencies of the game.

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A PILOT STUDY TO INVESTIGATE THE FEASIBILITY AND EFFECTS OF A DIGITAL MINDFULNESS-BASED INTERVENTION FOR COPD PATIENTS

Hannah Tschenett

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

Feb 3 10:50-11:10 Kleiner Festsaal

Individuals with chronic obstructive pulmonary disease (COPD) often experience symptoms of psychological distress or stress in addition to physical symptoms. Mindfulness-based interventions (MBIs) are effective in reducing psychological distress and stress in various chronic conditions; however, research on MBIs in COPD is still scarce. Given the often reduced mobility and physical limitations of COPD patients, digital interventions are particularly promising. Therefore, this pilot study investigates a) the feasibility of a brief digital MBI and b) its effects on psychological distress and stress in COPD patients.

Methods: $N = 30$ psychologically distressed COPD patients are randomly assigned to the MBI or waitlist control group. Patients in the intervention group perform one of 4 auditory-guided mindfulness exercises (10-15min, via smartphone) daily for 8 weeks. Psychological and respiratory variables (e.g. stress, dyspnoea) are assessed before and after each exercise via smartphone. Primary (e.g. psychological distress) and secondary

outcomes (e.g. fatigue) as well as biological stress markers (e.g. hair cortisol) are measured in both groups at baseline, after 4 and 8 weeks, and at follow-up (2 and 4 months). In addition, MBI's feasibility is assessed via qualitative interviews with patients in the intervention group.

Results: The results on feasibility and effects on psychological distress and perceived stress will be presented at the congress.

Discussion: This is the first study to investigate a brief digital MBI for COPD patients. The results may serve as a basis for larger clinical trials and promote the implementation of MBIs as add-on low-threshold treatment options in everyday life.

Co-authors: Georg-Christian Funk, Florian Vafai-Tabrizi, Urs Nater
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HIDDEN BEHIND THE MEAN SCORE: INTER-INDIVIDUAL DIFFERENCES IN TEMPORAL FLUCTUATIONS OF CLASSROOM BOREDOM

Lisa Stempfer

Developmental and Educational Psychology
11:10-11:30 11:10-11:30 Kleiner Festsaal

The study aims to investigate students' state boredom experience throughout the course of 90-minute language classes in secondary schools. Different types of boredom trajectories are expected, differing in overall levels of boredom intensity and degree of variability over time. Students' academic proficiency is assumed to predict boredom trajectory membership. Data on students' classroom boredom was collected in a longitudinal study design using the Experience Sampling Method. Demographics and trait variables on academic proficiency were collected one week before state data collection in classrooms took place. The Control-Value Theory of Achievement Emotions serves as the theoretical framework for this study and is central to the formulation of hypotheses.

Co-authors: Thomas Götz

PERCEIVING ART, PERCEIVING OTHERS II

INTERACTIVE TEXT READING: A TEXT 2.0 IMPLEMENTATION

Akshay Mendhakar

Faculty of Applied Linguistics, University of Warsa &
EVA Labs, University of Vienna
Feb 3 10:10-10:30 Erika-Weinzierl-Saal

Reading has been around for centuries and is constantly in flux due to the changing lifestyle of its users. Modern theories of literary reading, suggest that reading is a complex phenomenon which involves a close interaction between the reader, the reading situation and the text). When we look at the research in the past decade, reading research is focused more on the variable of the reader and the reading situation. But with the advent of technology, the text as a variable is evolving and in this short paper, we describe the implementation of text 2.0. Interaction with the text using specific eye movements to improve the reading experience was carried out. The text material used in this study was "The Happy Prince" by Oscar Wilde. The interactive text was read on an e-reader by participants grouped based on their reading habits. The interactive reading experience along with their comprehension scores of the text was measured for each participant. The results revealed that participants who were grouped under non-readers had stronger comprehension of the text and a better reading experience whereas the readers who were grouped under avid readers had similar reading comprehension with a relatively poor reading experience. The results of the present study highlight the use of interactive text for reading and also sheds light on the potential of using interactive text reading in new readers of a specific language to improve comprehension.

HOW SLEEP HELPS TO SOLVE DAILY PROBLEMS - THE RELEVANCE OF SLEEP QUALITY AND MINDFULNESS FOR CREATIVITY AT WORK

Tabea Maier

Department of Occupational, Economic and Social
Psychology

Feb 3 10:30-10:50 Erika-Weinzierl-Saal

According to recent polls, employees' sleep is in danger and many employees suffer from sleep problems. At the same time, studies have shed light on the relevance of sleep for creativity. Though, the mechanisms underlying the relationship between sleep and creativity at work are still not well understood. The current study investigated mindfulness as a mechanism in the relationship between day-specific sleep quality and creativity at work.

We offer a self-regulation perspective on the relationship between sleep, mindfulness and creativity. Because mindfulness is a state of high attention and awareness, we argue that self-regulatory resources are necessary to transit into this state. Thus, the restoration of self-regulatory resources during high-quality sleep at night should support. Next, we argue that mindfulness should support creativity during the work day. A non-judgmental state of mind helps to be aware of upcoming unusual thoughts and support generating novel and original solutions. Taken together, we hypothesised that after nights with high-quality sleep, compared to days with low-quality sleep, employees are more mindful the next morning and therefore can be more creative during the workday.

To test our hypotheses, we conducted a daily diary study with 136 employees. Participants completed a general questionnaire and two day-specific questionnaires the first before work (t1), the second after work (t2) over the course of two workweeks. Further, participants wore actigraphy devices to capture sleep efficiency as an indicator of sleep quality.

Results from multilevel analyses showed that employees were more mindful following nights of high-quality sleep, and that on days with a higher level of mindfulness participants reported more creative behaviour throughout the workday. Our findings also supported that sleep quality and sleep efficiency indirectly and positively affects creativity via mindfulness.

To facilitate employees' creativity, we recommend fostering mindfulness as well as sleep hygiene via flexible work times and trainings.

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THE ROLE OF ATTACHMENT FOR OVERIMITATION IN 5-YEAR-OLD CHILDREN

Louise Mackie

Department of Comparative Cognition, Messerli
Research Institute, University of Veterinary
Medicine Vienna & Department of Psychology

Feb 3 10:50-11:10 Erika-Weinzierl-Saal

Humans are remarkably prone to imitate one another. Even when imitation becomes inefficient, we still choose to copy unnecessary actions, such as slapping a wrench in one's hand before loosening a bolt. This phenomenon, called overimitation, has also been observed in dogs, where they copied the touching of colored dots on a wall before opening a food chamber. Dogs' overimitation behavior seem to be socially motivated, as not only do they overimitate more often when the person demonstrating actions is their caregiver (rather than a stranger), but the best overimitators are those who share close relationships with their caregivers. Studies in the human literature have revealed social motivations behind overimitation as well, such as the demonstrator's prosociality or group-membership, but none have so far investigated the role of attachment. Having already begun data collection, the current study is investigating whether, like dogs, 5-year-old children will overimitate their caregivers more than a

neutral stranger. If children are motivated by close ties with the demonstrator, we expect that they will prefer to overimitate their caregivers when operating a novel puzzlebox, even when aware of an alternative (and more efficient) strategy. We also expect that the children who closely overimitate their caregivers will have high levels of reported closeness with their caregiver. Our results will further clarify the importance of social factors for overimitation, particularly how the attachment between an observer and a demonstrator may facilitate this behaviour in children.

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THE SMART VIEWER: EFFECTS OF SMARTPHONE USE ON ART VIEWERSHIP

Zoya DARE

Lab for Cognitive Research in Art History
Feb 3 11:10-11:30 Erika-Weinzierl-Saal

Smartphones are quickly becoming the primary device that many use to access the internet and the billions of images it makes available. This new context provides an intimate experience of a series of small images in quick, and nearly endless, succession. As this becomes the default image viewing setting, how do our experience of visual information and habits of viewing change? The current study investigates whether art viewing behaviour changes in relation to average daily screen time. We present measurements of attention span and memory retention as well as a self-reported aesthetic experience. Results confirm some past research on the effects of smartphones on general cognition but also demonstrate some emerging viewing behaviours.

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AESTHETIC EXPERIENCES IN THE MIND: COMMON NEURONAL SIGNATURES BETWEEN PERCEIVED AND MENTALIZED AESTHETIC STIMULI

Maximilian Kathofer

Vienna Cognitive Science Hub
Feb 3 11:30-11:50 Erika-Weinzierl-Saal

In the past decades, extensive resources have been invested in probing the neuronal underpinnings of mental imagery, finding commonly shared network interactions between mental imagery and perception. However, it is not yet clear whether the act of mentalizing aesthetic stimuli is also capable of eliciting complex emotional responses such as being aesthetically moved. Thus, the aim of the present study is to a) replicate previous findings showing the modulating effect of vividness on activation patterns of mental imagery and b) assess the similarity of properties of connectivity patterns underlying the aesthetic experience between perception and imagery. In the present fMRI experiment, participants viewed 40 artworks and faces. Following each stimulus presentation, participants were then asked to imagine the previously seen artwork/face and rated the vividness of the mental image, as well as their aesthetic response. To replicate the previous study directly comparing brain activation patterns underlying imagery and perception, a univariate general linear model will be implemented. In addition, we will use a spatially-unbiased searchlight-based multivariate pattern analysis (MVPA) to highlight similar connectivity patterns indicative of being aesthetically moved between the perception and imagery condition. Further, we will examine the dynamical connectivity of highly aesthetic brain states between the two modalities.

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CLEVER ANIMALS & CLEVER HUMANS

WHO IS CALLING?: DO COMMON

MARMOSETS USE PITCH TO RECOGNIZE

CONSPECIFICS?

Julia Victoria Grabner

Department of Behavioral and Cognitive Biology

Feb 3 10:10-10:30 Marietta-Blau-Saal

Recognizing other individuals' vocalizations and differentiating between familiar group members and unfamiliar strangers is crucial for day-to-day life and survival, especially in bigger groups and visually obstructed habitats.

Past research has gathered evidence that humans and other mammals deliberately use prosodic variation, like changes in pitch, to convey meaning and emotion but also to discriminate between individuals. However, presently there is no evidence of prosodic information usage in non-human primates. As common marmosets' (*Callithrix jacchus*) long-distance contact calls (phee calls) are known to possess specific prosody-like variation in their characteristics, we want to study if individuals use this information to identify conspecifics.

In the first part of this study, we will therefore test common marmosets' baseline reaction to playbacks of phee calls from familiar and unfamiliar conspecifics. Then we will investigate whether individuals can differentiate between these two social categories using only the prosodic information, by artificially manipulating pure tones to contain the pitch contour of either familiar or unfamiliar individual's phee calls. Specifically, we will use an oddball paradigm and measure relative looking time at the sound source during oddballs consisting of 1) phee calls from group members, phee calls from unknown conspecifics, and pure tones of the same length and frequency or 2) pure tones manipulated to have the familiar or unfamiliar phee calls' pitch contour.

I will present preliminary data and discuss it together with results from previously collected pilot data.

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PERSONALITY DIFFERENCES BETWEEN

HIGHLY INTELLIGENT INDIVIDUALS AND THE

GENERAL POPULATION.

Jonathan Fries

Department of Developmental and Educational Psychology

Feb 3 10:30-10:50 Marietta-Blau-Saal

Notwithstanding the widely held belief that personality and intelligence are independent concepts, a growing body of research suggests otherwise. Correlational studies have indicated substantial associations between the two domains. Moreover, samples of highly intelligent individuals have been found to differ from the general population in certain personality dimensions. However, most of the existing literature has relied on the Five-Factor Model of Personality (FFM), while no studies have utilized the HEXACO personality framework.

We conducted a preregistered survey within MENSA, the world's largest society for intellectually gifted individuals. 617 members from Austria, Germany, Hungary, Switzerland, and the United Kingdom participated. We compared this sample to three reference samples (combined N = 112,637) with respect to their HEXACO-60 personality scores.

Relative to reference samples, gifted individuals exhibited elevated scores in the dimensions Honesty-Humility and Conscientiousness, but lower scores in Emotionality. In contrast to previous findings, gifted persons scored only marginally higher in Openness to Experience. No difference was found for Agreeableness.

We demonstrate that some personality differences between gifted and non-gifted individuals that have been previously established within the FFM framework also surface when the six-factor HEXACO model is applied, while other effects are less transferrable. Our findings suggest that when

the HEXACO model is used, gifted and non-gifted persons differ more markedly in sociability. Conversely, intellect-related differences are relatively weak. This study has been published in the Journal of Intelligence's special issue on intellectual giftedness, October 2022.

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TEACHING TO THE TEST - KILLING STUDENT'S MOTIVATION FOR THE SAKE OF GOOD GRADES?

Joy Muth

Zentrum für Lehrer*innenbildung
Feb 3 10:50-11:10 Marietta-Blau-Saal

Standardized tests have become a gold standard for assessing students' competencies, but also the quality of teachers and schools. To help their students score high, many teachers apply a test-centered instruction style, also known as "teaching to the test" (TTT). Although TTT is claimed to help raise test scores, no knowledge exists about how this teaching style affects students' daily academic lives and experiences.

This study investigated whether TTT is associated with secondary students' intrinsic motivation, perceived importance, utility, and cost of engaging with the subject, their subject-specific self-efficacy, and test performance. The sample consisted of 1625 11th-grade students, from 30 Austrian high schools, who were surveyed about their experiences in English class. Perceived teaching to the test practices were measured with 4 scales from a newly developed measurement instrument.

Four multiple regression models with gender as a covariate were conducted. Results showed statistically significant positive associations between the TTT scales repetitive exercising, test-taking strategies, and reference to the test with intrinsic motivation, importance, and utility, but not

with cost. Repetitive exercising further showed significant positive associations with self-efficacy and a small positive effect on test-performance. An authoritarian teaching style showed statistically significant negative associations with intrinsic motivation, importance, utility, self-efficacy and test performance while having significant positive associations with cost.

Our results suggest that, contrary to current beliefs, TTT, except for authoritarian teaching, might rather enhance than reduce students' motivation, while not impacting test performance to a significant degree.

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THE EVOLUTIONARY HISTORY OF ELABORATE COURTSHIP PERFORMANCES IN THE BIRDS-OF-PARADISE

Thomas MacGillavry

Department of Cognitive Biology
Feb 3 11:10-11:30 Erika-Weinzierl-Saal

The courtship displays of birds include some of the most elaborate and unusual motor performances in the animal kingdom. Across their staggering diversity, with the number of currently recognized species numbering close to eleven-thousand, the Birds-of-Paradise (family Paradisaeidae) stand out as some of the most spectacular in their display behaviours. These displays have undoubtedly evolved through female mate choice and played an instrumental role in the development of sexual selection theory in the 19th century. Despite this long history of scientific interest, particularly in the field of evolutionary biology, very little work has attempted to unravel the evolutionary history of courtship displays in the Birds-of-Paradise. Indeed, while many have speculated on the evolutionary history of display behaviours across the family, only a single phylogenetic comparative study within the genus *Parotia* has identified several potentially homologous displays.

We aimed to test whether many of the displays described in the Birds-of-Paradise represent instances of homology, homoplasy (i.e., convergence), or independent evolutionary innovations unique to single species. This required us to review the extensive descriptive literature on the Birds-of-Paradise in order to create a comprehensive ethogram of display behaviours of all known species, which we corroborated using archived video data. Following this summary, we are working to identify functionally analogous displays that can be coded into a character matrix to reconstruct the ancestral states of each display, thus revealing the most likely scenario for the evolution of courtship displays across the Birds-of-Paradise radiation.

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ONLINE: PRE-RECORDED

HOW DOES BEAUTIFUL ART INFLUENCE PAIN AND STRESS EXPERIENCE?

Anna Fekete

Department of Cognition, Emotion, and Methods in Psychology

recording available on whova online

Art can be a powerful, accessible, cost-effective, and nonpharmacological tool to reduce both pain and stress in everyday life. So far, the beneficial effects of art have been predominantly investigated through the medium of music that reduced pain and stress successfully.

When it comes to visual art as a tool for pain reduction, findings are mixed: beautiful paintings have the potential to decrease pain perception (de Tommaso et al., 2008) however, Mitchell et al., (2008) did not find that visual art influences pain tolerance or perceived control over pain. Therefore, the question remains whether beautiful visual art can really influence pain and stress experience.

Due to the sensory and affective component of pain and stress, as well as the affective and cognitively engaging nature of visual art, we argue that art can be a beneficial tool in this regard.

In our study, we asked people (N=45) to select artworks that they found movingly beautiful and not beautiful—due to the private and personal nature of aesthetic experiences—and compared these artworks to a neutral stimulus (a grey screen) in a within-subject design on different days. We investigated whether aesthetic quality of the artworks has the potential to alter pain and stress perception—induced by a cold pressor test. Our findings are discussed in terms of subjective components of pain, stress perception, as well as physiological (electrocardiogram, electrodermal), and endocrine (salivary alpha-amylase and cortisol) measures.

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ACTING PRO-ENVIRONMENTALLY FRIENDLY BECAUSE OF SOCIAL RECOGNITION: HOW TO FRAME ORGANIZATIONAL GOALS

Eva Straus

Department of Occupational, Economic and Social Psychology

recording available on whova online

Due to the rising awareness that reducing the carbon dioxide emissions is necessary to save our planet, more and more organizations try to motivate employees to act pro- environmentally friendly. With two pre-studies and a longitudinal experimental study design, we investigated how organizations should frame goals to engage as many employees as possible to pro-environmental behaviors (PEB). Specifically, we examined different reasons why to act pro- environmentally friendly and whether different reasons are more or less important for people striving for different values. Drawing on the goal hierarchy approach and the self-determination theory (SDT), we first

hypothesized that providing reason to act pro-environmentally friendly that fit personal values lead to an increase in PEB and second, we hypothesize that providing reasons that target morally perfect behavior (e.g., PEB contributes to the preservation of the environment) lead to higher increase in PEB than providing extrinsic reasons (e.g., pro- environmental behavior lead to high social recognition). Additionally, we investigated the role of perceived organizational pro-environmental support in the relationship between extrinsic values and increase in PEB. By randomly assigning participants to four groups that receive either a) intrinsic reasons, b) extrinsic reasons, c) only information, or d) nothing and by using a latent change score model for data analyses, our results show that intrinsic values (e.g., contributing to society) lead to higher increase in PEB. However, providing extrinsic reasons lead to a significant higher increase in PEB than intrinsic reasons. Furthermore, providing only information without any reasons lead to higher increase in PEB and intrinsic reasons, independently of what we strive for.

BOOTSNAP: AN IMPROVED DETECTION AND CLASSIFICATION METHOD FOR MOUSE ULTRASONIC VOCALIZATIONS

Reyhaneh Abbasi

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Sciences, Vienna, Austria

recording available on [whova](#) [online](#)

House mice and other rodents emit complex ultrasonic vocalizations (USVs) to communicate in various contexts including social and sexual

interactions. These vocalizations are increasingly investigated in research on animal communication and as a phenotype for studying the genetic basis of autism and speech disorders. Rodents emit USVs in discrete units called syllables or calls. USV syllables are separated by gaps of silence and they have been classified into several different categories by researchers visually inspecting spectrograms. Because manual methods for analyzing USVs are extremely time-consuming, several methods have been recently developed for automatically detecting and classifying USVs. Here we evaluate their advantages and disadvantages in a systematic comparison, while also presenting a new approach. This study aims to 1) determine the most efficient USV detection tool among the existing methods, and 2) develop a classification model that is more generalizable than existing methods. We compared the performance of four detection methods in an out-of-the-box approach, pretrained DeepSqueak detector, MUPET, USVSEG, and the Automatic Mouse Ultrasound Detector (A-MUD). A-MUD outperformed the other methods in terms of true positive rates and false detection rates. For automating the classification of USVs, we developed BootSnap for supervised classification, which combines bootstrapping on Gammatone Spectrograms and Convolutional Neural Networks algorithms with Snapshot ensemble learning. It successfully classified calls into 12 types, including a new class of false positives that is useful for detection refinement. BootSnap outperformed the pretrained and retrained state-of-the-art tool, and thus it is more generalizable.

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Posters

PREDICTING CROSS-NATIONAL SEX DIFFERENCES IN EDUCATIONAL ACHIEVEMENT: EVIDENCE FROM PIRLS AND TIMSS

Sandra Oberleiter

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Psychology

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"MOTHERESE" NO MORE: QUEER FATHERS' INFANT-DIRECTED SPEECH Susanne Kerschbaumer

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THE SHAPE OF THE AUDITORY CORTEX TRANSVERSE TEMPORAL GYRI AND FOREIGN LANGUAGE APTITUDE

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GESTURE-SOUND PRIMING IN PREVERBAL INFANTS

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TEACHERS' EMOTION & PRINCIPALS' LEADERSHIP BEHAVIOR: AN INTEGRATIVE MODEL EMBEDDING PERMA-LEAD IN CONTROL-VALUE THEORY Lea Resch & Sina Weiss

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EMPATHIC CONCERN AND PROSOCIAL BEHAVIOR IN 18-MONTH-OLD TODDLERS Rebecca Lutz

Department of Developmental and Educational
Psychology

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HIGH STAKES: THE RELATIONSHIP BETWEEN HEIGHT INDUCED AROUSAL AND EGOCENTRIC AND ALLOCENTRIC MEMORY ENCODING STRATEGIES.

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DEROGATION POTENTIAL OF DIFFERENT PRO-ENVIRONMENTAL BEHAVIOURS

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STEP ASIDE! – THE BODY-AS-AN-OBSTACLE TASK IN PIGS

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ADDRESSING PIGS: DO PIGS SHOW SELECTIVE SENSITIVITY TO HUMAN OSTENSIVE COMMUNICATION?

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DEVELOPMENT AND VALIDATION OF THE MULTIDIMENSIONAL INVENTORY FOR RELIGIOUS/SPIRITUAL WELL-BEING 18 ITEM VERSION (MI-RSWB-18)

Anna Knorr

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Department of

STUDENT LEARNING AT SECONDARY SCHOOLS IN DISADVANTAGED AREAS - ASSOCIATIONS BETWEEN PERCEIVED SOCIAL CLIMATE, STUDENT MOTIVATION, POSITIVE EMOTIONS AND ACTIVE LEARNING BEHAVIOR

Sina Ludwig

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THE RELATIONSHIP OF INTEROCEPTIVE
ACCURACY AND THE CARDIAC CYCLE WITH
AUTOMATIC IMITATION

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SCIENCE COMMUNICATION PROJECT:
SUPPORT FOR TEACHERS IN DEALING WITH
MENTAL HEALTH PROBLEMS IN STUDENTS

Flora Seemann & Hannah Pöllmann

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IS PERCEIVING SPEECH PERCEIVING
GESTURES? - THE ROLE OF THE MOTOR
SYSTEM IN PHONEME PERCEPTION

Viktoria Groß

Department of Linguistics

MITFÜHLENDE HOCHSCHULEN:
BEEINFLUSSEN ORGANISATIONALE
UNTERSTÜTZUNG UND MITGEFÜHL DAS
IMPOSTOR-PHÄNOMEN?

Robin Hietz

Co-authors: Catherina Tauscher, Berrin Seidl, Alexandra Gabris

STRESS PATTERNS AMONG TEACHERS IN
SCHOOLS IN DISADVANTAGED SETTINGS.
RELATIONSHIPS WITH THE SUBJECTIVE
EXPERIENCE OF STRESS AND THE QUALITY
OF TEACHING.

Deborah Grossmann

University of Vienna

THE SUBJECTIVE MIND IN LANGUAGE

Pia Lehecka

University of Vienna

THE EVOLUTION OF BEAUTY: HOW BIRDS
OF PARADISE EVOLVED THEIR STUNNING
DANCES

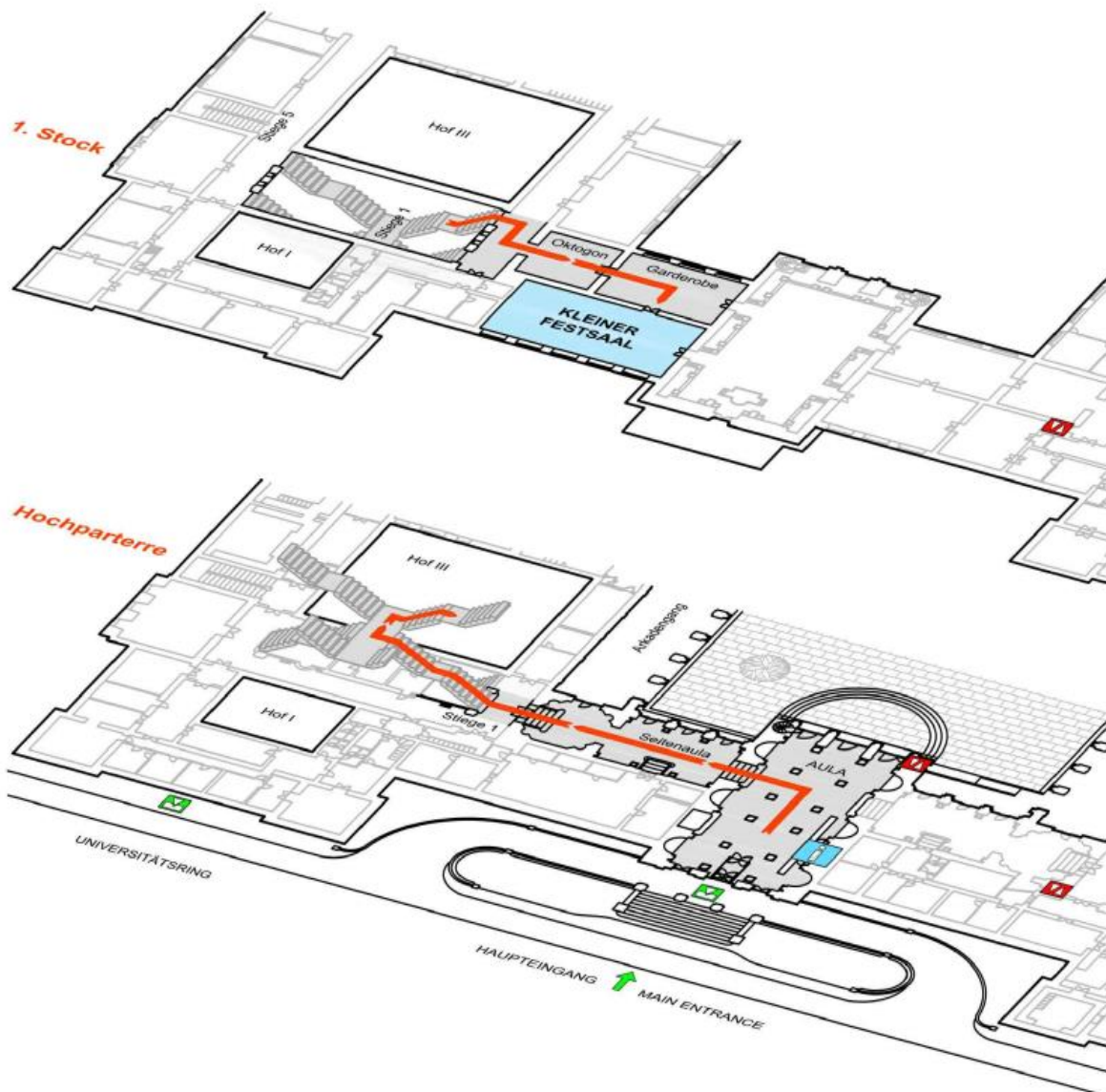
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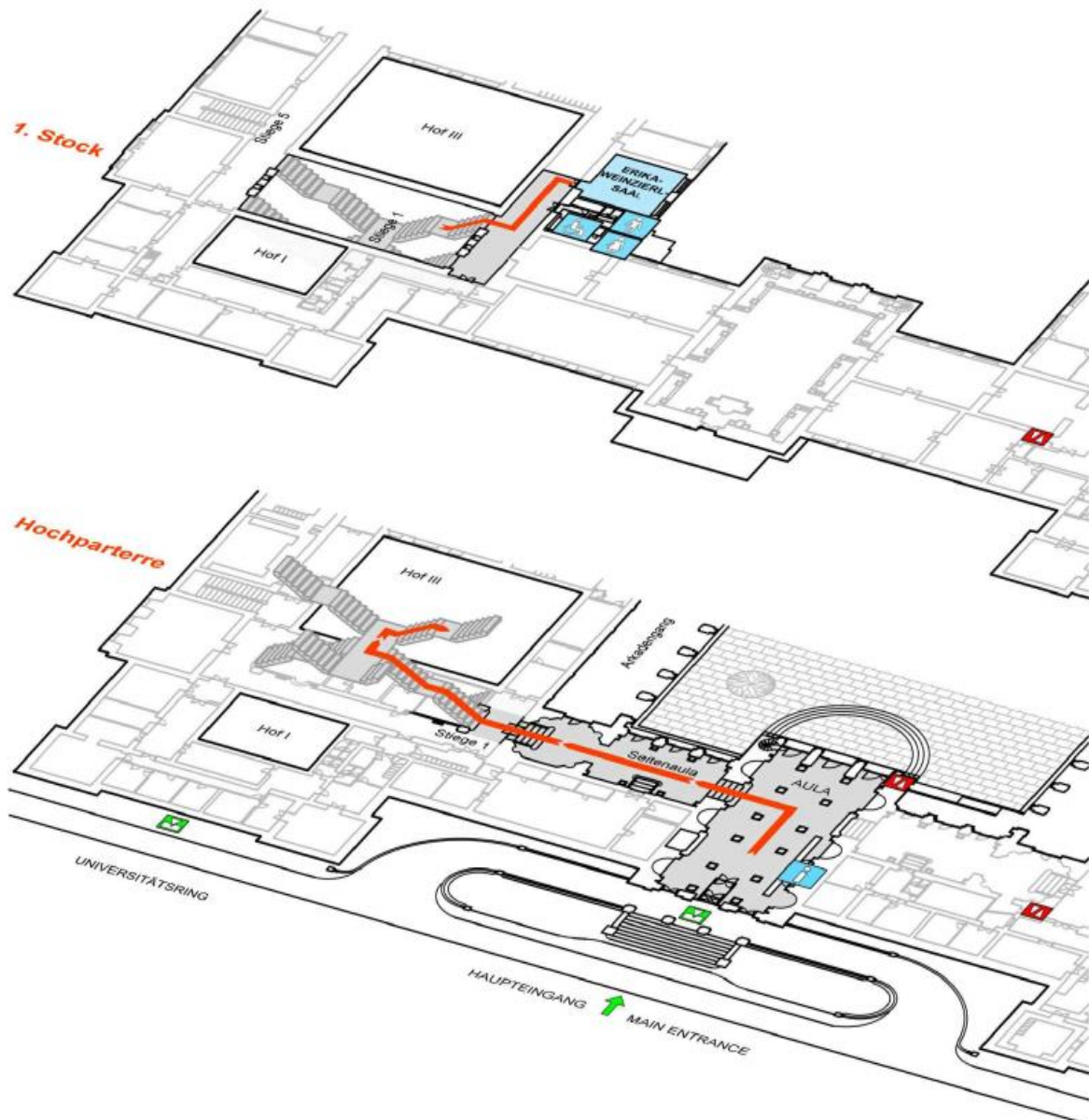
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Room Plans

Kleiner Festsaal



Erika-Weinzierl-Saal



Marietta-Blau-Saal

