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**ABSTRACTS** 

#### THE SENSITIVE MISER: COSTS INCREASE THE SENSITIVITY TO BENEFITS OF ADVICE

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Using advice is an important asset of the adaptive toolbox of human decision making. Yet people's well-documented reluctance to incorporate other's judgments (especially when they are diverging) greatly limits the realized gains. Whereas some researchers draw on motivational explanations for this so-called egocentric discounting, others propose more rational accounts. The informational asymmetry account in particular assumes that people simply possess more information supporting their own as compared to other people's judgments reducing the reliance on advice in judgment revision. Our research implements a sampling paradigm of advice taking and extends the informational asymmetry account. Specifically, in the classical research approach, participants are always given one piece of advice only and may either adapt to it or reject it as valid information. As participants cannot acquire further information, this paradigm does not allow disentangling motivational and informational influences on egocentric discounting. We thus expand the classical research paradigm by a sampling phase that allows participants to sample any number of other people's judgments before giving a revised estimate. We test three predictions derived from an expanded informational asymmetry account: (1) participants will sample more advice than the one piece of advice usually offered; (2) sampling frequency will be sensitive to the informational asymmetry, that is participants will sample more frequently when advice is distant rather than close; (3) reliance on advice will increase with increasing amount of supporting information. Three initial experiments strongly supported all of the above specified hypotheses. In a fourth experiment, we implemented costs of advice as a between-participants factor. Specifically, whereas half of the participants received advice immediately after requesting it (as in the three initial experiments), the other half of participants had to wait five seconds before the requested advice was revealed. Independent of advice costs, results again strongly supported the above specified hypotheses. Furthermore, costs increased the impact of single pieces of advice on judgment revision. Moreover, while costs decreased sampling frequency, they increased participants' sensitivity to the confidence regarding their initial judgment (presumably reflecting the richness and consistency of their own knowledge base). Specifically, only when advice was costly to obtain participants' sampled predominantly when they were uncertain about their initial judgment. We take this as evidence for a cost-benefit tradeoff in advice seeking, where increased costs of obtaining advice increase people's sensitivity to the expected benefits.

#### HOW BEING DIFFERENT MAKES YOU BAD - AN ECOLOGICAL EXPLANATION OF INTERGROUP BIAS

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Intergroup bias describes the tendency to evaluate members of one's own group (ingroup) more favorably than members of other groups (outgroups). We present a cognitive-ecological explanation for intergroup bias that refers to the structure of the information ecology (Fiedler, 2000). The social world is characterized by two strong valence asymmetries. First, positive behavior and attributes are prevalent while negative ones are rare (Alves, Koch, & Unkelbach, submitted). Second, positive behaviors and attributes are less diverse than negative ones (Alves, Koch, & Unkelbach, 2016). Both phenomena converge in that they influence the probabilistic distribution of positive and negative attributes among shared and unshared attributes. Specifically, shared attributes are more likely to be positive while unshared attributes are more likely to be negative. On the cognitive side, we assume that people form impressions about their ingroups before they form impressions about outgroups; the same should hold for learning about majorities vs. minorities (e.g. Sherman et al., 2009). Research on comparison processes and category learning has shown that new stimuli typically become associated with attributes that they do not share with already known stimuli. While ingroups and majorities enjoy positive evaluations reflecting the general positivity prevalence in the social world, outgroups and minorities are associated with and judged based on their unique features which according to our model are more likely to be negative. In

two learning experiments, participants formed association between an alien tribe and its attributes before learning about a second alien tribe. Across both experiments we varied the information ecology, namely the prevalence and diversity of positive and negative attributes. In line with our predictions, participants showed the strongest preference for the first tribe when positive attributes were more prevalent and less diverse than negative attributes, while this effect was explained by the distribution of positive and negative attributes among shared and unshared attributes. We then collected stereotypes about the 78 most relevant social groups in Germany. A mediation analysis showed that minority groups tend to be associated with unshared and therefore more negative attributes than majorities. Our model provides a simple framework for intergroup biases that arise as a natural consequence of the information environment and the perceiver's need to differentiate social groups.

#### "I KNOW WHAT I WANT!" — POSSIBLE BOUNDARY CONDITIONS OF A RELATIONSHIP BETWEEN INDECISIVENESS AND PREFERENCE UNCERTAINTY

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A possible explanation for chronic indecisiveness is that indecisive individuals do not have immediate access to their own preferences and thus experience uncertainty when evaluating objects. However, previous studies have not found a relationship between indecisiveness and indicators of preference uncertainty (time taken for evaluations, differentiation of evaluations). These studies were based on sequential evaluations unrelated to a decision. In the present research, we tested whether a relationship between indecisiveness and preference uncertainty would be observed when evaluations determined the decision and when two objects were evaluated simultaneously. Participants rated chocolate bars with different flavors and were given one chocolate bar as a compensation for participation. They either received the chocolate bar that had received the highest rating, thus making choice conditional on evaluations, or they chose from a different set of chocolate bars, rendering the evaluations irrelevant to their decision. Additionally, chocolate bars were rated either one by one or in pairs. Pairwise ratings were performed with both bars as opposite poles (Study 1) or as independent points (Study 2) of a single scale. Preference uncertainty was assessed using the differentiation, i.e. variance of ratings, and the time taken to rate. Indecisiveness was measured through a questionnaire. Neither the linking of ratings and decision, nor the pairwise rating mode caused a correlation between indecisiveness and preference uncertainty to occur. In the light of earlier studies, these findings suggest that indecisive individuals do know what they want, which hints at other mechanisms to be more relevant in explaining indecisiveness, e.g. post-decisional processes. Analyses yielded contrary results concerning the question whether a preceding evaluation of objects facilitates choice for indecisive individuals. Implications as well as limitations of the studies are discussed.

#### CREATIVITY DEPENDS ON REGULATORY FOCUS AND, MORE STRONGLY, ON REGULATORY-FOCUS SHIFT

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In a multi-causal world, a complex operational mindset like "creative" cannot be determined solely by one prime. Regulatory focus is beside other dependencies well related to creativity. More precisely, promotion focus facilitates creativity more than a prevention focus. The aim of this study was to enhance this impact by a dynamic manipulation method, in which prevention focus was contrasted by promotion focus within participants, and vice versa. This regulatory focus shift intensified the latter prime of the regulatory foci. Latencies of a word identification task reflected this successful manipulation. Four creativity measures, namely brick task, free-association test, remote-association test, and out-of-norm decisions supported the hypotheses that a regulatory

focus shift manipulation functioned as a catalyst for the relation between regulatory focus and creativity. Although the creativity tests differ in many qualitative ways and in fixed ordinal positions, the results are tentatively interpreted as reflecting most pronounced influences of regulatory focus on the most generative creativity tests.

### THINKING ABOUT THE FUTURE, FROM A DISTANCE: DOES SELF-DISTANCING ATTENUATE ANTICIPATED NEGATIVE EMOTIONS?

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Episodic memory and future thinking are closely related (Atance & O'Neill, 2001). Findings have shown, when recalling negative events, a self-immersed perspective results in greater intensity of negative affect and rumination compared to a self-distant one (Kross et al., 2005). Furthermore, people tend to adopt a self-distanced perspective when thinking about the far (compared to near) future (D'Argembeau & Van der Linden, 2004), so how does self-perspective relate to future-related emotions? In Experiment 1, participants (n = 143) thought about a cheerful (vs. concerning) future event from a self-immersed (vs. self-distanced) perspective (Kross et al, 2005). Participants felt more immersed in the future event in the immersed than the distant condition. But those in the concerning condition felt the event to be temporally closer than those in the cheerful condition, irrespective of their self-perspective. Those in the immersed condition also felt more intense emotions than those in the self-distanced condition. Moreover, negative mood (POMS, Curran et al, 1995) was higher having thought about a possible negative future event, showing simply imagining a negative future event can significantly impact on mood within a short space of time. In Experiment 2, participants (n = 38 at the time of application; we aim for N = 100 based on a priori power analyses) thought about a concerning future event happening in 3 months (vs. 1 year) and wrote down their thoughts and emotions. Next, they rated the perceived temporal distance to that future event, their self-distance with this event and phenomenological characteristics of the event (vividness, importance, decision-making or action-planning focus). Finally, participants rated how they felt while imagining the future event (anticipatory) and how they predicted they would feel in the future (anticipated emotions, Baumgartner et al, 2008). We predicted that future thoughts rich in phenomenological characteristics would produce more intense anticipatory and anticipated emotions. We also predicted that this relationship would be dampened among participants who score high on trait mindfulness (Baer et al, 2008) because these skills involve a non-reactive and non-judgmental approach to emotions. Negative future thoughts can fuel reasonably useful adaptive strategies (e.g., defensive pessimism, Norem & Cantor, 1986). But if, by default, they trigger a more immersed self-perspective, they could lead to excessive rumination, spiralling down to prolonged or clinical negative affect (Kross et al, 2005). These studies suggest that self-regulation strategies such as those fostered by mindfulness could alter these dynamics between future thinking and emotions.

#### CONVINCING CONSERVATIVES OF CLIMATE CHANGE: HOW THE PAST MIGHT SAVE THE FUTURE

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One challenge for our society is creating a lifestyle that will reduce climate change. According to commentary in the journal Nature: "...a fresh approach is needed—one that is guided by the science of cooperation." Unfortunately, cooperation is not ubiquitous and is especially lacking among political conservatives. We propose that a factor influencing conservatives' (uncooperative) attitudes is that pro-environmental messages are often future-focused (e.g., "We need a new path to a sustainable future"). We tested whether framing messages using a past-focus would encourage pro-environmental support from conservatives. In Study 1, we exposed participants to a past or future-focused pro-environmental message and then assessed their pro-environmental

attitudes. As expected, pro-environmental attitudes were higher for conservatives in the past (vs. future) condition. Study 2 replicated this effect with an additional neutral control condition. In Study 3, liberal and conservative participants were asked to divide \$0.50 between two ostensible environmental charities. One communicated a past-focused mission (e.g., "Restoring the planet to its original state") while the other communicated a future-focused mission (e.g., "Creating a new earth for the future). Liberals gave significantly more to the future focused charity whereas conservatives gave significantly more to the past-focused charity. In Study 4 we explored how temporal framing would influence how liberals and conservatives respond to information that should motivate pro-environmental behaviors. Participants were randomly assigned to a "carbon footprint" test that was past-focused (e.g., "It is important to have a lifestyle that is as sustainable as life used to be in the past) or future-focused (e.g., "It is important to have a lifestyle that is as sustainable as life should be in the future). Participants were then exposed to fabricated results suggesting that their carbon footprint was very large and their lifestyle should change. The past focused framing increased conservatives' pro-environmental behavioral intentions but only if they accepted the results of the footprint test (significant 3-way interaction). Thus, Study 4 demonstrates a boundary condition of our main effect—it is only when conservatives are willing to accept objective information about their (supposedly) unsustainable lifestyle that the temporal framing of this information has an influence. Overall, this research uses insights from social cognition to explain a stark political difference, not as motivated ignorance or hostility, but as due in part to a mismatch between the temporal focus of typical pro-environmental messages and conservatives' predominate temporal orientation.

#### SOCIAL CATEGORIZATION AND EVALUATION IN PREJUDICE REDUCTION INTERVENTIONS

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Due to the ongoing tensions and conflicts among people of different ethnicities all over the world, there has been continued interest in the development of methods that reduce interethnic prejudice. One persistent debate in this field is whether it is necessary or even desirable to reduce social categorization in order to attenuate prejudice, as in the case of 'colorblind' or egalitarian interventions, or whether people can instead be convinced of the value of having multiple social groups within a society (multicultural interventions). A number of recent articles have shown the usefulness and possible superiority of multicultural interventions (e.g., Park & Judd, 2005); however, there are several concerns with the intervention vignettes mostly used in these studies (developed by Wolsko, Park, Judd, & Wittenbrink, 2000). Specifically, the colorblind intervention might not be successful at reducing categorization, and it might be framed more negatively towards minorities. We presented a German translation of the interventions followed by a modified version of the "Who Said What?" (WSW) paradigm depicting Turkish- or German-looking males to assess the effects of the interventions on social categorization and prejudice. Instead of seeing discussion statements, participants (N = 162) were presented with valenced behaviors that these males had shown. Beyond allowing us to measure participants' social categorization, the modified WSW paradigm was thereby supposed to subtly measure prejudice as well. The WSW was analyzed by means of a Bayesian multilevel extension of the multinomial WSW model proposed by Klauer, Ehrenberg, and Wegener (2003). While our hypothesis was confirmed that social categorization in the colorblind condition was not attenuated (in fact, it increased) in comparison to a control group and not statistically different from the multicultural condition, there was a surprising trend in all groups to better remember and falsely allocate positive statements to Turkish stimuli and negative statements to German stimuli. This effect was mirrored in the explicit measurement outcome. A first analysis of the results of a conceptual replication with participants paid for accurate memory and an Evaluative Priming Task as an implicit measure of prejudice confirmed the pro-Turkish bias, but only in the WSW data. Results of this study will also be presented at the conference, as will a third study conducted at UC Davis with evaluatively neutral behaviors and black and white male targets.

### NOT OUR FAULT: JUDGMENTS OF APATHY VS. HARM TOWARDS SOCIALLY PROXIMAL VS. DISTANT OTHERS

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The current research aimed to delineate the moral intuitions that underlie apathy towards the suffering of socially distant others. Past research has suggested that people endorse In-group-Focused Morality, according to which the fate of socially distant others is discounted, and Harm-Focused Morality, according to which the omission of care is viewed less negatively as compared to the commission of harm. In the current study, we investigated how these two moral principles interact, by examining whether increased social distance differentially attenuates the severity of moral judgements concerning acts of apathy and harm. The results of three studies show that judgement concerning the omission of care are dependent on social distance, but that judgements concerning the commission of harm are not. We discuss the implications of these findings to normative theories of morality and to Moral Foundations Theory.

### PREPARING CUE LEARNING: ON THE ROLE OF ATTRIBUTE RANGE FOR LEARNING AND GENERALIZATION IN EVALUATIVE CONDITIONING

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Evaluative Conditioning (EC) refers to the change in liking of a conditioned stimulus (CS) due to its repeated pairing with a valent, unconditioned stimulus (US). As a consequence, the CS generates similar affective responses as the US. Recent studies on evaluative cue conditioning (ECC) have shown that equivalent to a valence transfer to specific stimuli (evaluative identity conditioning, EIC), it is possible to transfer valence to abstract cues such as age or skin color in social stimuli. So far, research on EC has not taken into account the attribute range of predictive cues, although the distance between options on a given dimension has been shown to influence preference ratings. Our experimental approach follows a recently developed paradigm with an extended stimulus matrix consisting of schematic butterflies that vary on three cues. Each of the three cues occurs in four manifestations (length of antennae: short to long, body color: light to dark, shape of wings: round to rectangular). The predictive cue constitutes either a narrow or a wide attribute (i.e., using the extreme or moderate cue manifestations). We are currently collecting data of 120 participants to test two opposing hypotheses. On the one hand, it could be expected that larger distance between the cue manifestations triggers contrastive processing that facilitates the attitude acquisition and generates larger ECC effects. On the other hand, dominant conceptualizations assume that EC is a stimulus-driven process that is rather rigid in nature. Consequently, ECC effects should not differ between the low- and high-distance cue implementations. In addition to the hypotheses specified above, the design allows for the investigation of transfer effects by including both moderate and extreme cue manifestations at test. We are thus able to compare whether participants generalize their evaluations to similar cue manifestations, and whether the extrapolation from extreme to moderate cue manifestations differs from extrapolation from moderate to extreme cue manifestations. Follow-up studies are planned with naturalistic stimulus material that allows for a concurrent assessment of EIC effects. Theoretical and practical implications of this work will be discussed.

### TRAIT MEASURES OF SELF-CONTROL AND THEIR RELATIONSHIP TO EXPERIENCE, RESISTANCE, AND ENACTMENT OF DESIRES IN EVERYDAY LIFE

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Successful self-control is highly adaptive and predicts numerous important outcomes, such as

academic and occupational achievement, physical and mental health, and subjective well-being. In explaining when and why some people manage to behave in line with their long-term endeavors while others fail, past research identified traits (e.g., trait self-control, mindfulness) and lay beliefs (i.e., implicit theories about willpower) as determinants of self-control. However, this research has very much focused on the outcome rather than on the process of self-control. Recent approaches acknowledge that not all behavior that serves a long-term goal is a case of successful self-control (Hofmann, Baumeister, Förster, & Vohs, 2012). For instance, to be considered a case of successfully resisting a temptation, the person has to experience a desire, be motivated to resist it, and refrain from enacting the behavior suggested by the desire. In the present studies, we examined whether trait measures and lay beliefs (i.e., trait self-control, mindfulness, implicit theories about willpower) predict how often people experience desires in their everyday life, how often they try to resist them, and how often they enact upon them despite of the intention to resist. We recruited participants on Amazon's mechanical Turk ( $N_{Study1} = 248$ ,  $N_{Study2} = 489$ ) and asked them to indicate for a list of desires (e.g., "eat between meals", "sleep/relax during the day", adapted from Hofmann et al., 2012), a) how often they experienced the given desire within the past two weeks, b) how often they tried to resist it, c) and how often they enacted the behavior suggested by the desire. Results of both studies showed that people with high trait self-control experience desires significantly less often, supporting previous theorizing that people with high trait self-control use strategies to avoid temptations in everyday life (Imhoff, Schmidt, & Gerstenberg, 2013). Resistance to desires was significantly related to mindfulness. Mindful participants were less inclined to resist their desires, supporting the notion of acceptance as one dimension of mindfulness (Baer, Smith, & Allen, 2004). Enactment of desires was significantly related to implicit theories about willpower. Participants who believed that their willpower was a limited resource reported more frequent enactment of desires despite of the intention to resist. The findings suggest that trait measures of self-control explain variance at different stages of the self-control process and underline the importance of conceptualizing and studying self-control not only as behavioral outcome but as result of a multi-stage motivational process.

### WHAT THE LINK BETWEEN SMOKING AND CANCER? SHIFTING RISK PERCEPTION THROUGH WORD ORDERING

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Daily reasoning is permeated by the search for causes and effects of life events. Tversky and Kahneman (1974) demonstrated that people generally use their knowledge and experience to make both predictive and diagnostic inferences. Predictive reasoning is the process through which people infer the likelihood of effects starting from the cause. By contrast, diagnostic reasoning is the process through which the likelihood of causes is inferred starting from the effect. For example, while reading about tax increases, people are likely to make predictive inferences about the effects on their economic situation; while reading about suicide cases, people usually make diagnostic inferences about possible causes behind such extreme acts. Despite a substantial literature focusing on causal reasoning and a growing literature focusing on the role of language in cognitive processes, the link between word-order and causal reasoning remains largely unexplored. Given that the first element of a sentence is particularly relevant and signals greater agency as well as temporal and causal precedence, we propose a novel approach according to which the order in which Causes and Effects are disposed within sentences affects causal reasoning. We predict that switching the order in which causes and effects appear in health-related domains (Cause-Effect, smoking-cancer vs. Effect-Cause, cancer-smoking), will induce participants to focus either on the cause (smoking in Cause-Effect) or on the effect (cancer in Effect-Cause). The potential relation between word-order and causal reasoning will be tested in three distinct studies. Sentences will be presented with the same structure across all studies and the main independent variable will be the order in which causes and effects are arranged, while keeping the remaining information constant. Interestingly, results show that by inverting the order of causes and effects, people are driven to adopt different causal reasoning in terms of risk and relevance perception of

health-related issues. Cause-Effect ordering (vs. Effect-Cause) increases the risk perception but decreases the perception of personal relevance of health-related statements. Besides providing first evidence for a subtle but consistent role of word order in social cognitive processes, these studies have potential implications for health campaigns.

#### **EVALUATING SELF AND OTHERS FROM AGENT VERSUS RECIPIENT PERSPECTIVE**

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The Agent—Recipient Model (Abele & Wojciszke, 2014) assumes that, when interacting, people adopt either the agent perspective (the viewpoint of a person performing an action) or the recipient perspective (the viewpoint of a person to whom the action is directed and who experiences its outcomes). The model states that the former perspective is linked to the dimension of agency, the latter to the dimension of communion. This talk will present an empirical test of the Agent–Recipient Model in a social perception context. The research tests two hypotheses: (1) self-rated agency is a stronger predictor of self-esteem, and rating of other-agency is a stronger predictor of their global evaluation, when people adopt the agent than recipient perspective; and (2) self-rated communion is a stronger predictor of self-esteem, and rating of other-communion is a stronger predictor of their global evaluation, when people adopt the recipient than agent perspective. We present the results of 10 experiments, summarized by a metaanalysis of all research results. It indicates no support for the Agent—Recipient Model's key hypotheses.

### NOT FAIR BUT ACCEPTABLE... FOR US! GROUP MEMBERSHIP INFLUENCES THE TRADEOFF BETWEEN EQUITY AND UTILITY IN THE ULTIMATUM GAME

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Two Experiments investigated the influence of social categorization on economic decision--making and inequity aversion. Specifically, we employed a modified version of the third party Ultimatum Game comprising three roles: 1 - a Proposer who splits resources between himself and a Receiver; 2 - a Receiver who is the final beneficiary of the offer; 3 - a Responder who make the decision about the offer acceptance or rejection. If the offer is accepted resources are split as proposed and if it is refused participants gain nothing. Since in the latter case utility is no longer maximized a violation of the standard economic theory occurs. In both Experiments participants played the role of responder and were asked to make decisions for themselves or for another person, either an ingroup or an outgroup member. Group membership varied between-participants and was induced according to the minimal group paradigm. The first Experiment (N=96) showed that people are prone to reject unfair offers that are advantageous for the proposer and to accept unfair offers that are advantageous for the receiver. Moreover, the findings revealed that participants were more likely to accept unfair-advantageous offers when the receivers were ingroup rather than outgroup members. The second Experiment (N=61) investigated weather group identification moderated the relationship between social membership, utility and economic decision--making. Moreover, we employed a design where in third party versions the utility of the participant was bounded to the receiver's one. Thus, a rejection would affect both the receiver's utility and the participant's gain. Analyses on the responses to different offers of the Ultimatum Game and on reaction times consistently showed that individuals tend to be less likely to accept an advantageous offer when they play for an outgroup member than when they decide for themselves or for an ingroup member. Moreover, this effects is stronger for those who were highly identified with their group. Taken together, integrating research on economic decision making and work on intergroup bias, these findings show that the membership of the target of the utility can resolve the conflict between inequity aversion and utility maximization.

#### MORALITY BY LIKING: THE ROLE OF ATTITUDE FORMATION ON ATTRIBUTIONS OF MORALITY AND TRUST

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We present first evidence showing that perceived morality of the stranger can be influenced by mere manipulation of attitude formation. In the first study (N = 181) attitude similarity and dissimilarity manipulation was employed. Participants who believed that another unknown person has the socioeconomic views similar than dissimilar to their opinions, liked stranger more and therefore seen him or her as more moral and trustworthy. In the second study (N = 128) we used mimicry paradigm introduced by Kulesza and his colleagues (2015) in which participants interact over a computer setup with a confederate. Depending on the experimental condition, confederate did or did not mimic various displays of participants' emotions. Mimicry was a strong source of confederate liking and liking influenced morality and warmth attributions leaving agency attributions unaffected. In mimicry condition participants also described confederate as more trustworthy than in the control condition. Both studies showed that the influence of attitude formation on morality attributions was mediated by the participant's increased liking for the unknown person. By the time of the conference, two additional studies will be conducted. The first one (N = 120)will test the influence of classical mere exposure effect on morality attributions, where in the second one (N = 90) we will test how liking vs. disliking of confederate will influence participants' judgments about his or her likelihood of behavior in various moral situations.

#### DIFFERENTIATING THE FACIAL EXPRESSION OF SCHADENFREUDE AND JOY

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Most people could not resist a little smile when watching another person slipping on a freshly cleaned wet floor. This pleasant emotion that arises in response to another person's misfortune is called schadenfreude. In three studies it was investigated whether the facial expression of schadenfreude differs from the basic emotion joy. Research has already shown that also more complex social emotions like shame or pride are associated with a specific facial expression, but is there also a specific schadenfreude smile? When asking participants to design a smiley looking like a schadenfroh person, they composed an evil grinning smiley. To directly measure facial reactions of a schadenfroh person four facial muscles were recorded via electromyography. Schadenfreude was induced by videos of the Dutch national soccer team failing in scoring penalty kicks and joy by videos of the German national soccer team scoring penalty kicks. Participants were also videotaped and they judged each stimulus according to valence, arousal, joy and schadenfreude. EMG results revealed the schadenfreude expressions did not differ from joy with regard to involved facial muscles (increase of Musculus zygomaticus major and M. orbicularis oculi activity, decrease of M. corrugator supercilii activity, no activity change of M. frontalis medialis). Results show that schadenfreude is associated with a spontaneous and honest smile, a so-called Duchenne smile and not with an evil grin. Furthermore, smiles were stronger in the schadenfreude condition, but according to participants' self-report they felt more pleasure in the joy condition. In a follow-up study participants had to judge whether the videotaped participants experienced joy or schadenfreude. Results indicated that both emotions can be differentiated. It can be hypothesized that schadenfreude differs from joy in other features such as smile asymmetry or head position, which is investigated in future studies. Facial EMG may serve as a helpful supplement to self-report data to identify a schadenfroh person, especially in situations in which one tries to cover schadenfreude because of social display rules. Present results have important implications for research on the nature of (social) emotions.

### SOCIO-POLITICAL IDEOLOGIES PREDICT (UN)LEARNING EVALUATIVELY CONDITIONED ATTITUDES

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Socio-political ideologies predict prejudice against out-group members. Social Dominance Orientation (SDO) and Right-Wing Authoritarianism (RWA) are risk factors for ethnocentrism, nationalism, and prejudice. However, the role of socio-political ideologies in the acquisition and unlearning of social attitudes has not been studied yet. In order to examine the latter question, we used an evaluative conditioning paradigm simulating a prejudice formation process. 55 participants took part in the experiment. They first completed a Wisconsin Card Sorting Test to measure their cognitive flexibility. Then, two families of "Greebles" (neutral fictive characters) were successively positively and negatively conditioned or vice versa. We measured the net influence of the first (learning) vs. second (unlearning) conditioning in attitudes formation. Participants then answered the RWA and SDO questionnaires. As predicted, high-RWA participants relied more upon the first conditioning as compared to low RWA participants (i.e., they were either more likely to learn or less likely to unlearn). Against all expectations, we observed the reverse effect for high-SDO participants, who were more influenced by the second (i.e., unlearning) conditioning phase. These effects were unrelated to cognitive flexibility. We discuss these results in light of the Dual Process Motivational Model (Duckitt et Sibley, 2010).

### THE THIN LINE BETWEEN SELF AND OTHERS: INTERPERSONAL MULTISENSORY STIMULATION MAY CHANGE SELF-IDENTITY AND SELF-OTHER PERCEPTION

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Experiencing tactile facial stimulation while seeing similar synchronous stimuli on the face of another individual (Interpersonal Multisensory Stimulation, IMS) may blur the distinction between self and others by inducing 'enfacement', i.e. the subjective illusory experience of ownership of the other's face, and a bias in attributing the others' facial features to the self (Sforza, Bufalari et al., 2010). IMS may also change interpersonal perception by increasing closeness, attraction, and perceived similarity and by altering attitudes, such as implicit racial biases, towards the group that specific person belongs to. We explored the possibility that the tendency to include the other into one's own face representation (i.e., enfacement) was dependent upon positive or negative interpersonal attitudes derived either from consolidated socio-cultural stereotypes (i.e., racial stereotypes) or from newly acquired, short-term individual interactions with a specific person. Results show that only positive interpersonal perception and attitudes derived from individual inter-actions influenced the enfacement strength. In fact, the self-attribution bias was stronger when the other was considered highly attractive and provided very positive feedback about the personality traits of the participant. No self-attribution bias was present instead when the other judged negatively the participant. We speculate that the tendency to enface only 'positive' others might occur to strengthen the set of perceptual or cognitive processes that maintain and protect positive self-views (i.e. 'self-serving biases'), and ultimately has the potential to strengthen the positive view of the self. Interestingly, in fact, in another study we show that inducing enfacement may powerfully induce plastic changes into self-related neural processing making it similar to the other person. Indeed, enfacement modulates a long-latency Visual Evoked Potential (at about 300-700 ms after the presentation of the face stimuli; LLP), which is considered a reliable electrophysiological marker of self-identification process. While in the control condition the LPP amplitude differentiates between the Self and the Other face, this difference is cancelled out after experiencing enfacement with the other person. Thus, the enfacement illusion described in our studies may be fundamentally important not only because it may change interpersonal perception, but also because it suggests that conceptual and bodily features of others' identity can be included -and induce analogous changes- in the notion of the self.

### THE LIMITS OF CONTROL: DIFFERENT UNCONTROLLABILITY EXPERIENCES MODULATE EFFICIENCY OF ATTENTIONAL CONTROL AND FLEXIBILITY OF SOCIAL CATEGORIZATION

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Lack of personal control can shape the efficiency and flexibility of social cognitive processes. Previous research showed that stable and prolonged experiences of uncontrollability can impede higher cognitive functions involved in the integration of information in to meaningful mental models. In this set of studies we investigated, how different types of uncontrollability experiences (stable lack of control vs. dynamic restoration of control and stable control) modulate the efficiency of cognitive control mechanisms embedded in social contexts. More specifically, we examined the impact of various control deprivation experiences on the efficiency of attentional control and the flexibility of social categorization. We manipulated the experience of personal control by changing the proportion and sequential order of solvable and unsolvable tasks, this way obtaining high, low uncontrollability and control restoration conditions. Additionally we applied procedures that involved feedback (contingent vs. non-contingent; so called Behavioral Helplessness Training) or no feedback (so called Informational Helplessness Training) related to the participant's performance. In order to evaluate efficiency of executive attention we used the Attentional Network Test. The results of the first two studies revealed less efficient functioning of executive attention in participants from the control deprivation condition vs. control restoration and controllable conditions. In another set of two studies, we measured cognitive flexibility after control deprivation. In the first study we used the Social Category Switching Task as a measure of social categorization flexibility, in which participants were asked to categorize faces based on their gender or age. When control was deprived participants showed higher switching costs between different social categories than in conditions of control restoration and controllability. In the next study we used a different, more complex switching task procedure that entailed, apart from the gender categorization, also stereotype congruent or incongruent social roles. We replicated the previous findings showing the highest switching costs in high uncontrollability condition and a boost of performance in the control restoration condition. Additionally, we discovered a mediating role of low intensity positive affect as a mechanism driving the cognitive flexibility in the control restoration group. We discuss the impact of different uncontrollability experiences on mechanisms of attentional control and cognitive flexibility in socially relevant contexts. Additionally, we highlight the importance of taking a dynamic perspective in studying control loss and restoration for social information processing in future research.

#### TALENT BLINDNESS: AN ATTITUDE ACCESSIBILITY ACCOUNT TO WOMEN'S LACK OF PROFESSIONAL SUCCESS

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Women are underrepresented in high-level career positions. Stereotypes are a prominent explanation for this effect: A plethora of research showed that when participants are instructed to judge men and women, they judge men to be higher on so-called agentic traits (e.g., assertiveness), while women are rated higher on so-called communal traits (e.g., kindness). Thus, stereotypes lead to less favorable evaluations of women in situations that explicitly request judgments of their assertiveness. In three experiments we show, firstly, that in addition to this perceived low assertiveness women's traits are processed less when no explicit judgment goal is given. Secondly, this reduced processing emerges from lower attitude accessibility and thirdly, this leads to lower hiring intentions of women in addition to stereotype-based lower hiring intentions. Experiment 1 uses an attribute conditioning paradigm to study uninstructed perceptions of men and women. Participants observe pairings of unconditioned stimuli (US; i.e., faces) with clear attributes (e.g., a highly assertive face vs. a highly submissive face) and neutral stimuli (CS). After the pairings, CS ratings typically change in the direction of the salient US attribute. Experiment 1 shows that

woman's attributes depicted by facial information about assertiveness, likeability and attractiveness produced weaker conditioning effects than men's attributes. Experiment 2 shows that participants are faster to categorize men relative to woman on assertiveness and likability. The experiment suggests that woman's traits are less accessible, which resulted in the smaller conditioning effect in Experiment 1. While the existing literature shows that women appear unassertive when participants are instructed to judge assertiveness, our findings show that in the absence of a clear evaluative goal woman appear neither assertive nor unassertive but activate attributes less strongly. Experiment 3 studies the influence of the weaker attitude accessibility on hiring processes. In addition to lower expected female assertiveness we assume that woman's attributes are processed less when no judgment goal is given, which is typical for hiring processes without regular application process. To test this we asked participants to report hiring intentions for men and women based on their memory of the target persons. In line with the predictions, we found that men are preferred to women even more if participants have to remember women's attributes relative to judgments where attributes are present. Our findings allow new insights into the cognitive architecture and processes of discrimination.

#### **NEED FOR MEANING FROM INDIVIDUAL DIFFERENCES PERSPECTIVE**

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According to the Meaning Maintance Model, people have a general need for meaning (e.g. Heine, Proulx, & Vohs, 2006). Need for meaning is defined as the desire to find relationships between objects, situations that one encounters and is triggered when one finds themselves in a discrepant or new situation. We develop a measure of this construct to facilitate testing this prior theorizing. We distinguished three aspects of the need for meaning: emotional, behavioral and cognitive. Emotional aspect concerns negative emotions that are related to meaningless situations and situations when one searches for meaning but the search is burdensome. It is also assumed that making meaning is related to wakening positive emotions. The cognitive refers to searching for meaning in new or discrepant situations. Behavioral aspect relate to tendencies to stay in situations that are meaningful and avoid meaningless situations. In order to provide a tool that can be employed to test prior theorizing on people's the need for meaning, we developed a measure of interpersonal differences. First, we proposed 30 items that described the need for meaning and had them evaluated by competent judges. In Study 1 (N=163) we showed that the construct has a one main component. In Study 2 Polish and English versions of the scale were completed by bilinguals (N = 36) and the results showed that these translations were highly correlated, providing initial evidence of cultural equivalence. In Study 3 (N = 327) we confirmed amongst Polish and UK participants the equivalence in unidimensional structure through Confirmatory Factor Analysis. British (N=147) and Polish (N=113) results indicated consistently that need for meaning yields mild to weak positively correlations with need for closure, need for cognition, preference for consistency, and meaning in life presence. Study 6 (N = 256) indicated that need for meaning has weak positive correlation with internal locus of control, extroversion, conscientiousness, openness and self-esteem. We found negative correlation with neuroticism and no correlation with agreeableness and need to belong. Together, our research programme establishes construct and discriminatory validity as well as reliability of the need for meaning scale.

### THE ROLE OF THE GROUP MEMBERSHIP ON SOCIAL ATTENTION DRIVEN BY ACTION OBSERVATION Capellini, R. & Sacchi, S.

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Social attention is the ability to orient attentional resources in response to spatial cues provided by other individuals. Previous research focused on the role of spatial cues as eye gaze, head di-

rection and body orientation. In three experiments we analyzed whether and how social attention driven by the observation of other's movement toward an object is modulated by social variables (i.e., membership). To address this issue, we devised an action observation paradigm, an adapted version of the Posner cueing task (1980). Participants were presented with movie-clips depicting an actor's arm movement toward one of two objects located respectively on the left and on the right. At the end, a square appeared in a congruent or incongruent position to the direction of the movement. Participants were asked to categorize the color of the square and reaction times were recorded. In Study 1 (N=63) we manipulated the actors' membership by presenting Italian and Arabian actors. The experimental design consisted of a 2 (membership: ingroup vs. outgroup) X2 (position: congruent vs. incongruent) design. In Study 2 (N=78) the social valence of the objects has been manipulated; the experimental design consisted of a 2 (membership: ingroup vs. outgroup) X2 (position: congruent vs. incongruent) X2 (valence: neutral vs. threatening) design. In Study 3 (N=42) we introduced a control group, by showing a Japanese actor. The experimental design were a 3 (membership: ingroup, Arabian outgroup, Japanese outgroup) X2 (position: congruent vs. incongruent) X2 (valence: neutral vs. threatening) design. Moreover, we measured the identification with the national group and the explicit and implicit prejudice (IAT). Results showed a robust effect of human action on individual's attention: hence, responses to stimuli in congruent position with the actor's action were faster than responses to incongruent stimuli. Furthermore and in line with the hypotheses, social variables were likely to modulate this mechanism. In particular, reactions times were faster when observing an outgroup member. Moreover, we found an interaction between the membership and the valence of the objects in the context; only when the Arabian actor moved his arms toward threatening objects (i.e. weapons), responses were faster. This pattern could be interpreted in line with stereotypes regarding Arabians who are depicted as threatening and potentially dangerous. This work extends previous research on social attention by investigating the role of arm movements as relevant social cueing. Moreover the set of studies analyses the effect of social variables (such as membership and stereotyping) on attention orienting.

#### LET THE MUSCLE SHOW YOU THE WAY: ATTENTION TO FACIAL MUSCLE IMPROVES EMOTION RECOGNITION

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In the study of the recognition of emotional facial expressions one controversial issue is the role of attention paid to the part of the face most involved in expressing a specific emotion. Although it is well known that we look at different parts of the face to recognize facial expressions, depending on the emotion being expressed, it is yet to be found if the recognition processes actually depend on a proper attentional allocation and, if so, to what facial features attention should be allocated to. In two studies it is explored how attention allocation relates to emotion recognition processes. Attention to certain facial features was directly manipulated and the impact on emotion recognition measured. In the first study, we tested if the emotion recognition process benefits from explicitly directing the attentional focus to the most activated facial muscles in each emotion. Photos of emotional facial expressions (happiness, fear and disgust) were presented for 1 second, each of them containing, or not, a cotton bud pointing to the principal muscle related to the emotion being expressed (Zygomatic, Corrugator and Levator, respectively). It was found that the attentional manipulation benefited the recognition accuracy of facial expressions that were difficult to recognize a priori, especially those of disgust. In the second study, we used a black cross that would prime the facial region of interest, being presented before the photo (for 200ms) as well as during the photo presentation. Apart from the congruent condition where attention was always directed to muscle most involved in that emotion (as in study 1), an incongruent condition was added to tested if focusing the attention on a facial muscle incongruent with the expression (e.g. attention allocated to the Corrugator muscle in an happy facial expression) would impair the recognition of the emotion. Additionally, in two other conditions attention was diverted from facial muscles involved in emotion expression, either towards the outside

(peripheral condition) or towards the central part of the face (central condition). Both emotion recognition accuracy and eye-movements were used as dependent measures. These studies are the first, to our knowledge, to experimentally manipulate attention allocation towards specific facial regions, in a non-clinical population, and together allow us to explore the casual role of attentional mechanisms in the emotion recognition processes.

#### THE PERCEPTION OF COOPERATIVENESS WITHOUT ANY VISUAL OR AUDITORY COMMUNICATION Chang, D.S., Burger, F., Bülthoff, H.H., & de la Rosa, S.

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Perceiving social information such as the cooperativeness of another person is an important part of human interaction. But can people perceive the cooperativeness of others even without any visual or auditory information? In a novel experimental setup, we connected two people with a rope and made them accomplish a point-collecting task together while they could not see or hear each other. We observed a consistently emerging turn-taking behaviour in the interactions and installed a confederate in a subsequent experiment who either minimized or maximized this behaviour. Participants experienced this only through the haptic force-feedback of the rope and made evaluations about the confederate after each interaction. We found that perception of cooperativeness was significantly affected only by the manipulation of this turn-taking behaviour. Gender- and size-related judgments also significantly differed. Our results suggest that people can perceive social information such as the cooperativeness of other people even in situations where possibilities for communication are minimal.

#### HOW DOES NOT RESPONDING TO APPETITIVE STIMULI CAUSE DEVALUATION: AN INHIBITION **ACCOUNT**

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Our evaluation of everyday objects is an important determinant of behaviors, and overvaluation of certain appetitive stimuli, such as palatable food, can lead to problematic behaviors. Previous research has shown that not responding to appetitive food stimuli leads to decreased evaluations and facilitates weight loss, but the underlying mechanism is not entirely clear. To gain more insight, we employed a go/no-go task in which pictures of palatable food were consistently associated with cues to respond (go stimuli), or with cues to not respond (no-go stimuli). In three experiments, we varied the percentage of no-go stimuli (25%NoGo in Experiment 1, 75%NoGo in Experiment 2) or instructed participants to passively observe the task without responding (25%NoGo in Experiment 3). Palatable foods were rated both before and after the training. Awareness of the associations between food pictures and action was also examined. In all three experiments, participants showed high contingency awareness; however only in Experiment 1 (25% NoGo) was the devaluation effect observed. That is, evaluations of no-go stimuli decreased more in comparison to both go stimuli and stimuli that were not used in the training (untrained stimuli). To further investigate the role of contingency awareness, we used item-based analysis in which the action associated with an item (Go vs. NoGo) and participants' awareness of the association (Correct vs. Reversed) was used to predict the change in evaluations. This analysis revealed a weaker devaluation effect for the items that participants had reversed contingency awareness in Experiment 1, whereas in Experiments 2 and 3 no-go stimuli were rated as more positive in comparison to go stimuli when participants showed reversed contingency awareness – an effect opposite to the devaluation effect. These results suggest that although participants seemed to acquire explicit knowledge of the contingencies and this knowledge could influence the reported liking of palatable foods, this knowledge alone cannot fully explain the observed effects. The devaluation effect is therefore not totally caused by the knowledge of the contingencies, but is cau-

sed by inhibiting potent go responses tendencies in a context of frequent responding (25% NoGo in Experiment 1). Furthermore, by adopting two baselines (i.e., both go and untrained items), our results ruled out some alternative explanations and served as a stronger demonstration of this devaluation effect. These experiments provide new theoretical insight into the relation between not responding and evaluation, and can be applied to design behavioral interventions to change behavior toward appetitive stimuli.

#### **BEYOND DUAL PROCESSES: RECONCEPTUALIZING MORAL DILEMMA JUDGMENTS** Conway, P.

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Greene and colleagues' (2001) landmark Science paper proposed a dual-process model of moral judgments, but recently a series of challenges have prompted widespread rethinking of this model. This presentation will consider evidence for many other processes contributing to moral dilemma judgments, including Kantian reasoning, heuristics, antisociality, different affective reactions, self-presentation, and action tendencies, before offering a reconceptualization of moral dilemma judgments. In a nutshell, the dual process model suggests that when people face a moral dilemma where causing harm maximizes outcomes, such as killing a person to stop five more from dying, their decision results from the combination of two psychological processes: affective reactions to harm motivate the decision to reject causing harm to the one person (although five people will perish), whereas cognitive evaluations of outcomes motivate the decision to accept causing harm to one person so that the five may live. A great deal of evidence supports the dual process model; nonetheless, the model has been subjected to a series of recent challenges, revisions, and reimagining. How can a model be both supported and criticized at the same time? This talk will consider the evidence for some of the many recent challenges to the dual process model, and evidence regarding them. For example, Kahane (2015) has argued that utilitarian judgments actually reflect antisocial personality traits. Research from my own lab confirms Kahane's findings (2015), and yet also suggests that genuine concern for overall wellbeing plays a separate causal role in judgments. Koerner & Volk (2014) argued that Kantian reasoning can motivate harm rejection judgments, as Kant himself argued. We replicated this finding. Lucas & Livingstone (2014) found evidence that social context affects judgments — we followed up by demonstrating that people strategically alter dilemma judgments for self-presentational reasons (Rom, Weiss, & Conway, 2016). Miller et al., (2014) distinguished between two separate sources of affective reactions to harm, and we not only replicated this finding but clarified how each contributes to processing "under the hood" of judgments. Finally, Gawronski et al., (2015) highlight the role of generalized action vs. inaction tendencies in moral judgement. In general my results support the dual process model, but also suggest several other processes that causally contribute to dilemma judgments. These findings resolve theoretical confusion regarding the nature of the social cognitive processes contributing to moral judgments and move the field forward into a new conceptual era.

#### EVIDENCE FOR IMPLICIT LEARNING OR IMPLICIT MEMORY IN EVALUATIVE CONDITIONING **EFFECTS?**

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Evidence for implicit learning or implicit memory in evaluative conditioning? Corneille, O., Halbeisen, G., Mierop, A. & Hütter, M. Dual-attitudes models posit that attitudes may be acquired automatically through evaluative conditioning (EC), and more specifically without participants' awareness of the contingencies between conditioned and affective stimuli. The best current evidence supporting this claim relies on the use of a process dissociation procedure (PDP), which revealed the contribution of an implicit parameter (A) to EC effects. Because PDP ultimately examines memory effects, both retrieval and encoding effects may have contributed to the observed A findings. In one experimental study, we examined whether lowering participants' memory confidence threshold at retrieval would impact on the A contribution to EC. Results suggest that it does, thereby revealing the role of retrieval processes on A variation. The question then arises whether the PDP procedure informs us on the role of implicit learning in valence acquisition through EC versus the role of implicit memory in attitudes acquired via EC. These findings, along with data collected in a second, ongoing study, will be discussed in light of experimental studies that directly manipulated awareness at encoding and systematically failed to observe unaware EC when explicit encoding was prevented.

#### **VOLUME ESTIMATION AS SIMULATED JUDGMENT**

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In evaluating the value of a cup of coffee, the usefulness of a storage container, or whether the hole one is digging is "big enough," people must assess a receptacle's size. Although previous research has identified object features and psychological states that distort volume estimation, such work has yet to offer a psychological account of how such judgments are made. We present a novel simulated judgment account of volume estimation—positing that people estimate the size of a receptacle by simulating filling it up. Previous research has demonstrated the key role that mental simulation plays not merely in considering the future or counterfactual possibilities, but also in making psychophysical and perceptual judgments. For example, people estimate the slope of a hill by simulating how difficult it would be to climb it. But such simulations can be led astray: For example, those wearing a heavy backpack simulate any climb as more arduous, leading them to see slopes as steeper. Instead of considering how features of a judge distort simulations and thus subsequent judgment, we open a qualitatively new research front by considering how incidental properties of judgment targets can also distort simulated judgments. We begin by noting a basic property of how people fill a container. Pouring happens with the flow of gravity (from top to bottom) into an up-right cup. From this simple premise, we identify two features that may distort volume estimation if truly made through simulation. First, we hypothesize an orientation effect: A container will seem larger when right-side-up than up-side-down. We find this is because it is easier to imagine filling up a right-side-up than an up-side-down cup. This simulation ease explained the greater perception of volume. By analogy, if it is hard to imagine fitting one's furniture in a room, that room will seem smaller. Second, we posit a cavern effect. We reason that because one fills a container by pouring through its aperture in order to reach (and gradually fill from) its base, that a low top-to-base ratio will create a sense that a container is large and cavernous. That is, the stark contrast between that narrow top through which liquid enters and the relatively wide base toward which it descends will offer the subjective sense of filling a vast space. Four studies provide support for these two effects, demonstrate the key role of simulation in such judgments, and address a variety of alternative explanations.

### A BAD DEED SAYS MORE ABOUT YOU IF YOU'RE POWERLESS: HOW POWER AFFECTS TRAIT INFERENCES

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In the present paper we explore the link between power holding and person perception. Specifically, we wanted to know how the power hold by a certain person affects the way we infer traits from their behaviors. Across two studies we provided evidence that, when faced with behavioral descriptions about others, people infer more negative traits about powerless actors than they do

about powerful actors. Moreover, the inference of positive traits is similar for the powerful and powerless actors. In a second study we added a control condition for power. Results suggest that the negativity bias found is due to inferring more negative traits about the powerless and not to inferring less negative traits for the powerful, since the powerful did not differ from the control. Theoretical explanations for the found patterns are discussed.

### POWERLESS AND APPROACH MOTIVATED: POSITIVE EVALUATIVE FEEDBACK REVERSES THE EFFECTS OF REDUCED POWER ON AVOIDANCE MOTIVATION

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From the theory of approach and inhibition, there are two typical motivational system which are associated with individuals' response to the environment, the behavioral approach system (BAS) and the behavioral inhibition system (BIS). A broad array of research has shown that elevated power activates the BAS, power-holders experience more positive emotion, are more sensitive to rewards, and act more approach-related behavior, whereas reduced power leads BIS, eliciting negative affect, sensitivity to potential threat, and avoidant behavior (Keltner et al., 2003). Although the proposition that reduced power is linked to inhibition is considered universal, previous research suggests powerless individuals can display approach-related tendencies under certain circumstances. The current three studies directly examine how positive or negative evaluative feedback of performance affects approach-inhibition motivation in the powerless. In study 1, we sought to first establish work performance modulate low-power individuals' avoidance orientations in actual organizational context. 428 employees completed a survey including measurements of self-perceived work performance, perception of supervisor's power and avoidance tendency towards supervisor. Results demonstrated employees who believed themselves did well (vs. poor) in work displayed approach tendencies -- they felt free to work together with powerful managers. In study 2, we used eye-tracking methods to explore the causal relationship between feedback of performance and approach-inhibition tendency. 64 participants firstly completed a visual reasoning task, then were randomly given by a positive or negative feedback about their task performance. Subsequently, they watched videos of either a relative high or low leader of coming tasks. Results indicated individuals who obtained a positive (vs. negative) feedback about their previous performance looked more into a leader's eyes when the leader possessed high (vs. low) power. In study 3, we conducted a lab experiment to examine the avoidance tendency towards a specific power holder, and a general state of inhibition. 124 participants were assigned into four conditions of a 2 (task performance: good or poor) x 2 (leader's power: high or low) between-participants design. We found individuals who achieved a good (vs. poor) performance sought to be physically close to a powerful target person, as well as displayed a state of approach-related tendency which was shown on a line bisection task. Across these three studies, we demonstrate that the tight linkage between powerlessness and inhibition becomes loose when the powerless feel successful about their performance.

#### BRIEF MINDFULNESS EXERCISE REDUCES AGE BIAS IN A RECRUITMENT AND SELECTION TASK

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'Age' is a primary social category: we recognise it automatically in others (Brewer & Lui, 1989), which facilitates social interactions, but also leave people vulnerable to ageism (Marques, 2009; Hagestad & Uhlenberg, 2005). Ageism exists in organizational decisions such as recruitment and selection (R&S), favouring younger over older workers (European Foundation for the Improvement of Living and Working, 2006; Krings, Sczesny, & Kluge, 2010; Vicente, 2011). This could be because these processes rely on people's perception of reality, which is "severely edited and often distorted through the routinized, habitual, and unexamined activity of our thoughts and emotions"

(Kabat-Zinn, J. (2003). To counter this, some researchers (Arch & Craske, 2006; Chen, Pethtel, & Ma, 2010; Kiken & Shook, 2011) have used mindfulness to reduce negative bias. Mindfulness is "a receptive attention to and awareness of present events and experience" (Brown & Ryan, 2003). Following previous research (Krings, Sczesny, & Kluge, 2010; Vicente, 2011; Arch & Craske, 2006; Chen, Pethtel, & Ma, 2010; Kiken & Shook, 2011), our study tests the impact of a brief mindfulness exercise in a R&S task, with a 2 (processing information condition: mindfulness vs control) x 2 (age as cue condition: CV with age vs CV with no age) between-subjects design. Participants (N=80, M<sub>age</sub>=32 years old) were randomly assigned to each condition: 50% did a mindfulness exercise first, while the other 50% immediately began with the selection task, having to choose between candidates for a job interview. Participants answered questions on stereotypical content about older and younger employees, completed the Mindfulness Attention Awareness Scale (state and trait versions) rated compliance items and provided some demographical information. We expect that (H1a) in control condition, participants will choose the older candidate (who is the 'best' candidate) when age is not presented and (H1b) the younger one when age is presented. In a mindful state, participants will choose the older candidate, either if age is presented in the CV or not (H2). To explore these hypotheses a two-way ANOVA was conducted. The results revealed a significant interaction (F (1, 79) = 15.00, p< .001, partial  $^2$ =.17): in a mindful state participants were more likely to choose the older candidate when age was present (M=0.85, SD=0.10) than when not present (M=0.55, SD=0.10) (â%¥.50 score being equivalent to selecting the older candidate). In the control condition, participants were more likely to choose the older candidate when age was not present (M=0.90, SD=0.10), but not when age was present (M=0.45, SD=0.10). As expected, age seems to be an important cue when selecting candidates and, in line with previous studies (Arch & Craske, 2006; Chen, Pethtel, & Ma, 2010; Kiken & Shook, 2011), mindfulness counteracted automatic age-bias, since in the mindful condition participants showed preference for the 'best' candidate, despite the cue 'age'. However, more research is needed to clear how ageist biases can be reduced in work contexts by mindfulness.

### THAT'S NOT WHAT I EXPECTED – DEVIANT BEHAVIOR AND HOW IT MOTIVATES EXCLUSION AND LEAVING

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Group norms guide group members' behavior and how they expect others to behave. Deviations from these expectations have been found to motivate two types of responses: problem-oriented (i.e., exclusion and communication towards the deviant group member) and self-oriented (i.e., leaving the group) reactions. Which processes make problem-oriented or self-oriented reactions more likely? We assume that when behavior is appraised as norm-deviant, it evokes identity subversion (i.e., the perception that the group's essence is at stake) which in turn is assumed to motivate problem-oriented reactions. When group members (a) have the impression that the group' identity has changed, which invalidates their representation of the group's identity, or (b) currently experience low control, they are assumed to resort to self-oriented reactions (i.e., leaving the group). Three experiments (total N=761) supported these assumptions with different methodological approaches (scenarios, guided recall concerning past group membership, and ad hoc groups). Norm deviation positively predicted problem-oriented reactions (i.e., communication and exclusion) in all three studies. Perceived identity subversion mediated this relation in all studies, except in the guided recall study. This pattern suggests that problem-oriented reactions are readily shown in response to norm deviant behavior which has the potential to question key characteristics of a group (i.e., its identity). Deviations were also positively correlated with self-oriented reactions (i.e., leaving the group), but only under specific circumstances. When norm deviation led to a decline in identification with the group or the deviant behavior had been accepted by other group members, leaving intentions became stronger. Both results suggest that changes in an individual's representation of the group – being it due to a change (a) in the individual's link to the group or (b) in the group norm – are positively associated with self-oriented reactions. In addition, low perceived control resulting from other's acceptance of the norm deviance promoted leaving decisions. Taken together, our results suggest that a step-wise appraisal process determines reactions to norm deviant behavior in groups. Thereby, the current work broadens our understanding of social cognitive processes underlying intra-group dynamics. We will discuss our findings in relation to previous work on deviant behavior in groups, particularly in relation to work on appraisal theories of emotions, the black sheep effect, and the social identity approach.

#### REDUCING THE STROOP EFFECT: THE POWER OF IMPLEMENTATION INTENTIONS

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In the Stroop task (Stroop, 1935), participants are required to name the ink color of a color word while ignoring its meaning. The typical finding is that participants fail to fully ignore the word meaning resulting in faster reaction times and less errors in congruent trials (e.g., GREEN printed in green) than in incongruent trials (e.g., GREEN printed in blue). Several studies have demonstrated this effect's robustness leading to the assumption of an automatic Stroop effect that cannot be influenced intentionally (e.g., MacLeod, 1991). Recently, however, Goldfarb, Aisenberg, and Henik (2011) showed that a social priming manipulation (here, taking the perspective of a dyslectic person) effectively reduced Stroop effects. Goldfarb et al. (2011) assumed that, if not intentionally, the Stroop effect can be reduced by competing automatic processes. Based on this work, we conducted a series of experiments. Specifically, we tested whether implementation intentions (i.e., if-then rules linking a goal-relevant behavior to a specific situation) as a means to intentionally form (quasi-) automatic processes (Gollwitzer, 1993) are effective in reducing the Stroop effect. In Experiment 1 (N = 120), we implemented a classical Stroop task, while Experiments 2 (N = 120) 120) and 3 (N = 80) used a semantic Stroop task presenting word stimuli strongly associated with colors (e.g., SKY). In all experiments, Stroop tasks comprised so-called critical trials and non-critical trials, respectively. Implementation intentions targeted critical trials only (e.g., words printed in green; the assignment of color to critical trials was counterbalanced across participants) to test for the specificity of possible effects. Specifically, implementation intentions in Experiments 1 and 2 aimed at reducing response interference (e.g., "IF I see a word printed in green, THEN I will quickly press the green-button"), while implementation intentions of Experiment 3 aimed at reducing semantic interference ("IF I see a word printed in green, THEN I will immediately identify the color green"). In the classical Stroop task of Experiment 1, the Stroop effect was reduced in critical trials only. A control group in which participants' attention was directed to certain colors did not show a difference between critical and non-critical trials, indicating that implementation-intention effects were not simply the result of attentional effects. For the semantic Stroop task, Stroop effects were only reduced in Exp. 3 (not in Exp. 2), when implementation intentions aimed at reducing semantic interference. However, effects were not specific to critical trials, but generalized to non-critical trials.

### **DO MENTALLY ILL PEOPLE HAVE TO BE DEHUMANIZED?** Drogosz, M.

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In the first study Fifty hospitalized schizophrenic patients and fifty healthy people (N=100) fulfilled a set of questionnaires concerning perception of their own group and the other group. The results show that the schizophrenic patients have not only significantly lower self-esteem, but also perceive their own group as less warm and less competent. Moreover, they ascribe to themselves less positive and more negative aspects of human nature and generally lower level of human uniqueness. The results suggest that both from point of view of the stereotype content model (e.g. Fiske et al., 2002) and the two-dimensional model of dehumanization (Haslam, 2006) schizophrenic patients perceive themselves as less human than other people. In the second study a half of participants (N=80), healthy university students, were asked to watch the short interview

with a highly competent mentally ill person (Nobel Prize winner John Nash). All participants fulfilled a set of questionnaires concerning perception of mentally ill people. Participants who had seen the interview perceived mentally ill peaople not only as more competent and agentic but also more warm, communal and having more typically human traits.

#### DO STIGMATIZED GROUPS DISPLAY IMPLICIT OUTGROUP FAVORITISM? A META-ANALYSIS

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Do members of stigmatized groups unknowingly or implicitly prefer dominant outgroups over their ingroup? Social Identity Theory (SIT) and System Justification Theory (SJT) provide partly diverging views regarding this issue. According to SIT, members of negatively stigmatized groups are expected to use social creativity strategies in order to achieve ingroup favoritism. SIT does not consider whether or not this assumption can be applied to implicit evaluations as well. SJT challenges this view by hypothesizing that members of stigmatized groups internalize societal stereotypes, leading them to implicitly devalue their ingroup and/or to exhibit implicit outgroup favoritism. SJT thus predicts a dissociation of (positive) explicit and (negative) implicit attitudes in stigmatized groups. The evidence regarding this issue is, however, highly inconsistent: Some studies yield results in line with SJT; others document null effects or even contrary effects. We present a meta-analysis that integrates findings from more than 100 independent studies, resulting in a final sample of over 10,000 participants from different minority groups. A random-effects model was used to examine the validity of SIT and SJT. Results indicate that, overall, members of stigmatized groups do not display implicit ingroup favoritism or outgroup favoritism. Additional moderation analyses of micro-level variables and contextual-level variables will be discussed. The results of this meta-analysis will provide a better understanding of implicit ingroup evaluation processes in stigmatized group members and help evaluate the generalizability of the available theories.

#### VOICE-BASED STEREOTYPING: ANTECEDENTS AND CONSEQUENCES OF AUDITORY "GAYDAR"

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The existence of "gaydar" is still under debate. Recent research suggests that "gaydar" is more a myth than an actual ability to accurately detect sexual orientation: Categorization of sexual orientation seems to be driven by shared stereotypical beliefs about how a person looks or talks. This research takes in account voice as a cue of sexual orientation and examines the role of stereotypes in both categorization of and inferences about the speakers. In Study 1, we investigated whether stereotypes plays a role in perceived sexual orientation based on voice. We tested whether "talking like a gay" increases the perception of male speakers' gayness. Straight participants (N = 101) listened to the voice of 18 male speakers (9 self-identified as gay and 9 self-identified as straight). Speakers pronounced the same neutral sentences in 3 different ways: spontaneously, trying to sound gay or trying to sound straight. Listeners rated speakers' sexual orientation on a scale from 1 (exclusively heterosexual) to 6 (exclusively homosexual). Overall self-identified gay speakers were perceived as less heterosexual than straight speakers. Interestingly, regardless of actual sexual orientation, speakers who molded their voice in order to sound gay were more likely to be perceived as gay by listeners. Thus, sounding in a way that matches listeners' expectations/ stereotypes increased the likelihood to be perceived as gay. These results suggest that both gay and heterosexual speakers are able to modify their voice intentionally so as to appear gay. Subsequent studies tested stereotyping as a consequence of vocal cues. In Study 2, participants (N = 55) listened to 2 gay-sounding and 2 straight-sounding male speakers and rated their physical strength, appearance attention, sensitivity, promiscuous proclivity and likelihood of being parents.

Thus, ratings related to gay stereotypes. We found that listeners imagined the gay-(vs. straight) sounding speakers to be less muscular, more sensitive, more attentive to their appearance, and less likely to have children. No difference emerged on promiscuous proclivity. Study 3 involved a similar design where attribution of gender typical/atypical characteristics was measured. Participants (N = 81) attributed more feminine and less masculine personality traits, sports and interests to the gay- than to the straight-sounding male speakers. Overall, these findings indicate that listeners take the speakers' voice into account when making inferences that are based on gay stereotypes and gender a-typicality. Stereotyping related to vocal cues will be discussed in relation to the literature on "gaydar" and prejudice toward gay men.

#### METACOGNITIVE MYOPIA AND THE OVER-UTILIZATION OF MISLEADING ADVICE

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In a social world, when a division of labor results in knowledge distributed across several individual minds, the ability to profit from others' advice is a key adaptive function of social rationality. However, the available empirical evidence suggests two major reasons why the potential advantage of advice taking as a means of improving judgments and decisions is often not exploited: egocentrism (i.e., lower weight given to others' than to one's own opinion) and the illusion of validity (i.e., low weight given to independent sources that may appear less consistent than redundant sources). While both of these hindrances reflect the underweighting of others' advice, the present research is concerned with a more radical source of error or inaccuracy, namely, the inability to ignore or discard invalid advice due to metacognitive myopia. Metacognitive myopia constitutes a major impediment of rationality: Judgments and decisions are often remarkably sensitive to even complex samples of stimulus information, but judges are uncritical and naïve regarding the validity of the given sample. As a consequence of this basic deficit in metacognitive monitoring and control functions, people continue to give substantial weight to invalid advice that a critically minded, emancipated advice taker ought to discard. We asked participants to estimate health-related risks framed as conditional probabilities (e.g., of contracting HIV given drug abuse). Instructions emphasized that in modern societies people have to rely on expert advice but that mature and responsible citizens must critically assess the validity of advice. Accordingly, in different experimental conditions, they read brief descriptions of studies from which experts estimated health risks based on either valid or invalid samples (e.g., studies that either conserved or grossly over-represented the HIV baserate). Expert advice strongly influenced the participants' final risk estimates, regardless of the validity of the experts' advice. Sensitizing judges to the discrepancy between valid and invalid advice in a within-subjects design did not ameliorate the bias, and even judges who did not believe in the validity of an expert's advice continued to be influenced. When participants were explicitly debriefed regarding the invalidity of an expert's study, a perseverance effect was obtained such that invalid experts influenced final estimates to a similar degree as valid expert, even though an extra study showed that the debriefing was convincing and well understood. The final discussion addresses theoretical and practical implications and possible remedies and debiasing techniques to deal with these deficits in critical assessment.

### THREAT TOWARDS A SUPERORDINATE INCLUSIVE CATEGORY REDUCES RACIAL CATEGORIZATION IN THE "WHO SAID WHAT"-PARADIGM

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Evidence suggests that race categorization can be attenuated by establishing cross-cutting categories, as well as introducing situational factors that selectively make offered categories salient. These cross-cutting categories represent a vertical shift in categorization, while dissolving racial categorization by recategorizing ethnic groups into a superordinate inclusive category would

constitute a horizontal shift. We aimed to demonstrate the latter mechanism using the example of categorization of black and white Americans. A frequent rhetoric to gather support of larger entities is the reference to a common enemy. In the present research we sought to test whether such a unifying effect of external threat exists even for such strong schisms as the one between Black and White Americans and also at the very basic level of automatic categorization. We measured racial categorization by means of the "Who said what"-Paradigm (Taylor & Fiske, 1978, analysis according to Klauer & Wegener, 1998). Accessibility of the inclusive category was manipulated within the discussion phase of the task. In Study 1, participants saw Blacks and Whites, represented by names rated typical of the respective group, discuss Islamist Threat to the US (experimental condition) or race relations (control condition). While categorization by ethnicity occurred for black speakers in the control condition, it receded in the inclusive threat condition. In Study 2, names were replaced by black and white faces, and speakers in the control condition engaged in small talk. Categorization could be reduced substantially for both ethnic groups in the inclusive threat condition relative to the control condition.

#### TALKING BEHIND ONE'S BACK: IDIOMATIC EXPRESSION WITH PSYCHOLOGICAL BACKGROUND?

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People generally have control over what is visible to them. Therefore, objects and sound sources outside the scope of one's vision are often perceived as threatening. There is evidence suggesting an important role played by emotion in auditory perception — namely, sources located behind listeners are more arousing than those placed in front of them. Besides location, the message content also influences emotional reactions to sounds. In four experiments, we explored whether the spatial experience of auditory message voiced behind a listener triggers the detection of danger, due not only to the location of the speaker, but also to the perceived content of what was being said. In Experiment 1, blindfolded Polish participants rated the valence of sentences spoken in a foreign language (Chinese), either in front of them or behind them. As predicted, the sentences spoken behind them were judged as more negative than those spoken in front. In experiment 2, the procedure was repeated, but the sentences spoken allegedly conveyed Chinese students' opinions of Polish or other Chinese students. Opinions spoken behind participants were perceived as more negative when concerning own groups (i.e. Polish students). In experiment 3, participants estimated the probability of future negative events concerning them or other people, spoken from various locations around the participant. When the negative information referred to the participants' own future and was presented behind them, it was assessed as more probable. In Experiment 4, participants had been asked to fill out a bogus social intelligence test and were given a false feedback about their performance being mediocre. This feedback was audible to the participants and was presented either in front of or behind them. In line with expectations, when score was announced from behind, participants considered their outcome to be worse. In Experiment 5 we plan to ask participants to rate performance of candidate for a radio host who is from their own group (the same university) or from out-group (competitive university) with measuring their pulse (with pulsometer). Summarizing, the results of four studies supported the idea that spatial experience of sounds may affect one's assessment of the message content. Spoken messages experienced from behind tend to be perceived as more negative, especially when they refer to the perceiver personally. The results of Experiment 5 would answer whether stimulation is a mediator of relations between the location of a message source, the perceived threat.

## HEALTHY THROUGH PROMOTION AND NOT PREVENTION FOCUS: THE ROLE OF REGULATORY FIT ON THE CONSUMPTION OF HEALTHY AND UNHEALTHY FOOD

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Regulatory Focus Theory (RFT; Higgins, 1997, 1998) distinguishes between two motivational systems that direct self-regulatory behavior: the promotion system, which regulates nurturance needs and goals related to aspiration and accomplishment (i.e., ideals) and the prevention system, which regulates security needs and goals related to safety and responsibilities (i.e., oughts). As a consequence, RFT proposes that promotion oriented individuals focus on positive outcomes and gains, whereas prevention oriented individuals focus on negative outcomes and losses. Thereby, the predominant regulatory focus of an individual in a specific situation can be determined by the chronic regulatory focus strength that individuals might have developed during socialization, as well as by an enhanced accessibility of context factors in a specific situation. The latter can also be triggered by context factors including consumer products. When using the motivational system that fits contextual factors, an individual experiences regulatory fit leading to a "feeling right" about what he or she is currently doing. Feeling right effects in turn can, like any other subjective experiences, be misattributed (e.g. Higgins, Idson, et al., 2003). In eight studies we tested the relationship between regulatory focus and the consumption of healthy and unhealthy food. Study 1 and 2 indicate that healthy food is more strongly associated with a promotion focus than with a prevention focus and vice versa for unhealthy food. Going one step further, we tested in a series of studies whether regulatory fit between a food option's association and an individual's motivational system affects the preference for and the consumption of food options. Based on research showing that regulatory fit increases the preference of consumer products we expected that healthy food is more strongly preferred and consumed in a promotion, compared to a prevention focus, and vice versa for unhealthy food. In line with the hypothesis, the results demonstrate that regulatory fit increases food preference (Studies 3 to 5) and the amount participants consume from the food (Study 6 & 7). Together, these studies indicate that for maintaining a healthy diet, a promotion focus is superior compared to a prevention focus simply because a promotion, but not a prevention focus, leads individuals to consume more healthy than unhealthy food. In line with this notion, Study 8 demonstrates that a promotion focus, but not a prevention focus, predicts individuals' Body Mass Index (BMI) in a representative online-study.

### "TAKE CARE, HONEY": PEOPLE ARE MORE ANXIOUS ABOUT THEIR PARTNER'S RISK BEHAVIOR THAN ABOUT THEIR OWN

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Intimate relationships are of high significance in people's lives and, accordingly, the loss of a partner constitutes one of the most critical life events (e.g., Stroebe & Stroebe, 1987). Research shows that already imagining the death of a close other has adverse emotional consequences (McCleerly, Bhagwagar, Goodwin, & Cowen, 2000). We hypothesized that people are more anxious when their partner engages in risky behavior than when they engage in the same behavior themselves because they visualize the possibility of losing their partner. In Study 1 (N = 151), individuals were presented with short scenarios describing a person intending to engage in risky everyday behavior (e.g., flying with a low-budget airline). Depending on experimental condition, the person depicted in the scenario was participants' partner, an acquaintance, or themselves. When asked about how afraid they were that something could happen to the protagonist, individuals in the partner condition were significantly more afraid than individuals in the acquaintance or self condition. Commitment to one's romantic relationship moderated the effect: the higher individuals' commitment, the more pronounced was their self versus partner discrepancy in anxiety. Inconsistent with research on illusion of control (Langer, 1975), perceptions of decreased own risk did not account for the effect. In Study 2 (N = 146), we tested whether being more afraid for the partner (vs. self) was due to lower actual control over partner's (vs. own) behavior. Additionally to presenting scenarios in the partner and self condition, we included one condition in which participants engaged in the risky behavior together with their partner. Irrespective of own presence, participants reported being more afraid for their partner than for themselves, speaking against control as mediating mechanism. Study 3 (N = 314) adressed whether the effect was due to a dependency between partners, and indicative of individuals "adding up" potential aversive

consequences for their partner and for themselves. To manipulate perceived dependency, participants either wrote about why their partner was central in their life versus why significant others were central in their life before reading the scenarios. Across conditions, participants reported more anxiety for their partner than for themselves, speaking against cumulation of consequences as mediating mechanism. However, mortality salience, measured by means of a word completion task, was higher for participants in the partner than in the self condition, suggesting that more aversive consequences may come to mind when people imagine their partner's risk behavior compared to their own.

#### WHEN THE PAST PREDICTS THE FUTURE: THE IMPORTANCE OF CAUSAL SIMILARITY IN HISTORICAL-ANALOGICAL REASONING

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When the Crimean crisis started to draw international focus on March 2014, former US Secretary of State Hilary Clinton said that Putin's actions were similar to "what Hitler did back in the 30's". Besides being among the first to effectively reach the Godwin Point, H. Clinton was making use in this case of a rhetorical device common both in public and political discourses: a historical analogy; i.e., a comparison between a present situation and a relatively similar past event. It has been demonstrated that such historical analogies can shape individuals' perceptions and judgments regarding a current situation (e.g., Gilovich, 1981). Importantly, such analogies are used in decision-making not only to frame a particular situation in a specific light, but also to make inferences about what a certain course of action could lead to based on a similar past case (Khong, 1992). However, the cognitive processes underlying this phenomenon have yet to be specified. Drawing on cognitive sciences frameworks of analogical reasoning (e.g., Keane, Ledgeway & Duff, 1994), we argue that the predictive power of historical analogies — which constitute their core feature involves a process of causal reasoning (cf. Read, 1984). The latter allows to infer that if two events (past and present) share a common causal antecedent, then they are likely to share the same outcome. We believe this corresponds to the (more or less) implicit reasoning process underlying the concept of taking "lessons of history". A series of experimental studies testing this assumption has been conducted. We hypothesized that participants' predictions would change depending on the similarity between a highlighted causal antecedent in the past case and a potential causal candidate in the present situation. Preliminary results seem consistent with the hypothesis, but point to the importance of (perceived) knowledge about world events as a moderator of analogy-based prediction. Findings will be discussed specifically with regards to their contributions to the field of decision-making under uncertainty, as well as their practical implications for the policy-making realm.

### BRANDING WITH THE IN-OUT EFFECT: THE IMPACT OF CONSONANTAL ARTICULATION ON BRAND EVALUATION

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Branding has become a hot topic. Decisions about products' names and images must be grounded in solid results from consumer behaviour research. Recently a new approach that we will refer to as oral kinematics uncovered the impact of the phonetic characteristics of words in their evaluation. The "in-out effect" postulates that words with articulatory patterns resembling ingestion (inward consonantal wanderings; e.g., FUNEGA) are associated with positive affect and those having articulatory patterns resembling expectoration muscular dynamics (outward consonantal wanderings; e.g., GUNEFA) are associated with negative affect (Topolinski, Maschmann, Pecher, & Winkielman, 2014). After being established by presenting participants nonsense words, out of any

meaningful context, the in-out effect is currently being tested in applied contexts: matching the features of denoted objects (e.g., lemonade, Topolinski, Boecker, Erle, Bakhtiari, & Pecher, 2015) or by presenting additional visual information about the objects (Topolinski & Boecker, 2016). The current set of studies extended the in-out effect, typically observed in basic research laboratory settings, to a more ecologically relevant domain of consumer behaviour and examined the boundary conditions of possible applications to marketing practice. For that purpose we tested the effect of presenting inward/outward words (as brands) embedded in varying degrees of brand imagery, in brand evaluation. Specifically, using a stimulus pool of 15 inward and 15 outward words randomly selected from a bigger pool already tested for Portuguese phonation (Godinho & Garrido, 2015), we examined across three experiments (N = 396) the impact of the consonantal articulation direction (inward vs. outward) and visual information, framed as simple labels (experiment 1), mock logos (experiment 2) or mock product packages (experiment 3). The dependent variable was always the participants' evaluation (negative-positive) of the brands. Both with plain graphic information or with more visually informative packaging, the brand names whose consonants wandered from the front to the back of the mouth (inward), as opposed to those wandering from the back to the front of the mouth (outward), were preferred (all p < .001). Such results suggest that the additional concurrent information provided, that competitively feeds into the preference judgment, did not have diagnostic value when compared to the articulation direction involved in pronouncing brand names. Such prevalence of the in-out effect even if embedded in more complex stimulus, emphasizes the relevance of investigating oral kinematics effects for branding and highlights the need to further research other sensorimotor phenomena in consumer behaviour.

#### **SELF-RELEVANCE PRIORITIZES ACCESS TO CONSCIOUSNESS**

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As we are cognizant of only a fraction of the available visual inputs at any given time, a fundamental question centers on how stimuli are selected for access to visual awareness. Of longstanding theoretical interest in this regard is whether characteristics of the observer (e.g., desires, motives, values) contribute to this process of stimulus prioritization. Noting the existence of pervasive self-related biases in cognition and decision-making, in the current research we explored the possibility that self-relevance serves as a gateway to consciousness. Specifically, information referenced to self (vs. best friend or stranger) gains prioritized access to visual awareness. To explore this prediction, we employed two methodologies that exploit the reflexive suppression that arises when different images are presented simultaneously to each eye (i.e., dichoptic stimulation): binocular rivalry (BR) and continuous flash suppression (CFS). A popular technique to investigate access to visual awareness, BR involves the presentation of two dissimilar images (e.g., face & house) to each eye, which then compete for perceptual dominance. Typically, one of the images breaks through and accesses awareness, while the other image is suppressed. After a few seconds, the suppressed image becomes dominant (and the formerly dominant image suppressed), so that over time the observer experiences alterations in periods of perceptual dominance between the stimuli. The relative dominance of one image over the other is taken as an index of preferential processing. A variant of BR, breaking CFS (b-CFS) was devised to probe the ability of invisible stimuli to overcome interocular suppression and access awareness. During CFS, high--contrast dynamic patterns (i.e., Mondrian images) are flashed to one eye, rendering stationary stimuli presented to the other eye invisible for extended durations. The time taken to break interocular suppression and become visible reveals the relative potency of a stimulus, such that shorter suppression times reflect stronger unconscious processing. Utilizing these complementary paradigms, our results revealed that self-association facilitated access to awareness for both socially meaningless (i.e., geometric shapes, b-CFS, Experiment 1) and meaningful (i.e., faces, BR, Experiment 2) stimuli, thereby confirming that self-relevance is an important determinant of phenomenological experience. The theoretical implications of these findings will be discussed.

#### DETRIMENTAL EFFECTS OF SEXUAL OBJECTIFICATION ON WOMEN'S COGNITIVE PERFORMANCE

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Sexual objectification occurs whenever a person is treated like a sexual object, reduced to a body (or sexual body parts) and used for the pleasure and consumption of others (Bartky, 1980; Fredrickson & Roberts, 1997). According to Objectification Theory (Fredrickson & Roberts, 1997). sexually objectifying experiences are not devoid of important negative effects on women's psychological well-being. Indeed, the theory proposed that the first direct consequence of sexually objectifying experiences is self-objectification (i.e. to internalize the objectifying observer's perspective on the physical self, thus reducing the self to an object; Bartky, 1980; Fredrickson & Roberts, 1997). In turn self-objectification has been linked to increased body shame, appearance anxiety, and proclivity to eating, depression, and sexual disorders (Moradi & Hefflick, 2008 for a review). Previous studies have also demonstrated that the experience of receiving objectifying gazes (i.e. being treated as sexual object) in actual interpersonal interactions disrupt both math performance and working memory capacity (Gervais, Vescio & Allen, 2011; Gay & Castano 2010). Overcoming possible limitations in the interpretation of previous research (i.e. Stereotype Threat), the aim of the present study was to investigate the effects of sexually objectifying experiences on participants' attentional performance as well as possible mechanisms (e.g. Flow experience) underlying the decrements in performance. Importantly, we also tested the role of two important potential moderators, i.e. the experimenter's perceived level of attractiveness and the internalization of sociocultural beauty standards. One hundred and seven female participants took part in the study and were randomly assigned to interact either with a male (High Objectifying gaze) or a female (Low Objectifying gaze) experimenter while having their body being photographed. Consistent with predictions results showed a significant moderating role of experimenter's perceived attractiveness, with participant performing poorly on a sustained attention task (SART) with higher levels of male experimenter's attractiveness. In addition results showed that for participants receiving a male objectifying gaze, higher levels of internalization of the beauty ideal were associated with lower levels of Flow experience (i.e. experience of complete immersion and concentration on a task). The implications of these findings are discussed in relation to the objectification theoretical framework.

#### HOW LACKING POWER MAKES YOU NOT SEE THE FOREST FOR THE TREES

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Social power is defined as the control over valued resources and the ability to influence others by these resources. As the powerless are more dependent on others, they are also exposed to more threats and punishments, leading to increased alertness and vigilance. According to construal level theory this state of mind is connected to low-level processing of information. The current work examined the cognitive mechanism underlying the decreased performance often observed with powerless (relative to powerful) individuals. We were interested in examining how level of processing affects visual working memory (VWM). VWM is an online buffer, able to store limited amount of information in an active state. VWM is highly correlated with cognitive functioning and aptitude measures including fluid intelligence. In Experiment 1 we examined the effects of power on VWM capacity. 151 participants were randomly divided into three groups: high-power, control, low-power. Power was manipulated by the episodic recall priming task (Galinsky, Gruenfeld, & Magee, 2003), in which participants recall and write about a personal event where they had control over others (high-power) or that they were controlled by others (low-power). In the control condition, participants wrote about their schedule on the previous day. VWM capacity was then measured using the change detection task (Luck & Vogel, 2013). As predicted, low-power participants had decreased capacity compared to high-power participants. The control group did not differ from both high-power and the low-power groups. In Experiment 2 we were interested in

why power affects VWM, and specifically in whether this could be related to the tendency of individuals of high-power to use more efficient filtering. Indeed, VWM capacity has been theorized and shown to reflect the effectiveness of attentional filtering. According to this view, higher VWM capacity is achieved by an effective processing of what should be attended to and what should be left outside of one's attention. Importantly, filtering is akin to forming a high-level of construal, which is achieved by focusing on central, goal-relevant information and omission of peripheral, incidental information. 64 participants completed the "why" versus "how" priming procedure (Freitas et al., 2004). Participants described how they perform a given action (low-construal) or why they perform it (high-construal) in a within participants design. The filtering task consisted of a display of targets and distractors. The extent to which distractors were stored in VWM was measured. The results of Experiment 2 showed that a manipulation of high-level (vs. low-level) construal resulted in more efficient filtering. These results suggest that filtering deficiency may be the cognitive mechanism responsible for variety of maladaptive behaviors exhibited by individuals lacking power.

### **SELF-KNOWLEDGE AND IMPLICIT EVALUATIONS** Hahn, A.

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Over the past decades, psychology has shown a vast amount of interest in supposedly "unconscious" mental processes. One example of this interest is the popularity of measuring evaluations or attitudes with indirect measures such as the Implicit Associations Test, the IAT. The results of those tests are frequently presented as revealing "unconscious attitudes" — a claim substantiated in large part with low correlations between these implicit measures and traditional explicit measures. We took a different approach and asked participants to predict their performance on future implicit measures. Results across 9 studies in the US, Canada, and Germany revealed that participants were highly accurate in predicting the patterns for their implicit evaluations, independent of presentation of those scores as true attitudes or cultural associations, and independent of how much we told them about implicit evaluations or their measurement beforehand. Predictions were also accurate beyond normative assumptions about how an average person would score. Despite this high accuracy of implicit-score predictions, relations between implicit scores and traditional explicit attitude measures remained as low as in previous research. Interestingly, participants' predictions were especially accurate when evaluated within-subjects across targets, indicating ability for insight upon affective reactions - a form of awareness we call "introspective" awareness". Predictions looked less accurate when evaluated between-subjects across participants, indicating that participants might have less access into whether their evaluations are more or less positive or negative than the evaluations of others — a form of awareness we term "social awareness". Introspective awareness should further depend on internal cues that increase the experience of affect, whereas social awareness should depend on social cues that may help a person determine whether they have more or less positive or negative reactions than other people. Importantly, many researchers appear to make claims about introspective awareness when their methods might only allow for conclusions about social awareness. Taken together, these findings cast doubt on the assumption that results obtained with implicit social-cognitive measures necessarily reflect unconscious mental content, and they call for a more nuanced conceptualization of self-awareness in research on implicit social cognition.

### EVALUATIVE CONDITIONING AND THE DEVELOPMENT AND GENERALIZATION OF ATTITUDES IN EARLY CHILDHOOD

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Early affections often run the deepest. Indeed, adults regularly identify childhood as a source of

their likes and dislikes, and similarly, psychologists argue that during childhood, attitudes such as prejudice, dietary preferences, or product evaluations, are first acquired. However, due to a lack of experimental research, little is known about the processes of how they are acquired. In order to advance this line of research, we conducted three experiments with 3- to 6-year-old children that provide first evidence for early childhood attitude formation in terms of evaluative conditioning, i.e., changes in liking of conditioned stimuli (CS) that are due to their pairing with liked or disliked unconditioned stimuli (US). Specifically, we found that young children preferred novel stimuli such as unknown cartoon characters or fribbles (i.e., the CS) that were previously paired with pictures of liked animals or foods (i.e. the US) over novel stimuli previously paired with disliked pictures. This effect occurred independently of children's age and their memory for the CS-US pairings, and it generalized towards similar novel stimuli, and to novel stimuli sharing salient CS-features. We discuss these findings in terms of the development and generalization of attitudes in early childhood, and we highlight their possible implications for the debate between associative and propositional processes of learning.

### RULE- AND SIMILARITY-BASED GENERALIZATION OF STIMULUS EVALUATIONS ACQUIRED THROUGH EVALUATIVE CONDITIONING

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Evaluative Conditioning (EC) refers to the phenomenon that people evaluate initially neutral stimuli (CS) more positively or negatively after pairings with positive or negative stimuli (US), respectively. EC is often recruited as a parsimonious explanation of the formation of attitudes. To account for attitude formation beyond individual stimuli (e.g., towards a social category), however, EC effects should generalize from conditioned to novel stimuli. The present research addresses whether such generalizations take place in a rule-based or a similarity-based manner. Rule-based generalization means that evaluations of novel stimuli are derived in a propositional manner (e.g. belongs to category x, therefore I like it), while similarity-based generalization means that novel stimuli are evaluated on the basis of their similarity to conditioned stimuli (e.g. looks like stimulus x, therefore I like it). The way EC effects generalize to novel stimuli is also informative with regard to the learning processes that produce the EC effect: rule-based generalization implies propositional learning, while similarity-based generalization implies simple associative learning. In three experiments, we investigated whether and under which circumstances EC effects generalize in a rule-based or a similarity-based manner. Drawing on a paradigm from predictive learning research (Shanks & Darby, 1998), participants learned to categorize geometric shapes into the categories "mammals" vs. "reptiles". This categorization could be mastered by learning on the basis of individual stimuli (associative) or by rule abstraction (propositional). The categorization task was designed to simultaneously be an EC procedure: geometric shapes served as CS and positive pictures of mammals and negative pictures of reptiles served as US. In a subsequent generalization test, participants (a) categorized novel shapes as mammal or reptile stimuli and (b) evaluated them. With regard to categorization (a), we observed that rule-learners applied the categorization rule to novel stimuli, whereas associative learners categorized novel stimuli based on similarity to stimuli from the learning phase. With regard to the evaluation of novel stimuli (b), however, both rule- and associative learners generalized in a similarity-based manner, i.e. rule knowledge was not used when evaluating the stimuli. We discuss whether the observed similarity-based generalization of EC to novel stimuli reflects a genuine tendency to rely on surface similarity to familiar stimuli and whether our findings, thus, provide evidence for associative rather than propositional learning in EC.

#### THE TREND EFFECT: PEOPLE'S PERCEPTIONS OF REVISED EXPERT FORECASTS

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Experts' forecasts about future events are inevitably surrounded by uncertainty. With new knowledge or new events, forecasts may change. For instance, in January 2015, a research institute gave a 63% likelihood that an El Niño would occur. In February, the probability decreased to 48%. How does the public interpret such revised forecasts? What do they think will happen in March? In our studies (Hohle & Teigen, 2015), participants read about experts who had issued forecasts about various future events, such as temperature rise or landslide, at two different points in time. One group read about an expert that had become more certain about her forecast (e.g. probability increased from 60% to 70%), while the other group read about an expert that had become less certain (e.g. probability decreased from 80% to 70%). Participants were then asked to predict the expert's next forecast on the same topic. A large majority of participants construed the revised forecast as forming a linear trend, which they expected to see continued in the future. Thus, increasing probabilities were expected to become still higher in the next forecast, while decreasing probabilities were expected to lower. In follow-up studies, participants were encouraged to process the task more elaborately by giving potential reasons for the expert's revision of the forecast before giving their own predictions about the future forecast. This did not reduce the trend effect. However, when participants were shown a more variable history of three rather than two forecasts, for example a probability changing from 60%-70%-60%, people were less inclined to see a trend in the last two forecasts. The mean probability projected by participants now came close to the expert's most recent estimate, regardless of what her forecast had been in the past. We also found that an expert who had issued three different forecasts was perceived as less uncertain than an expert who had issued one forecast only, implying that the repetition of uncertain estimates can cause an impression of reliability. The trend effect has implications for experts communicating risk and uncertainty to the public. People may not perceive an expert's most recent forecast as final, but judge it in light of what the expert said in the past. Because recipients quickly interpret changes as a trend that they believe will continue, a moderate earthquake risk may cause more worry if it used to be low, compared to if it used to be high.

### THE EMBODIMENT OF COMPETENCE AS FORWARD MOVEMENTS: THE USE OF THE GOAL-AS-JOURNEY METAPHOR

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Two experiments examined how people's embodied competence-related self-conceptions, expressed through pose that cues forward motion, influence the perceived competence of a speaker employing a journey metaphor. Participants ascribed competence and warmth characteristics to a politician by reading a metaphoric text while their approach-oriented posture was relevant to the metaphor. When a story described forward action in metaphoric terms (e.g., "We will move toward the Great Society"), the participants ascribed more competence characteristics to a target individual when their body action matched the metaphoric action described in the text. The same results were observed even when participants' body was merely prepared for action. In addition, the data from Experiment 2 ruled out alternative non-embodied explanations by demonstrating that body manipulation had no effect on competence when a non-metaphoric text was used. At the same time, no evidence was found that a pose that cues forward movement improves the perceived warmth. These data support Conceptual Metaphor Theory of Lakoff and Johnson (1980) as they show that perceptions of movement influence perceptions of individual's competence in line with their metaphoric relation (i.e., more competent is engaged in a purpose-based journey).

## EVALUATIVE CONDITIONING CONSTITUTES CONDITIONAL LEARNING: NO EVIDENCE OF A PSEUDOCONTINGENCY BIAS IN EVALUATIVE CONDITIONING

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Findings gathered from a recently developed evaluative conditioning (EC) paradigm demonstrate that the pairing with valent stimuli (USs) does not only have the potential to change attitudes towards individuals, but also towards cues. In the present research, we implemented a similar paradigm to investigate EC's susceptibility to a contingency illusion commonly referred to as pseudocontingency. A pseudocontingency constitutes a logically unwarranted inference that relates a rare (frequent) cue value to the rare (frequent) criterion (i.e., valence) value. In the present research, we used conditioned stimuli (CSs) that varied on three different cue dimensions. Specifically, we used schematic butterflies that varied in wing color (pink vs. blue), wing shape (round vs. trapezoid), and body size (slim vs. bulky). For each participant, one of these cue dimensions was skewed, so that there were few stimuli realizing one pole of the cue dimension, but many stimuli of the opposite cue category. At the same time, the valence of the USs was skewed, so that either positive or negative valence was prevailing. All actual contingencies were zero. In the first study (N = 245), we investigated whether a 1:2 skew would become apparent in the EC effect and other indicators of learning. In a second study (N = 240), we manipulated the strength of the skew (1:2 vs. 1:3) and included a manipulation check that assessed participants' perceptions of skew of all variables. These studies show little evidence for an impact of skewed base-rates on evaluative learning. Furthermore, neither the strength of skew nor the perception of joint skew predicted the effect of skew on evaluative learning. We conclude that evaluative cue conditioning is not influenced by pseudocontingencies and depends on a statistical contingency proper between CS and US.

#### REGRET AND SEARCH FOR MEANING IN LIFE

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Regret is a negative experience (e.g., Roese, 1997; Zeelenberg, 1998). Research has linked the experience of regret to cognitive processes such as counterfactual thinking, indicating regret's function to understand and explain events and behaviour that people regret (e.g., Coricelli & Rustichini, 2010). We argue that based on regret's cognitive function to search for explanations of past experience, regret can be conceptualized as an existential experience in that it contributes to the process of search for meaning in life (e.g., Steger, Frazier, Oishi, & Kaler, 2006). In 2 online studies using M-Turk, we examined whether regret is associated with search for meaning in life. In Study 1 (N = 53), we adopted a correlative design, which included the regret scale, a measure of the tendency to feel regret (Schwartz et al., 2002), and search for meaning in life (Steger et al., 2006). As predicted, individual differences in regret were positively correlated with search for meaning in life. In Study 2 (N = 128), we experimentally manipulated between subjects the state experiences of regret (regret vs. everyday life experience) by means of autobiographical recall of past experiences. As predicted, state experiences of regret significantly enhanced search for meaning in life. To our knowledge, these studies provide first evidence that individual differences in the tendencies to experience regret and that actual state experiences of regret predict search for meaning in life. The results are consistent with our hypotheses and the general idea that regret is, in part, an existential experience as it contributes to a search for meaning in life. These studies are first steps undertaken to examine regret from an existential perspective (e.g., Heine, Proulx, & Vohs, 2006). This approach builds on earlier theories of regret, its cognitive processes and functions (e.g., Gilovich & Medvec, 1995; Rose, 1997; Rose & Summerville, 2005). The limitations of this research will be discussed and future research on regret as existential emotions will be outlined. For example, under which condition does regret affect the actual sense of meaning in life (presence of meaning in life; Steger et al., 2006), and is the link between regret and meaning in life stronger (vs. weaker) when considering psychological variables such as need for closure (e.g., Kruglanski & Webster, 1996) or need for cognition (e.g., Cacioppo & Petty, 1981).

### CONTINGENCIES IN EVALUATIVE CONDITIONING: PROBABILISTIC PAIRINGS AND VALENCE BASE RATES

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Pre-registered study: In evaluative conditioning (EC) a conditioned stimulus (CS) is paired with a positive or negative unconditioned stimulus (US) and consequently acquires the valance of the unconditioned stimulus. It has been argued that EC at least partially depends on awareness of the contingency between CS and valence. However, the understanding of contingencies in EC experiments is impoverished. Contingency should be understood as a difference in two conditional probabilities: The probability of a positive (or negative) US given the CS and the probability of a positive (or negative) US not given the CS. Usually, one CS is exclusively paired with positive or exclusively paired with negative US. This results in a conditional probability of p = 1 (or 0) for a positive US given the CS is present. In most experiments, there are as many positive as negative US, resulting in a conditional probability for a positive US given the CS is absent of about p = .5. As a consequence, in most EC experiments, the contingency between a CS and valence is close to DeltaP = 1 - .5 = .5. To properly test whether EC effects depend on contingency strength, both conditional probabilities have to be manipulated. In our work, the conditional probability of valence given a CS is present will be manipulated within subjects by probabilistically pairing different CS with different ratios of positive to negative US. Additionally, base rates of positive and negative US will be manipulated between participants. As a result, different CS will have different contingencies with valence. Contingency perception for each CS will be assessed and used to predict EC effects. The stronger the (perceived) contingency between CS and valence, the stronger the EC effect should be. Our framework further implies a relativity of evaluative conditioning. The perceived conditional probability of a CS being paired with positive US is not sufficient to predict the EC effect. The overall base rate of US valence should also impact the EC effect, because it directly affects the contingency of each CS and valence. It is not enough for a stimulus to often be paired with positive US. It has to be paired with positive US more often than other stimuli. Additionally, our approach can strengthen the generalizability of EC. The entities we learn about in everyday life are probabilistic rather than perfect predictors of positive and negative events and many distributions are skewed rather than symmetric.

#### THE HUMAN PENGUIN PROJECT

**IJzerman, H.** et al. (full list available here: <a href="https://osf.io/2rm5b/">https://osf.io/2rm5b/</a>)
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In this project, we explore cross-cultural variation in the relationship between one's social environment and core temperature. This idea is based on a recent theory of thermoregulation (IJzerman et al., 2015) and on findings that larger social networks in vervet monkeys are related to higher core temperature. Our goal with this project is to understand whether different aspects of our social environment play a different role in different temperature environments. We assess, for example, attachment to people, homes, and telephones, self-control, stress, core temperature, health, and so forth. The data is analyzed using supervised learning. For the first batch of participants (N=240), we found that the diversity of one's social network is related to core temperature, a finding mirroring those on social networks and health (Holt-Lunstad et al., 2010). The remainder of data collection occurs from January - May 2016, with an expected N between 3300-4400, in diverse social environments (e.g., Norway, Sri Lanka, Ecuador, the United States). The data will then be analyzed using a random forest approach, which will be able to clarify whether different environments (e.g., cold vs. warm) have a different effect on the relationship between the social environment and core temperature, for different individuals (e.g., the securely attached).

### ACCURACY IN DETECTING POLITICAL IDEOLOGY FROM FACES IS MODERATED BY THE STRENGTH OF ONE'S POLITICAL ATTITUDES

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Research on interpersonal accuracy (IPA) has demonstrated the ability to correctly categorize others into perceptually ambiguous groups just by their looks (Tskhay & Rule, 2011). For example, the political orientation of unknown politicians can be assessed above chance from their portraits alone (e.g. Samochowiec, Wänke & Fiedler, 2010). Although various moderators, such as training, or familiarity with the target category, have been proposed to interact with the general discrimination ability, there is little research on this in the aforementioned area of politics. We investigated attitude strength (Petty & Krosnick, 1995) as a moderator. First, we focused on a component of this multidimensional construct, especially relevant in the area of politics: The extremity of one's political ideology. We reason, that for those with extreme political attitudes it might be important to recognize the orientation of a politician, even with minimal information. This might translate into a higher discrimination ability, compared to those with more moderate views, who in the past, had lower incentives to implicitly learn about facial features more characteristic of one's in-group. In four studies participants in France and Germany were presented with two different portrait sets of unknown politicians from Switzerland or France. They were asked to identify the political orientation of these unknown politicians. Next, we assessed participants' own political attitudes. Results demonstrate that those with a more extreme political orientation show higher interpersonal accuracy, while those who described themselves as having a moderate political attitude show lower IPA. Participants' interest in politics did not additionally contribute to IPA. In order to extend these findings, we conducted another independent study, which also confirmed that political extremity correlated considerably with attitude strength in general. A final study looked at the moderating effect of these other dimensions of attitude strength - e.g. certainty, importance and self-relevance (Petty & Krosnick, 1995) - on IPA.

## A SOCIAL COGNITIVE APPROACH TO CLINICAL GUT: THE IMPACT OF BACKWARD AND FORWARD INFERENCES ON PSYCHOTHERAPIST'S METACOGNITIVE CONFIDENCE AND INFORMATION SEEKING Jacinto, S.<sup>1,2</sup>, Ferreira, M.B.<sup>1</sup>, Braga, J.<sup>1</sup>, & Ferreira, M.<sup>1</sup>

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The non-decomposable nature of a psychotherapy session favours intuitive judgments (see Hammond et al., 1987), which may have lingering effects on psychotherapists' conceptualization of patients' conditions. Specifically, the feeling of rightness associated to intuitive judgments (e.g., Koriat, 2012, Thompson et al., 2012) is likely to lead to overconfidence and to the use of a confirmatory hypothesis testing strategies. This, may compromise therapists' evaluation of their clinical (intuitive) judgments. This tendency could be moderated if besides backward inferences (causal explanations) therapists were requested to make forward inferences (predictions) based on the same session information. Forward inferences are associated to more uncertainty than backward inferences (Hogarth, 2010), and are expected to be associated to an open mindset (e.g. Fiedler et al., 2005). Therefore, forward inferences could decrease overconfidence in the clinical judgment and promote non-confirmatory information seeking, thus contributing to therapy effectiveness. Two studies manipulate inference direction to test the aforementioned hypotheses. Study 1 used a between-participants design to manipulate backward or forward inferences about a fictional case in order to induce causal (closed) or predictive (open) mindsets. Dependent measures include confidence ratings (feelings of rightness) for each judgment and perceived judgments' utility to prepare the following sessions. As expected, making backward inferences lead to a) higher feelings of rightness; and b) higher perceived utility. Study 2 (data collection is undergoing) was designed to replicate Study 1 and to shed light on the underlying psychological mechanisms. Specifically, psychology students are presented with two cases and requested to estimate the probability of causal factors for the client's symptoms for one case and the probability of future effects of the client's symptoms for the other case. After each clinical judgment, confidence (feeling of rightness) is measured. Subsequently, participants rate their willingness to include their judgments in the client's report (Koriat & Goldsmith, 1996). Finally, participants information seeking strategies are assessed by asking them to a) rate the likelihood of several diagnosis; and b) select the symptoms they would like to know more about in order to better understand the client's case. Backward inferences (closed mindset) should lead to higher confidence and a more confirmatory information seeking strategies than forward inferences (open mindset). Feelings of rightness are expected to mediate the relation between causal reasoning (backward vs. forward inferences) and the information seeking strategy. Strategies to prevent overconfidence stemming from clinical intuitions are discussed.

### DONATIONS FOR PANDAS AND INVESTMENTS IN STOCKS: CATALYZING DECISIONS INCREASES THE RELIANCE ON FEELINGS

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"If you cannot decide, just flip a coin" is a commonly known strategy when individuals are undecided. Such decision devices lead to clear results, but interestingly individuals report that they do not necessarily follow the coin's suggestion. Instead, when looking at the result, they either like or dislike it, and then decide based on this feeling. Because the coin causes a reaction, and facilitates decision making, we call this catalyzing decisions. On the level of psychological processes, a catalyst (e.g., a coin) renders a decision quasi-factual, meaning as if decided. The decision is moved from the realm of hypotheticality to the here and now. As psychological distance is reduced, feelings are strengthened, and individuals are enabled to make different or eventually better decisions. Two experiments support these hypotheses: Experiment 1 focused on reliance on feelings and is based on an adaptation of the Iowa Gambling Task (IGT) by Bagneux, Font, and Bollon (2013). Participants were asked to invest in four different companies (modeled after the card decks of the original IGT) for 40 rounds. After every 10 investments participants indicated their preference for one of two companies. In the IGT, it is generally assumed that over 40 trials individuals collect emotional learning experiences, which however do not yet show in advantageous decision performance. To the extent that reducing psychological distance strengthens feelings, catalyst compared to control participants should display superior decision performance after about 40 trials. Experiment 2 focused on strategies of determining value. Value of objects can be determined by feeling, which is sensitive to the presence or absence of stimuli but insensitive to variations in scope. Value can also be determined by calculation, which is sensitive to the scope of the stimuli (Hsee & Rottenstreich, 2004). We asked participants how much they would donate for either 1 or 4 exemplars of different endangered animals (varying the scope). Participants received written information on the animals, which in the original study triggered a calculation-driven strategy (scope-sensitive). If a catalyst strengthens feelings, individuals' behavior should display a more affect-driven approach and donations become insensitive to variations in scope. Results of both experiments are in line with hypotheses and therefore support the general notion that by using a catalyst, feelings may be strengthened, allowing individuals to make decisions when they were undecided before.

#### EVENT-RELATED POTENTIALS REVEAL EARLY ATTENTION BIAS FOR NEGATIVE, UNEXPECTED BEHAVIOR

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Numerous studies have documented that expectancy-violating (EV) behavior (i.e., behavior that violates existing person impressions) elicits more effortful cognitive processing compared to ex-

pectancy-consistent (EC) behavior. In addition, behavior valence also strongly affects its processing and modulates the effect of incongruency on impression formation, though this last finding is inconsistent with some extant models of expectancy processes. Moreover, whereas studies in these domains generally have focused on processing operations that take place later in the processing sequence, implications for earlier operations that influence rapid engagement of attention to EV information are to be explored. The current research investigated whether the valence of EV information affects very rapid attentional processes thought to tag goal-relevant information for more elaborative processing at later stages. We predicted that if an initial impression of a target implies a negative trait, then the perceiver should be less motivated to monitor that target's subsequent EV (i.e., positive) actions because the initial impression will be held with relative certainty. In contrast, when an initial impression is positive (and, thus, held with less certainty), the perceiver should be motivated to attend to the target's subsequent actions. If the target subsequently behaves negatively, that new information should be particularly salient (and goal relevant) to the perceiver and capture more attention. Event-related brain potentials (ERPs) were recorded as participants read depictions of behavior that either were consistent with or violated established impressions about fictitious characters. Consistent with predictions, a very early attention-related ERP component, the frontal P2, differentiated negative from positive EV behavior but was unaffected by the valence of EC behavior. This effect occurred much earlier in processing than has been demonstrated in prior reports of EV effects on neural response, suggesting that impression-formation goals tune attention to information that might signal the need to modify existing impressions.

## MAPPING THE CATHARTIC FUNCTIONS OF SWEARING FOR BILINGUAL PARTICIPANTS: EMOTIONAL DIFFUSION OR PSYCHOLOGICAL DISTANCING? Jiga-Boy, G.M.

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Swearing is uniquely human. It evolved and persisted because taboo words can convey emotions more readily or more intensely than nontaboo words (Jay, 2009; Roache, 2016). Swearing is typically associated with extraversion or hostility and less with pro-social traits such as agreeableness, conscientiousness, or religiosity (Jay, 2009). But swearing can help tolerate physical pain: participants allowed to swear withstood their hand in cold water longer and reported lower subjective pain and increased heart rate than when not allowed to swear (Stephens et al, 2009). What conditions potentiate such cathartic effects and what psychological processes explain them? To date, no research has looked at differentials in the effects of swearing between bilinguals and monolinguals. Experiment 1 will test whether bilingual participants manifest higher hypoalgesic effects when swearing in their first than second language, or than monolinguals swearing in a language they don't speak. We predict that swearing in one's first language could allow a more intense diffusion of emotional-related content (Andersson & Trudgill, 2007) which will produce lower perceived pain, longer immersion time and higher heart rate during a 'cold pressor' paradigm (main DVs, Stephens et al, 2009). However, an alternative prediction could be that swearing in a language one doesn't speak will have the most cathartic effects because it allows the processing of emotional information without eliciting rumination. Previous research could support this line: negative emotions induced by swearing spilled over into catastrophic thinking in individuals more predisposed towards catastrophizing (Stephens et al, 2009). Thus, swearing in an unknown language might in fact allow one to keep a certain self-distance towards the subject of swearing. But if swearing allows emotional diffusion, then can it help regulate the negative affect that accompanies goal conflict? Situations requiring self-control (e.g., errors) can trigger transient negative affective states that can undermine regulatory action (Saunders et al, 2015). For example, neural error monitoring (ERN amplitude) was attenuated when participants misattributed task-related arousal to the 'anxiogenic' effects of a sham herbal supplement (Inzlicht & Al-Khindi, 2012). In Experiment 2, participants will respond to a demanding stop-signal test (Verbruggen & Logan, 2008) and will be allowed (vs. not) to use swear words while being subjected to feedback. We will measure executive control abilities alongside physiological parameters (e.g., heart rate) as illustrations of transient emotional states. We predict that swearing will increase performance on the inhibitory control test while simultaneously decreasing intensity of transient negative affect.

### THE ROLE OF FOOD ATTRACTIVENESS AND CONSUMPTION SIMULATIONS FOR INDUCING SALIVATION AND DESIRE TO EAT

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We investigated the cognitive processes through which perceiving food induces bodily preparations to eat and eating motivation. Earlier research has suggested that foods elicit simulations of eating and of enjoying them, especially when they are attractive, and that this is correlated with desire to eat them (Papies, 2013). Here, we propose that simulations of eating and enjoyment drive salivation and desire to eat. Furthermore, as attractive foods elicit more simulations than neutral food, they should induce increased salivation and desire to eat. We present two experiments that systematically test this grounded account of desire. Participants were exposed to attractive and neutral food, as well as control stimuli, and we assessed participants' salivation (Exp. 1), as well as their experience of eating simulations and their desire to eat (Exp. 2). In Experiment 1, we examined whether food objects trigger more salivation than non-food, especially when the food is attractive. Participants were first instructed to simulate eating each of the presented objects. Then, we exposed them to a control object (block of wood), and then in random order to a neutral food (bread with cheese), an attractive food (chips), and a sour food (slice of lemon). To assess salivation, participants spit their saliva into a cup after one minute. As predicted, participants salivated more when they simulated eating food compared to the control object, especially when the food was attractive. In line with our proposed model, this suggests that the attractiveness of a food increases bodily preparations to consume it. In Experiment 2, we tested our proposition that simulations of eating and of enjoyment drive salivation and desire to eat, especially when the food is attractive. Half of participants were instructed to simulate eating each object, and half were instructed to merely look at each object, while we measured salivation as in Experiment 1. Afterwards, participants indicated the degree to which they had simulated eating and enjoying each object, and they reported their desire to eat it. As predicted, results showed that attractive food induced more eating simulations, more salivation, and more desire to eat, than the neutral food and the control object. Importantly, the simulation instruction caused increased salivation and desire through increased eating simulations, especially for the attractive food. In summary, this research provides both causal and correlational evidence for our theory that when perceiving foods, people simulate eating them, which leads to bodily preparations to eat and to desire.

#### SEX SELLS... BUT OBJECTIFICATION DOES NOT

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Advertising with sexualized stimuli is a commonly used technique in the advertisement industry. But the literature shows a gender discrepancy regarding the liking of advertisements with sexualized content. Usually "sex-sells" works well for men, but not for women. Are women against the sexualization per se, or does it matter, in which way sexualization is done? On the one hand, sexual-economics Theory (Baumeister & Vohs, 2004) predicts that women evaluate a sexualized advertisement neagtively if there is no exchange with value in return. This effect should be especially pronounced if the model in the advertisement is perceived as close to oneself. On the other hand, Gill (2008) proposed that it is the degree of self-determination of the portrayed

model, which matters. Presenting the sexualized model in an agentic (e.g. assertive, determined, independent) way should elicit a more positive attitudinal response to the ad compared to a non--agentic setting. To compare the sexual-economics approach against the sexual-empowerment approach, we created the slogans "his present for me" to indicate an exchange value and "my present for me" to indicate an agentic setting. Additionally we manipulated perceived closeness to the sexualized model by varying the extent to which the model in the advert is perceived as close to oneself. In Study 1, participants were presented with a sexualized advertisement where the slogan either indicated an agentic or a non-agentic setting. The manipulation of the model's face led to the perception of more versus less familiarity. Results indicate that the agentic setting led to more positive evaluations toward the ad. Analyses with planned contrasts indicate that this effect was especially pronounced if the model was familiar to the perceiver. In Study 2, participants were presented with a sexualized advertisement that used an agentic, non-agentic or no slogan. Additionally the presented model was morphed with the participant's own face (similar) or with a face of another participant (dissimilar). Again, results indicate that the version with the agentic slogan led to more positive ad evaluations. Post hoc tests revealed that this effect was especially pronounced when the model was perceived as similar to oneself. Results of both experiments are in line with the sexual-empowerment approach. This suggests that women's often negative reactions towards sexualization is not caused by sexualization per se, but whether women are objectified.

### THE RELATIONS BETWEEN TEMPORAL SALIENCE AND SOCIAL SALIENCE: EVIDENCE FROM PERCEPTUAL MATCHING

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In Social Psychology, the conceptual representation of psychological distance is often tested within the framework of Construal Level Theory (CLT: Trope & Liberman, 2003; 2010). However, the cognitive utility of processing each dimension of psychological distance has not been well investigated. The aim of the current research is to examine the mechanism of processing temporal and social labels as a function of psychological distance and to test whether the low level bias (i.e., perceptual bias) relates to the high level decision making bias (i.e., inter-temporal choice). We tested the perceptual matching bias in processing temporal labels (i.e., right now, tomorrow, in 1 year, in 2 years, in 10 years) and report a new 'Now-bias' effect on simple perceptual matching between shapes and labels and we examined the relations between the Now--bias effect and the Self-bias previously established with the perceptual shape-label matching task (Sui, He, & Humphreys, 2012). For instance, the perceptual matching task showing Self-bias involves asking people to associate arbitrary shapes with personal labels (you-square; friend-circle; stranger-triangle) and then judge if the pairs match (you-square) or mismatch (you-circle) (Sui et al., 2012). Self-associated shapes are found to bind together more strongly, reflected in faster response times and accuracy in matching pairs. Given the similarities between temporal and self-related social biases in previous studies, we expected similar biases in perceptual matching when temporal associations are formed, and for these perceptual biases to be linked to the established self-bias effects. The results revealed that biases favouring present-relevant (as opposed to future-relevant) and self-relevant (as opposed to stranger-relevant) information were correlated with each other. Temporal biases in decision making using an inter-temporal choice paradigm were also correlated with a general bias to personally familiar stimuli (self and friend) while temporal discounting did not correlate with Now-biases in perceptual matching. We suggest that common attentional biases to present-relevant and self-relevant information mediate perceptual matching, while temporal discounting relates to a separate reward evaluation mechanism which is also sensitive to personal familiarity in the Self-bias.

#### THE ABC OF STEREOTYPES ABOUT SOCIAL GROUPS

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Previous research showed that group stereotypes primarily differ on warmth and competence. However, in the respective studies people rated groups on only just warmth and competence, which constrains stereotypes to these two dimensions. Do people spontaneously stereotype groups on other dimensions? In Study 1, U.S. Americans spatially arranged 80 groups, placing more similar groups closer together. Scaling the similarity proximities yielded a well-fitting two dimensional space with the groups as points. To reveal the stereotype dimensions that underlie this space, other participants rated the groups on 24 candidate dimensions. Principal components analyses yielded the higher-order candidates A, B, and C (A=agency/socio economic success, B=conservative-progressive beliefs, and C=communion). Next, we predicted the groups' ratings on A and B based on their x-/y-coordinates in their space (property fitting). The multiple correlations were almost perfect, indicating that A and B could be modeled as stereotype dimensions that underlie the groups' space. Groups located closer to the space's origin had higher ratings on C. Thus, groups' C peaks (plummets) at average (extreme) AB. We summarized these results as the ABC model of group stereotypes. Study 2 replicated the model with Germans. In Study 3 (U.S. Americans), we ruled out that in Study 1/2 participants spatially arranged the groups based on their AB due to associations between A and verticality/B and horizontality. In Study 4 (U.S. Americans), we replicated the ABC model with more elaborately sampled groups. Additionally, we asked other participants to label all stereotype dimensions that run through the groups' 2D space. Other participants categorized these labels as related to A, B, C, or "no match", confirming that the groups' space did not contain stereotype dimensions other than AB. Finally, we discuss why participants spontaneously stereotyped the groups on AB but not C. Particularly B is interesting, as it does not appear in previous models. Studies 4-8 suggest that people stereotype groups based on their B to regulate the trade off between social exploitation of known resources (advocated by conservative groups) and social exploration of novel, potentially better but risky resources (advocated by progressive groups). Having learned that avoiding (approaching) risks in the Balloon Analogue Risk Task pays of better, Germans delegated playing this economic game to members of conservative (progressive) groups. Having learned that sticking with the known deck (trying out novel, potentially better but risky decks) in the Iowa Gambling Task pays of better, Germans delegated to members of conservative (progressive) groups (total N=2,570).

### WE ARE SORRY, THEY DON'T CARE: MISINTERPRETATION OF FACIAL EMBARRASSMENT DISPLAYS IN INTERGROUP CONTEXTS

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Embarrassment is an emotional experience that arises if individuals have concerns about their past behaviour, or how the self is presented to others. It has the function of restoring relationships and saving one's social standing by signalling acknowledgement about one's inappropriate behaviour. Since disrupted interactions with in-group members are more important to individuals than those with out-group members, we examined whether the interpretation of embarrassment displays varies as a function of group membership. Aggregated Study 1 (N=1154) suggests that embarrassment displays of in-group members are perceived as such, whereas embarrassment displays of out-group members are more likely to be perceived as disinterest. Studies 2 (N=193) and 3 (N=260) include methodological improvements and either largely or fully replicated our findings. Based on this evidence we conclude that restoration of relationships after embarrassment displays are more likely to occur in intragroup contexts, than in intergroup contexts due to misinterpretations of out-group expressions.

### SOCIAL COMPARISON AND SELF-CONTROL: MOTIVATIONAL INFLUENCES ON THE SELECTION OF COMPARISON STANDARDS AND DIMENSIONS

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In daily life, people are often confronted with a multitude of social comparison standards they could assimilate to or contrast away from. We tested the hypothesis that these social comparison standards can be used to justify certain courses of action when people find themselves in a high desire state (e.g. hunger). In a first study (N = 110), we tested whether a high desire state (manipulated via food priming) leads participants to selectively assimilate to moderately indulgent comparison standards. Participants judged Facebook profiles of four different individuals (matched in gender) containing information about the person's activities and preferences: All four profiles varied with regard to food preferences — that is, the targets` attitudes towards eating habits ranged from very restrained attitudes (e.g. "I'm a convinced vegan and calorie-counter), to moderately restrained, to moderately indulgent, to very indulgent (e.g. "I LOVE to bake cookies and splurge with family and friends"). Participants indicated their attitude and felt closeness toward each profile. Independent of the extremity standard, results revealed that participants in the high desire condition preferred the indulgent comparison standards (F(1, 52) = 3.14, p = .082), but the opposite was true in the low desire condition (F(1, 52) = 1.85, p = .180). This interaction was significant (F(1, 108) = 5.06, p = .026). In a current follow-up study, we aim to replicate these effects and further test the influence of standard extremity using a different desire state manipulation. We draw on naturally occurring fluctuations in food deprivation (high deprivation vs. low deprivation) to investigate motivated social comparison standard selection. We also introduce a new dependent measure: participants will engage in a product test of an unhealthy but tempting food product to assess their perceptions of the product and their self-control behavior. We expect that food deprivation results in an increased desire for palatable food, and this strong desire compared to weak state desire, will lead to selectively assimilating towards moderately indulgent others as a social comparison standard. This tendency will translate into a more positive perception of the tempting product and higher rates of consumption. Additionally, we predict that this indirect pathway will be more pronounced among participants high in social comparison orientation. Data collection has already started and given our current pilot data, we expect promising results in this follow-up study using a stronger and more valid manipulation of state desire (food deprivation) and a more sensitive dependent measure.

#### HOW LONG CAN YOU NUDGE ME? PERSISTENCE OF DEFAULT INTERVENTIONS

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Defaults (i.e. preselected options that become effective without active choice) are becoming a popular policy tool after they have been proven effective in areas as varied as insurance decisions, organ donation, retirement savings and consumer choice. Despite increasing popularity, little is known about the persistence of default effects over time. Based on a self-perception theory perspective (Bem, 1972), we propose that perceived freedom of choice moderates whether defaults will spill-over to subsequent, non-defaulted choices. Only defaults that are subtle enough to create a feeling of free choice should reflect in subsequent choices. To test this prediction we will confront participants with a two-stage task. In the first stage of our study we will ask participants to compile "their" shopping cart by repeatedly deciding between products. Participants will make a series of 10 dichotomous choices between organic and non-organic products. For these choices, we will manipulate the default option (organic versus non-organic) and the perceived freedom of choice (high effort to abandon the default versus low effort to abandon the default) in a between subject design. To increase relevance for participants, we will tell participants that they have a chance to win all of the selected products. A manipulation check will assess participants' perceived freedom of choice. In the second stage of the study we will ask participants to extend the shopping cart by another 10 products, again making a series of 10 dichotomous choices, now with no default. As in previous studies we expect a default effects in the first stage, i.e. a higher proportion of choices for the default options and we predict that the effort to deselect the default will enhance this effect. Moreover, we expect the default manipulation to spillover to the second stage as participants should behave in line with their past behavior. That is, in an active choice

setting without a default, participants should be more likely to choose an organic product when they were previously influenced by a default to choose organic products (and vice versa). This spillover effect is predicted to be stronger when participants perceive the freedom to choose to be high. Implications for the use of defaults as a means for policymakers to promote sustainable behavior will be discussed.

### POWERFUL PHARMA AND ITS MARGINALIZED ALTERNATIVES: EFFECT OF INDIVIDUAL DIFFERENCES IN CONSPIRACY MENTALITY ON ATTITUDES TOWARDS MEDICAL APPROACHES

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Humans always have to deal with the fact that they are vulnerable and in principle may fall prey to diseases or infections. Virtually all human cultures have developed habits to address such challenges: e.g., with healers, pills, meditation or bloodletting. In contemporary Western societies, the dominant method to deal with illness and disease can be subsumed under a biomedical model. Alongside this dominant approach there exists a plethora of alternative approaches. Over the past decades, there has been an increasing interest in alternative medical approaches that either complement or even replace the modern biomedical approach to therapeutic treatment of diseases. However, only little is known about the underpinning psychological processes that decide whether people seek help in biomedical or complementary and alternative medicine. We conducted three studies in Germany and the U.S. (total N = 781) to test the idea that the individual inclination to endorse a conspirational worldview (conspiracy mentality) is systematically related to distrust against biomedical approaches as these carry the allure of power. Specifically, we tested in two correlational studies, Studies 1 (N = 392) and 2 (N = 204), whether conspiracy mentality was related to greater refusal of biomedical therapies and — on the flipside — greater openness to alternative and complementary approaches. In the third study (N = 185), we experimentally tested whether people who endorse a conspiracy mentality would perceive the identical drug (from natural sources) differently if its approval was supported by either a powerful agent (pharma industry) or a powerless agent (an interest group of patients). Results confirmed that the power of the supporter moderated the relation between conspiracy mentality and the evaluation of the drug. These findings point to the potential consequences of conspiracy mentality for health behavior and prevention programs.

#### HAVING A GOOD LAUGH: SCHADENFREUDE AS SOCIAL-FUNCTIONAL STATUS REGULATOR

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Schadenfreude—feeling pleasure at another's misfortune—reestablishes feelings of self-worth after threatening social comparisons. Despite the social nature of schadenfreude, this primary function is rather intrapersonal. Complementing these approaches, we argue that schadenfreude regulates status hierarchies. Specifically, in dominance hierarchies, individuals perceive low control to change their current status. As a desire for status is a fundamental human need, undermining successful persons' dominance by publicly expressing schadenfreude might regulate the social hierarchy. As dominance is mostly attained by displaying hubristic pride (success is attributed to talent), schadenfreude should be more likely when a misfortune happens to a person who initially displayed hubristic pride in relation to a success. In contrast, if successful individuals display authentic pride (success is attributed to effort) and therefore attain status as prestige, which signals willingness to share skills and know-how, schadenfreude in response to misfortunes should be low. Four studies (N = 1,193) provide evidence for these predictions. In Study 1, participants imagined being in a course and receiving a worse grade than a competitor. In videos, the competitor either displayed hubristic pride, authentic pride, or an emotion related

to low status—embarrassment. Afterwards, the competitor suffered a misfortune and we measured participants' schadenfreude. As predicted, schadenfreude was higher in the hubristic pride condition compared to both the authentic pride and embarrassment condition. The latter two did not differ. In Study 2, participants read an ostensibly real article about a successful student who attributed success either to talent (hubristic pride) or effort (authentic pride). Again, participants indicated more schadenfreude when the successful student in the hubristic pride condition later suffered a misfortune. In Study 3, we replicated the basic effect and showed that it is partly mediated via heightened malicious but not benign envy in response to the hubristic pride display. Finally, in Study 4, participants judged a person who displayed hubristic pride from an outsider perspective. After this person suffered a misfortune, others either publicly expressed schadenfreude in response to the misfortune, privately expressed schadenfreude behind the back of the successful person, or were fidgeting after the misfortune happened. As predicted, only the public expression of schadenfreude undermined the perception of dominance, whereas the perception of prestige was undermined by private and public schadenfreude. In sum, these results suggest that schadenfreude regulates status and they show how emotions contribute to establishing and maintaining social hierarchies.

#### **POWER AND AFFECTIVE EXPERIENCES**

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There is a broad consensus that power feels good; lay people and theoretical models alike concur that having power increases positive affect, and lacking power increases negative affect. Yet, closer inspection of the literature reveals some divergence. Some theoretical accounts suggest that, relative to powerless individuals, powerful individuals should experience more ups and downs and have more variable affective experiences. In a similar vein, whilst some empirical studies find evidence for the exhilarating effects of power, others do not. To address these divergent perspectives, we conducted a series of correlational and experimental studies to examine the effects of power on individuals' affective experiences across situations and stimuli. Study 1 replicated previous findings showing that power is associated with elevated mood. In Study 2 we found that power predicts affective experiences across different situations (positive vs. negative). Disentangling different facets of affective experiences, Study 3 found that having power increased positive affect and decreased negative affect, and this effect was consistent across different stimuli (positive vs. negative). No evidence of affective variability was found. Together, these results indicate that power brightens individuals' affective experiences.

### **FAMILIARITY EFFECTS OF INWARD CONSONANTAL PATTERNS** Lindau, B.

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When we speak, we articulate every consonant in a particular location: for example at the lips, the palate, or the throat. Thereby, words with more than one consonant can elicit oral dynamics, where the tongue either moves from the front of the mouth to the back (inwards, as in "PANIC", P-N-C) or the other way around (outwards, as in "CUP", C-P). These articulatory movements closely resemble the oral activities of ingestion — an inward movement that is positively associated—versus expectoration (e.g. spitting something out) — an outward movement that is perceived as more negative. Correspondingly, previous research demonstrated a preference for inward over outward words. We assume that this association might also lead to an increased feeling of familiarity towards inward words. In Experiment 1 and 2 we tested this hypothesis with two different stimulus sets consisting of artificial inward and outward words, half of which were presented in a study phase. In a subsequent test phase with all stimuli participants were asked to identify each

stimulus as either old (having been presented before) or new. As predicted, participants classified inward stimuli as old more frequently than outward stimuli, and this effect was present both for actually old and new stimuli (Experiment 2). Concordantly, a signal detection analysis showed a significant difference in response bias between inward and outward words, but not in discriminability. In Experiment 3 we wanted to further disentangle the process behind the effect: Is it truly based on a feeling of familiarity or rather a general affirmation tendency, meaning that the positively associated inward words facilitate any affirmative reaction (here, an OLD response meaning "Yes, I have seen this before")? We therefore replicated Experiment 2 realizing two conditions: Half of the participants' task was to react solely to old stimuli, the other half solely to new stimuli. The latter condition allowed us to differentiate between the two possible mechanisms: If the frequency of NEW ratings should be higher for inward than outward words in this condition, this would indicate a mere affirmation tendency. If, however, inward words evoke a feeling of familiarity, NEW ratings should be less frequent than for outward words. We indeed found a decreased frequency of NEW ratings for inward compared to outward words, which supports our hypothesis that consonantal inward dynamics induce familiarity. The results have interesting implications beyond the basic effect, for example in the field of consumer research.

### DIFFERENT TIMES: USING A CULTURE AS SITUATED COGNITION APPROACH TO UNDERSTAND CULTURAL VARIATION IN THE SPATIALIZATION OF TIME

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Across cultures, the concrete domain of space is used to talk and to think about the abstract domain of time. Cultures differ greatly in how they exactly use space to represent time though. For example, in some cultures time flows from left to right, whereas in others from right to left, or even from east to west. Research has mainly been limited to cataloging and describing these different spatial layouts of time instead of investigating the origin and consequences. When the origin of this variation has been discussed either language or spatial cognition has been pointed to. Both sources cannot adequately account for the variation documented so far though and only unsatisfactorily transpose the origin. Integrating insights from anthropology and social psychology we start by recognizing in this theoretical work that time is culturally constructed and propose to move beyond mere description and apply a culture-as-situated-cognition (CSC) framework to the cross-cultural study of time representation. The CSC framework combines recent advancements within cognitive and cultural psychology and holds that differences between cultures are not fixed but rather the result of context dependent mindsets. We argue that spatializations of time are also not fixed but dynamically constructed and situated. Spatial cues, for example, but also assigning increased weight to the past have already been shown to dramatically affect the way time is spatialized (Boroditsky & Ramscar, 2001; de la Fuente, Santiago, Román, Dumitrache & Casasanto, 2014). Following the CSC framework time representation researchers should further embrace priming methods to truly start exploring the consequences of having different spatializations. For example, is seeing yourself as moving through time as opposed to seeing time move toward you related to the way agency is perceived across cultures? Researching the consequences will not only uncover whether these spatializations are meaningful and linked to cultural differences but will also be able to answer larger questions on how culture mediates the link between body and mind. Lastly, the CSC framework draws our attention to the fact that by focusing on describing differences the universal function of culture, as something that allows its participant members to predict situations and behavior, is largely ignored. Applied to time spatializations we can use the CSC approach to link the different spatializations to effects of cultural disfluency and integrate it with the large body of literature documenting the many problems business men and travelers report vis--vis time when going abroad.

#### STRONGER FORECASTS ARE MORE CERTAIN

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Predictions are made with different degrees of certainty. Take predictions of climate change: while climate scientists are highly certain that the global mean temperature will increase during the 21st century, there is more uncertainty about how much the temperature will increase. So imagine two climate scientists giving different predictions. Scientist A says that the temperature will increase by "at least 1.5°C", while B says "at least 2.0°C". Which scientist would you say is more certain? We propose that lay people will often believe that scientist B is more certain, due to an association between prediction strength (i.e., the magnitude of the predicted outcome) and prediction certainty. Our hypothesis stems from the idea that people often view probabilities as causal tendencies (propensities), so that higher probabilities are associated with stronger outcomes. Previous research (e.g., Keren & Teigen, 2001) has for instance demonstrated that a high probability (90%) prediction of a sports game is seen as more accurate if the team in question wins by a large rather than a small margin. We now demonstrate that the inverse relation also holds, so that people infer degree of certainty from the strength of the predicted outcome. In three experiments, participants were told that climate change predictions had been revised from T1 (the time of the first prediction) to T2 (the time of the second prediction). In Experiment 1, we informed participants that a prediction had become more certain or more uncertain from T1 to T2. More certain [uncertain] predictions were associated with stronger [weaker] outcomes. In Experiment 2, we found that when the predicted outcome had become stronger after being revised (e.g., a higher sea level rise was predicted at T2 than at T1), people thought the prediction had become more certain than when the predicted outcome had become weaker. We also found in Experiment 2, and replicated with a similar design in Experiment 3, that this "strength effect" influences perceptions of the speaker. Predictions of stronger outcomes make the scientist appear more trustworthy, and make participants believe that scientists' ability to predict is improving and that the forecast should be relied upon to a greater degree. Hence, these findings not only increase our understanding of how lay people think about probability and uncertainty, they also have clear implications for those involved in the communication of uncertain outcomes.

#### **DISILLUSIONMENT: AFFECTIVE FEATURES AND COGNITIVE CONSEQUENCES**

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Negative emotions influence decision making in different ways (Inbar & Gilovih, 2011). Here, we are interested in the experience of disillusionment. We aim to understand the common features of this experience and how it influences judgement and decision making. We suggest that disillusionment is a negative epistemic emotion that reduces people's sense of meaning in life and, like other 'meaning-threats' (e.g. mortality salience) influences decision making in two separate stages (Jonas et al., 2014). At an initial stage, disillusionment should lead to a reliance on general knowledge structures, which provide *meaningful* solutions to tasks at hand (e.g. heuristics). After some time however, disillusionment should result in more creative forms of meaning search (Janoff-bulman, 1999) thereby reducing reliance on certain forms of heuristic thinking.

In Study 1, we investigated the characteristics of disillusionment using a prototype analysis. Participants (N=213), gave open-ended descriptions of this experience and these were sorted into 25 different categories by independent judges. Results indicated that disillusionment is an experience characterised by negative affect, with epistemic features that suggest one's sense of meaning of in life is challenged. Categories were coded as either belonging to stage 1 (shock) or stage 2 (desire for change).

In Study 2 (N=95), we experimentally manipulated disillusionment before assessing participant's sense of meaning using a 5- item scale. Results demonstrated that those in the disillusionment condition reported lower sense of meaning compared to controls, and that this effect was mediated by the levels of disillusionment experienced.

In study 3 (N=104) we assessed disillusioned participants tendency to rely on self-generated anchors in a judgment task presented either immediately following a disillusionment induction, or after a delay, using a  $2\times2$  design (disillusioned/control  $\times$  delay/no delay). As predicted, disil-

lusioned participants who made judgments immediately after induction (no delay) relied more heavily on self-generated anchors, compared to a control group, whereas those who completed the task after a delay relied less on self-generated anchors compared to control.

Finally in Study 4, we investigate the effects the short-term and long term effects of disillusionment in a real-world political context. Specifically we measure levels of disillusionment, meaning and tendency to rely on certain forms of heuristic thinking on the day of a major political decision (the results of the "Brexit" referendum), and at 1-week follow-up.

### STUDYING THE EFFECTS OF IMPRESSION FORMATION ON THE GENERATION OF COUNTERFACTUAL THOUGHTS AND THE ASCRIPTION OF BLAME

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According to the application of the culpable control model (Alicke, 2000) to counterfactual thinking (Alicke, Buckingham, Zell, & Davis, 2008), the ascription of blame to a certain agent is explained not only by what he could have done in order to alter and/or prevent the outcome from occurring, but also by spontaneous negative evaluations of that same agent. Following from this, one aspect which can potentially influence the counterfactual-blame link is the formation of impressions of the actor. In two experiments, we aimed to study whether this sort of actor evaluation can be relevant to better understand how the generation of counterfactual alternatives impacts the blameworthiness of certain agents. More specifically, the present studies aimed to test the direct role of a trait's valence (positive, negative) and relevance (relevant, irrelevant) on the ascription of blame to an actor in mutable scenarios. We intended to show that, unlike Alicke et al. (2008), for the evaluation of an actor to impact the ascription of blame to that actor, that evaluation has to be not only negative, but also relevant to the outcome of the situation. Participants were first exposed to a description of the critical actor containing a relevant/irrelevant, positive/negative trait-implying sentence or paragraph and then had to read a scenario and fill in the dependent measures such as ascribing blame to the actor and generating counterfactual thoughts. We expected to find a valence effect (i.e., more blame in the negative than in the positive conditions), as well as a relevance effect (i.e., more blame in the relevant than in the irrelevant conditions). Moreover, greater ascriptions of blame could also be expected when the trait-implying information, implying not only a negative, but also a relevant, trait was paired with the critical actor of the story, compared to a condition in which the trait-implying information implied an irrelevant-negative trait. A valence effect emerged in Study 1 such that the actor was more blamed in the negative conditions, regardless of the trait's relevance. On Study 2, however, a relevance effect emerged qualified by greater ascriptions of blame to the actor in the relevant conditions. The results will be discussed according to their importance to the generation of counterfactuals and the understanding of the blame attribution process.

### FROM CONSCIOUS THOUGHT TO AUTOMATIC ACTION: HOW PERCEPTUAL AND MOTOR SIMULATIONS ENABLE CONSCIOUS ACTION PLANNING TO CREATE BEHAVIORAL AUTOMATICITY

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AIM: The present research investigates the causal relationship between conscious thought and actions. More specifically, we provide a new theoretical framework and empirical evidence of how if-then action planning (i.e., verbally linking an intended action to an anticipated situation; Gollwitzer, 1999) -- conscious thought -- creates low-level perception-action links in order to induce behavioral automaticity. THEORY: Based on modern simulation theories of cognition (e.g.,

Barsalou, 1999) and language comprehension, we argue that verbal action planning induces respective simulations in perceptual and motor brain areas. Thus, planning actions in an if (critical situation)-then (intended action) form induces sensorimotor simulations of the anticipated situation and the intended action and critically: links them by (hebbian) associative mechanisms. Subsequently encountering the anticipated situation will activate the intended behavior without necessarily any participation of higher order cognition. METHOD: In four experiments, we provided participants with different action plans to either "grab" versus "point at" a specific type of fruit (plan fruit). We reasoned that the simulation of the intended action would be different between planning to "grab a fruit" versus planning to "point at a fruit". Specifically, as the most salient aspects of the simulations, we expected "grabbing" to include an elbow flexion movement but "pointing at" to include an elbow extension movement. After the planning phase, in an unrelated categorization task, we assessed elbow flexion versus elbow extension movements toward the plan fruit compared to control fruits and vegetables. RESULTS: As expected, upon encountering the plan fruit, we found elbow flexion movements to be facilitated after formulating a grab plan (Studies 1, 2, & 4) but elbow extension movements to be facilitated after formulating a point plan (Studies 3 & 4). DISCUSSION: Thus, systematic differences (i.e., exchanging the word "grab" with "point at") in otherwise equal verbally formulated action plans (i.e., conscious thought) have systematic consequences on subsequent actions. We discuss this evidence with regard to how conscious thought can produce "automatic" actions and how action planning in an if-then format may constitutes a fundamental form of strategic and incidental action control.

### SPREADING THE SELF REFERENCING EFFECT ACROSS OBJECTS VIA MULTIPLE INTERSECTING REGULARITIES

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Intersecting Regularities (IR) is a newly conceptualized principle of attitude change that assumes that when people learn that a (dis)liked object and neutral one intersect at some level (e.g., they share a common action), the valence of the first object is acquired by the second. In this contribution, we hypothesized that the principle can be further exploited to spread the valence acquired by a previously neutral object over novel targets. We tested the spreading of attitude generated through the Self Referencing (SR) task, which is a prime example of a paradigm that relies on IR and on the positivity of the self to induce attitude change. Throughout the SR task, people categorize through the same action 'self'- and target1-stimuli and through another action 'others'- and target2-stimuli. In a meta-analysis (K=53, N=6067) we showed that the SR task leads to genuine attitude change at both implicit and explicit level (d = .590 and d = .350, respectively). Hence, we asked whether this change persists across more complex relations between objects. Across four studies (N=481) we administered the SR task followed by an additional IR procedure in which objects previously categorized through the same action as the self (versus others) shared another action with novel objects. Therefore, within each task two actions intersected the self with target1 (SR task) and a novel target with target1 (IR task), leading to target1 intersecting the self and the novel target across tasks, without being ever paired within the same task. This sequential intersection should spread the positivity of the self to the novel target. Studies 1 and 2 showed a significant spreading attitude effect both at implicit (IAT) and explicit levels, when the transfer occurred within the same target category (group and brand, respectively). People exhibited greater liking for the group (brand) categorized through the same action as the self-related group (brand). Studies 3 and 4 tested whether the positivity conveyed by the self would also spread across stimuli belonging to distinct domains (i.e., from self-related brands to groups and vice versa). A significant spreading attitude effect emerged on implicit (but not explicit) attitude from brands to groups, while the opposite pattern resulted from groups to brands. Results are discussed in terms of the IR as an effective way to create bonds between stimuli that in turn bolster the spreading of an attitude across them and the self as a powerful and persistent positive source.

#### THE SOCIAL AMPLIFICATION OF ILLUSORY CORRELATIONS

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An illusory correlation is the misperception of a relationship between two or more variables. These illusory correlations have been shown to emerge, for example, when statistically infrequent behaviors by minorities are overestimated (Hamilton & Gifford, 1976) or when participants' expectations are guided by stereotypes (Hamilton & Rose, 1980). Most of the research about this bias has focused on isolated participants. However, people in their natural social environments commonly receive information from other people and then transmit it to others, forming communication chains. Our hypothesis is that as information travels through these chains, the bias that each individual adds to the message will accumulate, leading to a significantly stronger illusory correlation than in the case of isolated individuals. To simulate the flow of information in society, the serial reproduction paradigm (Bartlett, 1932; Kashima, 2000) was adapted to fit the method of Hamilton and Gifford's (1976) first experiment. At the start of the study, all participants were told they were part of a communication chain and that they would be asked, later on, to transmit the information they recalled to another participant. Participants then received sentences about members of two groups: Group A and Group B, which were described as doing either nice or rude behaviors. The material that was given to the first generation contained no correlation between any group and any type of behavior, but Group B had fewer instances than Group A and rude behaviors were less frequent than nice behaviors. After a distractor task, participants were asked to estimate the number of members of each group that performed each kind of behavior. They were also reminded that these estimates would be given to another participant, later on in the study. After a generation was completed, the frequencies recalled by a given participant were used to determine the frequencies of each group and each type of behavior that another participant in the next generation would be exposed to. A total of three generations were collected, each with 35 participants. The results revealed a social amplification of bias, such that an illusory correlation emerged in the first generation, which then grew larger from generation to generation. We discuss how other types of biases may also be susceptible to social amplification, and the implications of this, both for research and for collective judgment and decision making.

#### PRESENTATION AND VALIDATION OF A PORTUGUESE FACE DATABASE

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The human faces have received substantial attention in diverse research areas. However, most face datasets have been composed for specific research purposes, e.g. recognition of facial expressions of emotions, neglecting other potentially meaningful dimensions. Additionally, the manipulation of head direction introduced in this study can prove useful for several domains under the scope of social cognition, particularly research concerning spatial agency bias (e.g. Maass, Pagani, & Berta, 2007). This stimuli material can be employed in research intended to clarify the role spatial representation of certain abstract concepts such as time (e.g., Lakens, Semin, & Garrido, 2011) and politics (e.g., Farias, Garrido, & Semin, 2013) in face-based impressions. The current study presents a Portuguese face database created under standardized controlled conditions and has a distinctive feature not contained in other face corpora, namely the same model from a left profile, a right profile and a frontal perspective. This novel set of Portuguese stimuli is based on the three perspectives of 44 male and female white adult faces — all with a neutral expression. Data on the attractiveness, familiarity, emotion, valence, power, trustworthiness, dominance, competence, warmth, agency, temporal and ideological orientation of all faces and face perspectives are available.

### RESOURCES AVAILABILITY AND EXPLICIT MEMORY LARGELY DETERMINE EVALUATIVE CONDITIONING... EVEN IN A PARADIGM CONDUCIVE OF IMPLICIT EC EFFECTS

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Dual-process models of evaluative learning argue that evaluative conditioning (EC) effects may emerge implicitly. In contrast to this view, recent studies obtained no EC effect when an attentional load was imposed upon participants at learning, preventing them from encoding CS-US pairings in explicit memory. One may argue, however, that an implicit, resource-independent, EC effect may be observed under load conditions when more suitable CS-US pairing procedures and analytic measures are considered. In three experiments, we examined the latter possibility (1) using a CS-US pairing procedure that has been shown to be conducive of implicit EC effects and (2) using a more fine-grained analytic treatment of explicit and implicit memory in a multinomial processing tree model. In all three experiments, the EC effect was found to be sensitive to the availability of cognitive resources and this effect was accompanied by significant reductions in an explicit memory parameter under attentional load. Furthermore, no evidence obtained for an implicit memory contribution to the EC effect. In conclusion, the present research yielded evidence for explicit learning, but no support for implicit learning mechanisms in EC, even though the current experiments examined EC effects in a learning procedure that is thought to facilitate implicit evaluative learning.

#### DOES YOUR OLIVER TWIST LOOK LIKE MINE? MENTAL IMAGERY OF FICTIONAL CHARACTERS

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During reading, people often develop elaborate, lifelike mental images, Research suggests that these images can be even more detailed than the text itself. This stems from the social cognitive process of readers drawing inferences based on the text. With most of the existing research focusing on spatial and temporal mental models, little is known about whether this process also causes the development of mental images of characters' appearance. If it was, two questions would arise: (1) Do readers build mental images of literary characters even when the text does not contain any appearance-related information? (2) Considering that inferences about persons are often socially shared, do different readers that are not given appearance-related information build similar mental images of the same character? To investigate these questions, we developed a standardized procedure to select excerpts from fictional texts that give the reader a hint of the protagonist's personality, but objectively contain no information about their physical appearance. Additionally, we randomly selected several pictures of unknown persons from a scientific face database. In six studies, we asked participants to read unfamiliar text excerpts. After each text, participants chose amongst twelve pictures the one that most closely reflected their mental image of the protagonist. Studies 1a and 1b show that there was strong consensus in participants' choice of pictures despite the fact that they had not been given any appearance-related information about the protagonists. Studies 2a and 2b directly replicated these findings with the same texts and pictures with participants from a different part of the country. Thus, the uneven distribution of picture choices in Studies 1a and 1b was systematic and did not occur by chance. Studies 3a and 3b rule out the possibility that participants chose a picture just because they liked the respective person best, not because of inferences about the protagonist's appearance based on the text content. Participants read the same texts as in Studies 1a-2b, but afterwards chose from a set of pictures that had been coupled with a different text in Studies 1a-2b. Results show (a) again a strong consensus in participants' choice of pictures, and (b) that the modally chosen pictures from each set differed from those in Studies 1a-2b. These results strongly suggest that (1) readers indeed develop mental representations of fictional characters even in the absence of any appearance-related information and (2) the mental representations of different readers are similar to each other.

### A MEANING-REGULATION APPROACH TO BOREDOM, IMPULSIVENESS, AND HEDONIC BEHAVIORS

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Previous research has established a relationship between trait boredom and impulsive behaviors. We extend on these findings by examining the relationships between (i) state boredom and impulsiveness and (ii) state boredom and hedonic behaviors. Our hypothesis is based on Wisman's (2006) 'existential escape hypothesis.' This framework posits that individuals experiencing a meaning threat, such as boredom, deal with adverse self-awareness, associated with that meaning-threat, by acting impulsively or by engaging in hedonic behaviors. These behaviors are believed to address the meaninglessness inherent in boredom and captured by self-awareness. Using correlational and experimental data, we demonstrate the state boredom promotes impulsiveness through perceived meaninglessness. Furthermore, this relationship is qualified by self-awareness, in line with our theoretical framework. We extend on these findings by investigating the effect of state boredom on related constructs such as consumption, unhealthy behaviour, and increased interest in sex, using this framework.

#### **EARLY ATTENTION ORIENTATION TOWARD SELF-RELEVANT INFORMATION**

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Detecting very quickly, or even unconsciously, information relevant for the self is among the top priorities for living creatures. In certain contexts, this type of information can even be vital for survival purposes. This leads to predict that this type of information should be treated preferentially and should therefore capture attention automatically. This also raises the question of whether the relevance for the self overrides the phylogenetic threatening nature of certain information. In this talk, we will address these two questions through information that are self-relevant because the information refers to the self (i.e., participant's first name) or to the ingroup (i.e., ingroup's first names) or because this information threatens the integrity of the self (i.e., weapons). In Experiment 1, we will present an experiment addressing several important gaps of previous work conducted in the domain of the so-called cocktail party effect. This experiment demonstrates that a participant's first name attracts attention to a larger extent than someone else first name (be it a stranger or someone known by the participant), even with these first names are presented subliminally. In Experiment 2, we will present a study that aims to generalize these results to information relevant at the group level. More specifically, we will show that attention is captured to a larger extent by ingroup's first names as compared with outgroup first names. In Experiment 3, we will present an experiment showing that the presence of a weapon attracts attention to a larger extent than neutral objects. This experiment contributes to previous work in this area by filling several methodological gaps left by previous work. Finally, in Experiment 4 we deal with the question of whether attention is preferentially oriented toward information relevant in participants' ecology (i.e., weapons for participants living for most of them in a large city) or toward information for which the threatening character is established at the level of the species (i.e., dangerous animals). This experiment reveals that attention is preferentially oriented toward weapons, which comforts theoretical models arguing in favor of self-relevance in contrast with phylogenetic relevance (Pessoa & Adolphs, 2010). Taken as a whole these experiments support the theoretical assumptions that there would be an unconscious or preconscious filter enabling to prioritize self-relevant information (Bargh, 1989).

### SUSPICIOUSNESS OF OTHERS: A SOCIAL PSYCHOLOGICAL PERSPECTIVE ON SUB-CLINICAL PARANOIA

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Research on factors affecting human motivation has identified core human needs as motivators of behaviour (Fiske, 2014). The research presented here investigates how threats to these core needs may serve as contextual factors that motivate behaviour in the form of compensatory responses. For some individuals the compensatory response will be to attribute malevolent intentions to others. Identifying individual difference factors that render an individual likely to compensate for threats in this way is a further aim of this research. It is hypothesized that when a need, such as need for esteem or need to belong, is consistently unfulfilled, this may in turn serve as vulnerability. Research on paranoia indicates that both the need for esteem (Freeman, 2008) and need to belong (Lincoln, 2013) may be particularly important. Thus both self-esteem and dysfunctional acceptance beliefs were included as individual difference factors that could elicit increased paranoid ideation as a compensatory response to threats to core needs. The findings from a series of three studies indicate that threats to core needs (need for self-esteem, need for meaning and need for certainty) engender increased paranoia, but more so for those who have low self-esteem or who fear negative evaluation from others. Method Study 1 There is a considerable amount of empirical evidence indicating that aspects related to the self-concept (self-esteem, self-evaluations) are associated with paranoia (Kesting, 2013). Building on this research, in study 1, negative and positive self-evaluations were subliminally primed and subsequently state subclinical paranoia was measured. Study 2 Study 2 investigates if priming thoughts of death engenders increased paranoia. Reminders of death are believed to threaten peoples' assumptions of life as being meaningful and in this way constitute both a threat to meaning and the self. In this study mortality was made salient; subsequently state subclinical paranoia was measured Study 3 Study 3 investigated the relationship between the core need of certainty and subclinical paranoia. In this study, uncertainty was made salient; subsequently state subclinical paranoia was measured. Results The findings indicate that threats to self-esteem, meaning in life, certainty engender increased paranoia, but more so for those with low self-esteem or who fear negative evaluation from others. Conclusion These findings not only extend social psychological research on the role of threats to core human needs in motivating behaviour, but also contribute to research on paranoia by identifying both vulnerabilities and contextual factors that serve as antecedents to sub-clinical paranoia.

### INFLUENCE OF AGING AND TASK CONTEXT ON SOLVING THE TRADE-OFF BETWEEN EXPLORATION AND EXPLOITATION IN CHANGING ENVIRONMENT

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One of the crucial aspects of adaptive functioning in complex environment is learning how to make proper choices. Every day, we need to solve the trade-off between two opposite courses of actions: 1) an exploration – which means searching for new possibilities and 2) an exploitation - choosing of known sources of reward without checking the others. Neuronal data show that cognitive control mechanisms responsible for solving that trade-off are affected by aging, (e.g. Fjell & Walhovd, 2010). Results of behavioral experiments on influence of aging on exploratory behavior are ambiguous. Some studies show that aging is associated with increased time spent extracting rewards from a given source, which could be understood as an increase in exploitation with aging (e.g. Mata, Wilke, & Czienskowski, 2009). However, these results suffered from important limitations. For example, used tasks do not allow to analyse process of learning of the environment structure (which is one of the most important aspects of cognitive control affected by aging). Secondly, these experiments do not include changing context on conducting such tasks. We wanted to asses precisely changing of learning process and exploratory behavior in dynamic environment in both "real life" and abstract contexts. 76 participants - young (<25 years old) and old (> 60 years old) took part in our pilot study. We used a task previously shown to elicit exploratory decision-making behavior in humans (Badre et al, 2012). In abstract condition participants viewed a rotating ball and were instructed to stop it before a full turn in aim to win points. In the real life context, people see rotating arm clock on the watch and their task was to help imagined

Mr Stefan to wake up at proper time. Distributions of points in four conditions was: 1) expected value increased over time, 2) decreased over time, 3) stayed constant over time – regardless of the stopping point, 4) stayed constant over time – with probability of reward decreasing and magnitude increasing. Results of 2x2 repeated measures ANOVA showed that young people explore more in less predictable conditions. In addition, significant effects of context show that "real life" conditions elicit increased exploratory behavior rather in young than older people.

### THE ORIGINS OF BELONGING: SOCIAL MOTIVATION IN YOUNG CHILDREN Over, H.

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Successful group functioning requires that we are motivated to interact and engage with those around us. Failing to form connections with others during childhood has serious consequences for well-being and achievement, and thus implications for our understanding of the mature social mind. Experimental research with young children has tended to focus on the development of social cognitive abilities rather than on social motivation. In this talk, I will present my work exploring the developmental origins of the motivation to affiliate with others and form connections with social groups.

### VIGILANCE AGAINST MANIPULATION: HOW CROWDING INCREASES THE SENSITIVITY FOR SOCIAL SIGNS OF TRUSTFULNESS

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High customer density in retail environments represents both a curse and a blessing to retailers and customers alike. Whereas certain levels of crowding are suggested to be related to positive behavioral and cognitive responses because they allow customers to make inferences about the quality of the store and its merchandise, crowding can rapidly reach the tipping point between pleasant and unpleasant or between exciting and irritating, resulting in a variety of negative cognitive, affective, and behavioral outcomes (for an overview, see Mehta, 2013). In the present study, we focus on an unexplored but potentially important factor in this context that has been neglected in previous crowding literature: the nature of customer-salesperson contact. The importance of sales personnel in creating a positive shopping experience for consumers is widely accepted by practitioners and researchers alike. However, an empirical examination of the nature of customer-salesperson contact in crowded shopping environments has so far been missing. Based on the recently put forward notion that increased levels of crowding lead to the activation of the avoidance system and the adoption of a prevention focus (Maeng, Tanner, & Soman, 2013), we assumed that consumers sensitivity for social signals that indicate a risk-free and safe social interaction would increase in environments with high customer density. Thus, we expected that participants' ability to differentiate between trustful and well-intentioned and manipulative and misleading salesperson contact would increase when crowding levels are high. To test our assumption, we presented participants with videos depicting retail environments with low vs. high levels of consumer density. Participants then saw short close-up videos of 15 human faces either showing a real (Duchenne) or a fake (non-Duchenne) smile (Bernstein et al., 2010). We asked participants to indicate whether they would approach each of the presented salespersons to ask for help. Our results indicate that, in environments with high customer density (as compared to low customer density), consumers were significantly better at discriminating between real and fake human smiles, indicating a higher vigilance for potentially manipulative approaches in crowded shopping environments.

#### ON THE ACTION-ORIENTED NATURE OF STEREOTYPES

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Social categorization has been portrayed in the literature as an automatic and uncontrollable process that carries important consequences for person perception. Such strong conclusions were, however, drawn from studies using single test phases in which participants are typically confronted with unfamiliar tasks whose requirements are unpredictable to them. In contrast, we propose that social categorization is action oriented, that is, the encoding and storage of social categorical information in memory is shaped by the requirements of the surrounding context. This hypothesis is based on recent findings showing that the experience of being repeatedly tested serves as a powerful cue for the most effective ways to encode similar information in the future. We tested our hypothesis in three experiments. In experiments 1 and 2, participants went through four study-test cycles. In the study phases, they saw pairs of photograph-statement. In the test phases, only the statements were presented. The photographs depicted faces of male and female individuals, young and older. The statements were about different topics. In the first three tests, participants were asked to retrieve either the gender or the age of the faces previously paired with each statement. Critically, in the fourth test they had to retrieve both gender and age. Results showed that memory performance improved along the three first tests and dropped substantially in the last test, when the social category that had been irrelevant so far had to be retrieved. In an upcoming experiment we aim to investigate whether the stereotypical knowledge associated with the social categories that are not relevant for the task accomplishment becomes inhibited in memory. To investigate this hypothesis we will again conduct an experiment with multiple study-test cycles. Participants will see pairs of photograph-statement. The photographs will be of young and old black individuals and of young and old white individuals. In the test phases, participants will be presented with two faces and asked to choose which one uttered the statement. For half of the participants, the distracter face will always be of same race individuals, while for the other half of the participants, the distracter faces will always be of same age individuals. Thus, for participants in the former condition, encoding the targets' race should be irrelevant to perform the tests whereas for participants the latter condition the targets' age should be irrelevant. In the last cycle, we will access participants' stereotypical race associations, using the Weapon Identification Procedure (Payne, 2001). Our expectation is that participants show less stereotypical bias in the condition in which they learned to neglect race. The results obtained so far in this project highlight the relevance of using multiple study-test cycles when researching social categorization processes.

#### EVIDENCE FOR A TENDENCY TO BELIEVE STATEMENTS WE HEAR AND HOW TO OVERRIDE IT

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Do we believe what we hear? We argue that for human communication to succeed people have a tendency to believe statements they hear. While there is no substantial research on the validation of oral statements, previous research on written statement validation has been equivocal. On the one hand, Gilbert et al. (1990; 1993) showed that people tend to believe statements they read. On the other hand, Hasson et al. (2005) and Richter et al. (2009) provide evidence for the existence of efficient vigilance mechanisms. Extending this research tradition, we tested whether people tend to believe oral statements. In a series of five studies building on Gilbert et al.'s (1993; Study 1) paradigm, we presented participants two ostensible oral crime reports containing true and false statements. The statements' truth-value was indicated by the gender of the speaker (e.g. male=true, female=false). In the one report that participants listened to the false statements were aggravating the crime described, while in the other report the false statements were attenuating the crime. After listening to the two reports, participants were asked to judge the two perpetrators. Additionally, they were asked to recall the truth-value of true and false statements contained in

the two reports. Our results consistently show that participants are influenced by the false statements in the reports: they are more severe towards the perpetrator whose crime was aggravated by the false statements, compared to the attenuated perpetrator. Moreover, participants tend to misremember significantly more false statements as true than true statements as false. Interestingly, these effects have been replicated independently of whether participants were distracted or not (Study 1), were rendered accountable for their judgments (Study 2), or received additional social cues for the (un)truthful speakers (Study 3). What is more, the judgment and memory effects are even obtained in a context where the number of true and false statements participants hear is equal (Study 4). These studies, overall, reveal a strong tendency to believe statements we hear. The only factor we have found to efficiently reduce participants' tendency to believe the false statements is financial incentives (Study 5). Specifically, when participants were given incentives to judge the two perpetrators correctly, their judgments of the aggravated and attenuated perpetrators did not differ and they did not tend to misremember false statements as true. We will conclude by proposing a comprehensive theory of statement validation compromising all to date experimental findings.

### SOCIAL ANIMAL BY DEFAULT: SELF-ESTEEM IS BASED ON AGENTIC BUT NOT COMMUNAL INFORMATION

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When perceiving others or the self social cognition involves these two broad and basic dimensions of content: agency (qualities related to success in obtaining one's goals) and communion (qualities related to success in maintaining one's relations with other people). The idea behind this line of work is that people use basic dimensions strategically to construe the self-enhancing image of their self. Communal beliefs about the self are typically positively skewed - people assess their virtues as higher than those of others. Still, such inflated views of own communion do not translate into behavior. Individuals ascribing themselves higher levels of moral responsibility do not behave in a more moral way, though they take a great care to appear such to others. Those inflated self-ascription of morality may be merely a lip service to norms and values without real influence on behavior. We propose and test the idea that people construe their self-esteem only on selected domains of their activities (those with easier access to such events in their memory). Results of five experiments show that people indeed give more weight to agency when evaluating themselves. We show repeatedly that self-ascribed agency was a stronger predictor of self-esteem than self-ascribed communion. This predicted pattern emerged consistently over the studies regardless of the participants' age and gender and despite variation in specific content of self-ascriptions and in spite of using six measures of self-esteem (self-esteem as a trait or as a state, self-liking, self-competence, narcissism, and preference for own initials). The correlation of agency with self-esteem was always much stronger. This difference remains in stark contrast with evaluations of other people, that are more influenced by communal than agentic considerations (De Bruin & Van Lange, 1999; Wojciszke, Bazinska & Jaworski, 1998). Two additional studies have also tested the mediating role of cognitive effort people invest in studying their moral vs. agentic traits. We found that people were less carefull (and as a result remember them worse) in inspecting information about their communal selves. Proposed cognitive and social mechanism for obtained pattern of effects will be discussed.

#### **KEEP CALM AND GROW: RECOGNITION AS A MEANS TO REDUCE UNCERTAINTY**

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Humans are active, growth-oriented beings. We strive to attain the best possible understanding

of reality and develop new ways of effectively influencing the world around us—we strive to learn and grow. To do so, we need to take into account ideas and information that differ from what we already know. Growth necessitates diverging perspectives. At the same time, however, humans also strive for sharedness. We want to experience our view of the world as shared by relevant others. Doing so renders us more socially connected and belonging and our view of reality more valid and reliable. This need for sharedness, though, usually necessitates converging views of the world. In doing so, it hinders growth. Recent research on Shared Reality has identified recognition as a way to integrate our need for sharedness and our desire for growth: When others understand—but not necessarily agree to—our view of the world, we experience sharedness, and we also become more interested in other, diverging perspectives. Recognition offers sharedness and facilitates openness. Building upon these findings, we aim to explore the psychological mechanism underlying this positive relation between recognition and openness. Why does recognition facilitate openness towards diverging perspectives? We suggest uncertainty as a mediating mechanism. Research has shown relationships between sharedness and uncertainty (e.g. when induced with a need for epistemic certainty, people are motivated to increase certainty through sharedness) and also between uncertainty and openness (uncertain people are motivated to search for consensus by turning to groups, cultures, and values). Drawing upon these findings, we propose the following mediation model: Recognition [predictor] reduces uncertainty [mediator]. Uncertainty [mediator] reduces openness [criterion]. Taken together, both these relations explain how recognition [predictor] facilitates openness [criterion]. In a first empirical study, we explored the proposed causal relation between recognition and uncertainty. Our lab experiment followed a 3x1 design (1: no uncertainty, no recognition; 2: uncertainty, no recognition; 3: uncertainty, recognition) including face-to-face interaction in participant-confederate dyads. Participants were firstly asked to reflect upon a personal decision-making problem (or not) and then offered recognition (or not). Uncertainty and sharedness levels were assessed via questionnaires. Data was submitted to a series of analyses of variance and, where advisable, contrast analyses. Results indicate recognition to be a means to reduce uncertainty. This first study aimed to explore one part of our proposed model. Our findings support this part and give reason to further investigate the model.

#### PHYSICAL WARMTH FOSTERS AFFIRMATIVE RESPONSE BEHAVIOR

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Physical temperature affects humans not only physically, but even psychologically. Something as simple as the room temperature may affect how friendly we behave or how lonely we feel. Conceptually speaking, physical warmth makes people more oriented towards others. For instance, warmth leads people to assimilate more to others and even to conform more to others' opinions and evaluations. From a methodological standpoint, however, the role of physical warmth on general response behavior has received surprisingly little attention. If warmth leads people to conform and assimilate to others, these feelings of reduced distance and the tendency to assimilate may even translate into a general tendency to respond confirmatory in a warm environment. Our research investigates this hypothesis. Because response behavior affects a wide array of survey studies and experiments, we conducted three studies using diverse tasks to assess answer biases -- ranging from basic cognitive tasks to personality questionnaires. A fourth study provides initial evidence for the social-cognitive origin of the effect. In a first experiment, participants sat in a warm or a cold lab room while they worked on a basic cognitive task: a memory-recognition task. In line with our hypothesis, participants in the warm (vs. cold) room answered more confirmatory to the question whether they had seen a word in a previous learning phase, leading to a more liberal answer bias. In Study 2, participants simulated being in a warm vs. cold environment before responding to a mindfulness personality scale that consists of two typically uncorrelated subscales. In line with previous literature, we find no correlation between the two subscales in the cold condition. However, in the warm condition, participants show agreement with both subscales, resulting in a positive correlation between the two (conceptually and empirically independent) scales. In Study 3, the participants' feeling of subjective warmth correlated positively with their agreement to two typically independent subscales of an independent/interdependent self-construal questionnaire. Investigating the underlying mechanism, we replicated Study 3 by adding a social context manipulation. If the effect is socially motivated, then it should be stronger when there is a stark social motivation to answer confirmatory. In Study 4, we asked the participants to imagine that a close friend (vs. stranger) would read their answers. Suggesting that a socially motivated process underlies the response effects, the effect of physical warmth is magnified in the friend condition and participants respond in an even more confirmatory way. These findings suggest that physical warmth affects how people respond to scales and questions in general.

### GREEN LIGHT, (FOR)GO! EXPLORING THE MECHANISMS OF ORGANIC CLAIMS BIAS ON LENIENCY JUDGMENTS

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The "organic" claim only explicitly informs consumers about the food production method. Yet, individuals infer other unrelated proprieties. When compared to conventional products, organic food is perceived more positively in several evaluative dimensions concerning sensory proprieties (e.g., better taste), nutritional judgments (e.g., more vitamins, fewer calories) and value-related judgments (e.g., higher willingness to pay). Organic claims can also influence how the consumers of organic food are perceived and how others judge their behavior. For example, Schuldt and Schwarz (2010) have shown that individuals evaluating a target with a weight-loss goal are more lenient in judging the target forgoing exercise when the target had an organic (vs. conventional) dessert. This impact of organic claims on leniency judgments has been interpreted as a halo or a licensing effect. In two experiments we aim to replicate and extend these results by examining the mechanisms that are more likely to explain the observed leniency judgments. In Experiment 1, we tested the role of the locus of attribution of meal choice and found that leniency towards a target that has consumed an organic meal is only observed when the target intentionally choses such organic meal (vs. choice determined by the situation). In Experiment 2, we investigated the role played by situational constraints through the manipulation of target's motives for considering missing exercise in a given day. Results show that stronger (vs. weaker) motives influenced leniency judgments to the same extent as having had an organic meal. Altogether, our findings support a licensing account as the most probable mechanism. Understanding the mechanisms that shape consumers' decisions may have important implications to prevent bias in their judgments about food and exercise.

#### A SOCIAL SIMON PARADIGM INVOLVING FOUR PERSONS: CHANCES AND CHALLENGES

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In everyday life, there are numerous situations in which we perform tasks jointly with other persons. However, it is still unclear whether the cognitive mechanisms underlying these joint action situations are primarily based on social mechanism (e.g., Sebanz, Bekkering, & Knoblich, 2006) or on more general information processing (e.g., Dolk et al., 2011; Mussi, Marino, & Riggio, 2015). In order to find a proper answer, the Social Simon task as one of the most prominent paradigms in joint action research is typically used to contribute to this issue. In the classical Simon task (Simon, 1969), participants discriminate between two non-spatial stimulus features (e.g., between red and green stimuli) that randomly vary in their horizontal position. Although the spatial position is task-irrelevant, participants are faster and more accurate if the spatial stimulus position matches the spatial response location. While this spatial compatibility effect diminishes when a participant reacts to only one stimulus feature, the effect re-appears when the task is distributed among two

participants; an effect that is known as social Simon effect (Sebanz, Knoblich, & Prinz, 2003). Recent research suggests that the presence of a co-actor or a salient non-social event serves as a spatial reference point, allowing for spatial response coding (Dittrich, Dolk, Rothe-Wulf, Klauer, & Prinz, 2013; Dittrich, Rothe, & Klauer, 2012; Dolk, Hommel, Prinz, & Liepelt, 2014; Guagnano, Rusconi, & Umiltí, 2010). A respective assumption that challenges a social interpretation of the social Simon effect. However, numerous studies demonstrated that social factors modulate the social Simon effect (e.g., Hommel, Colzato, & van den Wildenberg, 2009; Müller, Kühn, et al., 2011; Tsai & Brass, 2007). To investigate both social as well as non-social spatial influencing factors on the social Simon effect, we developed a social Simon task involving four participants. Confirming previous work (Dittrich et al., 2013), spatial correspondence between seating position and stimulus material seem to drive the compatibility effects in a joint setting involving four persons. It will be discussed how this new paradigm allows us to contrast social as well as spatial mechanisms contributing to the social Simon effect.

### COMBINING EMPIRICAL AND COMPUTATIONAL STUDIES IN SOCIAL COGNITION: ILLUSTRATION WITH IMPLICIT GENDER STEREOTYPES

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The general aim is to provide an illustration of how empirical and computational research can be combined to understand the formation of a much-studied construct in social cognition: (implicit) stereotypes. Specifically, we focus on implicit gender-math associations - stronger male-math than female-math associations - and on the central role of the self in the construction of (counter)-stereotypic associations. Indeed, although women are still underrepresented in Science, Technology, Engineering, and Mathematics (STEM), some manage to remain in counterstereotypic STEM tracks. We present a line of research investigating implicit gender-STEM stereotypes among counterstereotypic STEM women, STEM men, non-STEM women and non-STEM men. Study 1 examined whether implicit gender-math stereotypes, as measured by the Implicit Association Test (IAT), would be weaker for STEM women than for the other groups. Study 2 investigated implicit gender-math stereotypes with an IAT-adapted MouseTracking technique, hence allowing recording participants' computer mouse coordinates during the whole decision making process (instead of solely the final decision as in typical reaction time based IATs). In Study 3, a computational study, data were simulated by a connectionist model parameterized to reflect intergroup differences and to integrate, for the first time, strengths from recent developments in embodied models of decision-making with those of social categorization. Together, findings consistently demonstrate weaker implicit gender stereotypes among STEM women and emphasize the key role of the self in the construction of counterstereotypical associations, hence providing support for a core assumption of IAT-related theorization.

#### GENERALIZATION BREADTH AS A FUNCTION OF PSYCHOLOGICAL DISTANCE

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Generalization breadth as a function of psychological distance Behavior is strongly influenced by past experience. People not only learn about the specific stimuli which they encountered in the past, but rather constantly generalize them to novel stimuli. The question I investigated is how psychological distance affects the breadth of this generalization. Based on construal level theory (CLT; Liberman & Trope, 2008) I predicted that distance (vs. proximity) will cause wider generalization. This is because psychological distance introduces change, and makes it advantageous to attend to broader, more immutable aspects of the learned stimuli. I examined this hypothe-

sis within a predictive learning task. Participants (N\_Experiment 1)=69,N\_Experiment 2=59) were presented with rings of various size (stimuli). Their goal was to learn which ring will be followed by a lightning bolt (outcome). Participants made predictions about how likely is the outcome to appear, on a rating scale that ranged from 0("Certainly no lightning") 5("Uncertain") to 10("Certainly lightning"). During the acquisition phase, participants were presented with only two rings: one of them (S+) was followed by the outcome, whereas the other, largest ring (S-) was never followed by the outcome. During the generalization phase, participants were presented with 10 rings, ranging in size from rings that were smaller than the S+, to S-. I manipulated the conditioned probability of the outcome given S+. Within CLT, low probability corresponds to more distance on the dimension of hypotheticality. In Experiment 1, in the proximal condition, S+ was followed by the outcome on about 80% of its presentations in the acquisition stage. In the distant-short condition, S+ was followed by the outcome on about 40% of its presentations. In this condition, the S+ was paired with the outcome half the number of times of the proximal condition. I added another condition, which matched the proximal condition in the number of times S+ was followed by the outcome, and was identical to the distant--short condition in the probability of the outcome appearance after S+ (distant -long). Experiment 2 replicated Experiment 1 with only two distance conditions: proximal and distant -short. Findings from both experiments indicated that participants in the distant conditions generalized S+ more than in the proximal condition, only for novel rings that were around S+ to the side without S-. There was no difference between the distance conditions for novel rings that were between S+ and S-. These results support our prediction that distance (vs. proximity) widens generalization.

#### THE PSYCHOLOGY OF BEING FORGOTTEN

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The experience of being forgotten in social interactions is impactful and, perhaps, universal. Yet modern science possesses no explanatory framework with which to understand such experiences. We propose that evidence of memory is a powerful signal of the subjective importance attached to an object of memory and that interpretation of such signals has important consequences for interpersonal relationships. We tested this framework in four studies examining how evidence of memory is interpreted by third--party observers (Study 1), how evidence of memory is interpreted when experienced firsthand in the laboratory (Study 2), how evidence of memory is interpreted in daily life (Study 3), and how evidence of memory is used strategically and spontaneously in the service of communication goals (Study 4). Results converged across studies. In Study 1, third-party observation of social interaction led participants to infer that being forgotten communicated less subjective importance than did being remembered. In turn, this reduced felt-importance undermined interpersonal relationship quality. In Study 2, controlled firsthand experiences of being remembered or forgotten led forgotten participants to feel less important to an interaction partner and to like that interaction partner less, relative to participants who were remembered. In Study 3, diary analysis of ecologically valid firsthand experiences not only supported these links between experienced memory, felt-importance, and relationship quality, but also provided descriptive data indicating that the experience of being forgotten is relatively common across a variety of life domains. In Study 4, manipulation of communication goals demonstrated that participants will spontaneously and strategically provide evidence of memory in order to make clear to another person that a previous interaction with that person was important to the participant. Taken together, these studies provide strong support for our proposed framework as well as a rich description of what it means to be forgotten by another person as part of social interaction.

#### **REDUCING ANCHORING THROUGH OTHERS**

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Anchoring (the assimilation of a numeric judgment to a previously considered standard value) is one of the most remarkable and robust influences in human judgment (Mussweiler, English  $\vartheta$ Strack, 2004). In particular, forewarnings and incentives do not reduce anchoring (Epley & Gilovich, 2005). However, most previous research has neglected the fact that in our daily-lives anchor values are often suggested (intentionally or not) by others. Interestingly, research on epistemic vigilance has shown that people routinely calibrate their trust on others according to their perceived competence and honesty (e.g., Mascaro & Sperber, 2009). Hence, if people exert epistemic vigilance toward others' judgments to avoid misinformation, forewarnings (i.e., the possibility of being biased or misinformed by anchors) may work as an efficient debiasing strategy when "anchors" are presented as others' judgments compared to when they are presented without a specific source. Study 1 used an adaptation of the standard anchoring paradigm to test this hypothesis. In each trial, participants answered to a general-knowledge question after considering a possible answer either without a specific source or (allegedly) given by a previous participant in the study. Besides this source manipulation, participants were forewarned, or not, about the anchoring effect. Between-participants Design: 2 source (source vs. no source) X 2 forewarning (with vs. without). Dependent measures: the degree of anchoring in participants' answers and the correspondent response times. Results: as predicted, there was a significant reduction of anchoring for participants forewarned about the anchoring effect but only when provided with other participants' answers. Moreover, these participants took longer to respond when compared to the control (no-warning and no-source) condition. Put together, these results suggest a deliberate adjustment away from the anchors triggered by epistemic vigilance (a replication of this initial study with variations on the strength of the forewarning manipulation will also be presented). The second study uses an experimental paradigm similar to Study 1, except that in the source condition participants are not presented with others' answers but instead are asked to imagine how an average participant would answer to the general-knowledge questions before or after giving their own answers. Between-participants Design: 2 warning (with vs. without warning) X 2 orders of source (imagining others' responses before vs. after giving own answer). Data collection is undergoing. Less anchoring is expected for participants who are forewarned about anchoring effect but only when they answer after imagining others' answers (i.e., after epistemic vigilance is triggered).

### THE REFLECTED MORAL SELF: MORAL-CONTEXT SHAPES SELF-PRESENTATION IN MORAL DILEMMAS

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Do people strategically shift moral dilemma judgments to respond to social pressure? Previous findings indicate that people infer moral processing in others: they think that others' harm rejection dilemma judgments reflect affective processing, whereas their harm acceptance judgments reflect cognitive processing (when harm maximizes outcomes), leading to a warmth/competence tradeoff in social perceptions. That is, observers perceive targets who make the decision to accept harm as relatively warm but incompetent. Conversely, observers perceive judges who make the decision to accept harm as relatively competent but cold. Across seven studies (N = 1514) we tested (H1) whether people evince meta-insight into social perceptions, (H2) whether they strategically shift moral dilemma judgments in response to moral context, and (H3) whether people can succeed in using self-presentation in order to resolve the warmth/competence tradeoff. Results indicated that people appear to have meta-insight—they correctly anticipated how their dilemma judgments would influence others' ratings of their warmth and competence, even though they privately regarded themselves as high on both warmth and competence regardless of their dilemma judgment (Studies 1, 2. 3). Moreover, people strategically shifted their public moral judgments to present a valued image depending on whether warmth or competence was favored in a given situation (Study 4 and Study 5), even though situational pressure did not alter private judgments (Study 6). Finally, Study 7 demonstrated that people can use strategic self-presentation in a clever way when conveying their moral dilemma responses to appear both as warm and competent as possible by phrasing the decision to bolster whichever trait (warmth or competence) appears weaker according to their dilemma judgment. Together, these results demonstrate that people have meta-insight into how their moral judgments make them appear to others, and use this information to strategically shift their moral dilemma judgments and rationalizations for self-presentation purposes. Hence, these findings indicate that moral dilemma judgments arise not only from low-level processes such as affect or cognition, but also higher order processes such as self-presentation. On a practical note, decision-makers (i.e., politicians, policy-makes, doctors) may profit from using self-presentation in order to employ moral arguments that reflect their audience's moral decision-making instead of their own.

#### INCONSISTENT ATTITUDES – A REPLICATION OF RYDELL ET AL. (2006)

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This abstract presents research into preference and attitude shaping using evaluative conditioning. EC is an effective mechanism of acquisition and modification of preferences and attitudes and it refers to a change in liking of an initially neutral stimulus through repeated pairings with a valenced stimulus. Shaping of preferences and attitudes towards the object lies in the natural need of every human being, who differentiates surrounding world as friendly or hostile, creating relatively permanent evaluations. Creating and modification of attitudes are in the centre of psychology interests, because preferences play an important role in predicting many types of behaviors. Shaping new attitudes as well as reshaping existing permanent preferences is a fundamental problem in many disciplines - such as resocialization, marketing, advertising, pedagogy and psychology. Experts in these disciplines are trying to modify preferences or create new, more desired ones. Most of our attitudes are considered as congruent and difficult to change. The convincing proof for the existence of two different attitudes: implicit and explicit towards the same object was provided by Rydell (2006, 2008). We conducted an experiment replicating the research of Rydell et al. (2006) into the possibility of having an inconsistent attitude towards an object. The experiment has been done using a sample of 120 students of the university-level institutions in Warsaw. In the conditioning phase the students were presented with a photo of a male together with either positive or negative information about his behavior. The presentation of a photo was preceded with a short exposure of a word with an opposite affective value to that of the information. We have then measured explicit and implicit attitudes. As expected the results confirmed that it is possible to shape an inconsistent attitude towards an object. We have observed significant differences between the explicit and implicit attitude when the preceding stimulus was positive and the information itself negative. The results provide evidence that explicit attitudes are driven by consciousness, while implicit attitudes are not merely the reflection of automatic processes, but can be the result of various processes and information available to the consciousness. The observed effects confirm that an inconsistent attitude towards an object is possible and determines the prerequisites of such inconsistency.

#### **FLUENCY AND TIME**

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Time perception is a basic human function that is also very subjective and can be biased by all kinds of psychological processes such as , for instance, familiarity and emotion. When instructed to estimate presentation time of familiar studied words, for instance, participants overestimated presented time of familiar words in contrast with non-familiar words (Witherspoon & Allan 1985).

This phenomenon is associated often in literature with mere exposure; a positive preference shift for repeated- or stimuli with a longer presentation time. According to their misattribution hypothesis familiarity leads to perceptual fluency that leads in turn to overestimation of presentation time. Perceptual fluency was however inferred (i.e., familiarity) but not measured or even manipulated explicitly in their experiment. In contrast, the neural coding efficiency' hypothesis predicts that stimulus repetition (i.e., familiarity) should lead to the underestimation of stimulus duration. This was found indeed in an experiment in which participants were instructed to estimate presentation time in comparison with a picture (that was different or the same) that was shown just before (Matthews, 2011). Both results seems to contradict each other although they seem to address similar psychological processes. We manipulated therefore fluency explicitly by manipulating color and font (see Carr, Rotteveel & Winkielman, 2016 for this manipulation) of neutral as well as emotion words in a similar experimental paradigm as used by Matthews. Our preliminary results show that presentation time of less fluent words (independent of emotion) were underestimated in contrast with more fluent words. These results are more in line with the misattribution hypothesis than with the neural coding efficiency hypothesis and our results will be discussed in the context of future directions for research in time perception as well as in mere exposure.

# PREDICTING A LARGE-SCALE SOCIAL BEHAVIOR WITH THE IAT: FRENCH CITIES WITH LOWER IMPLICIT PREJUDICE TOWARD MUSLIMS DEMONSTRATED LARGER PARTICIPATION RATES IN CHARLIE HEBDO RALLIES

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When studying the predictive validity of the Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998) measuring the target behavior just before or after the IAT implies interpretative issues such as demand effects, making the categories artificially salient and so on (Fazio & Olson, 2003). To solve this problem, Fazio and Olson suggested the IAT should be administered long before the target behavior. In this study we used a real life event, namely the Charlie Hebdo rallies, to do just that. This context enabled to go even one step further by measuring the IAT at the city-level (from 2007 to 2014) and correlating these IAT scores with the actual participation rates in the rallies (which took place in 2015) in each of these French cities. By doing so, we ensured that a potential relationship between the two measures could not be explained by the very measure of the IAT before the behavior. In this study, we used the French/Arab IAT because critics of the Charlie Hebdo rallies suggested that, despite the official call for national unity, those rallies were actually implicitly biased against Muslims. On our part, because explicit and implicit measures generally show a modest positive correlation (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005) and because marchers were explicitly unbiased against Muslims, we predicted that cities with lower IAT scores should have higher participation rates. To test this relationship, we used the French/Arab IAT collected from 2007 to 2014 on the French territory as part of the Project Implicit. We then computed the average IAT scores of 35 major cities (for a total of 3426 participants) and correlated these scores with the participation rates of the Charlie Hebdo rallies. In sharp contrast with the idea that Charlie Hebdo marchers were implicitly biased against Muslims, our results revealed a negative correlation such that the higher the IAT scores, the lower the participation rates, r(33) = -.40, p = .016. In other words, the most implicitly anti-Muslim cities were those for which the participation rate was the lowest. This study contributes to the implicit attitudes literature by showing that IAT measures can predict large-scale social behavior, even when the IAT has been measured sometimes several years before the target behavior. This study is also important at the societal level because incorrectly suggesting that nearly 4 million French people marched against their fellow Muslim citizens can have serious consequences.

### A LITTLE ATTENTION GOES A LONG WAY: MERE ACKNOWLEDGMENT CAN MEND THE STING OF EXCLUSION

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Being rejected and ostracized by others is a painful and threatening experience that individuals try to avoid. Accordingly, theories such as the temporal need-threat model of ostracism (Williams, 2009) as well as Sociometer Theory (Leary, Tambor, Terdal, & Downs, 1995) state that individuals are highly sensitive to even minimal cues that signal exclusion and rejection by others as well as all kinds of social cues following an exclusion episode (Pickett, Gardner, & Knowles, 2004). Building on these theoretical models, we argue that following an ostracism episode, individuals should be sensitive to minimal inclusionary cues, too. This is because inclusionary cues signal acknowledgment by other people and thereby imply that one's existence is meaningful. Going even further, we thus assume that even if this "acknowledgment" is negative and potentially hurtful to the excluded person, it still mends the sting of exclusion compared to being ignored altogether. In four experimental studies, we investigate whether and how minimal acknowledgment can improve need satisfaction (feelings of belonging, self-esteem, control, and meaningful existence) after being ostracized. Moreover, we investigate two types of inclusionary cues: a) an individual is minimally reincluded after an episode of ostracism and b) an individual is not reincluded, but receives some minimal form of acknowledgment. Participants were either excluded during a virtual ball-throwing game (in Studies 1 and 2; Cyberball) or rejected in a newly developed apartment--application paradigm (in Studies 3 and 4). For minimal reinclusion in Cyberball, participants were thrown a few balls at the end of the game (instead of no balls in the standard Cyberball game). For minimal acknowledgment, participants in the apartment-application paradigm were rejected but received a message that varied in its valence (hostile, neutral, or friendly). Both reinclusion and minimal acknowledgment increased need satisfaction compared to participants in control conditions. This was even the case when the acknowledgment was hostile, suggesting the provocative conclusion that it is better to be acknowledged but antagonized than to be ignored altogether. Reinclusion buffered threat immediately, whereas acknowledgment without reinclusion primarily aided recovery. The studies highlight the importance of receiving even a minimum of acknowledgment when facing rejection and exclusion. Even if acknowledgment is inherently negative and potentially hurtful, excluded persons might still prefer it to the dead silence of being completely ignored.

### INTERGROUP CONTACT IN THE COURSE OF CONFLICT: THE EFFECTS OF DIRECT AND EXTENDED CONTACT THROUGH FAMILY ON RECONCILIATION IN BOSNIA AND HERZEGOVINA

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The role of direct intergroup contact in shaping outgroup attitudes is well established (for a meta-analysis, see Pettigrew & Tropp, 2006). In the intergroup contact literature, findings on the effect of positive contact significantly outweigh findings on the effect of negative contact that has been neglected in past studies. Furthermore, in post-conflict societies with dire need of reconciliation, intergroup forgiveness and reparation acts may be more important outcomes to consider than outgroup attitudes. Addressing the outlined gaps in the literature, our correlational study in Bosnia and Herzegovina focused on Croat ethnic group (N=244) that engaged in mutual violent acts with other ethnic groups during the war that took place in the 90s. We examined the effects of positive and negative intergroup contact with Bosniaks on intergroup forgiveness and willingness to engage into reparation acts. In societies where groups are entrenched based on past conflicts, opportunity for direct contact can be seriously limited. In such settings, extended contact - knowledge that ingroup member has an outgroup friend - can have greater effect on forgiveness and reparation acts than the limited direct contact. We focused on extended contact through parents and grandparents in three different time points: before the war, during the war and after the war. Despite the prevalence of both direct and extended positive intergroup contact experiences, negative intergroup contact was more influential in shaping intergroup relations than positive intergroup contact. Negative direct contact associated with decreased intergroup forgiveness, while negative extended contact through parents and grandparents during the war

was strongly linked to decreased willingness to engage in reparation acts. The effects of negative extended contact during the war on reparation acts were mediated by intergroup threat and historical perspective taking. Participants who were aware of negative experiences of their family with the outgroup during the war perceived more intergroup threat and were less willing to consider outgroup perspective regarding the history of conflict, which further decreased their willingness to engage in reparation acts. In societies where intergroup encounters are limited and direct-contact-based interventions are difficult to establish, the knowledge about past experiences of family members, especially negative ones, could have significant detrimental effects for intergroup relations. This way, negative intergroup contact has high psychological consequences that can be transmitted through family, affecting intergroup relations of future generations. Mechanisms responsible for transmitting negative intergroup contact experiences through generations and effective ways of decreasing its detrimental influence on intergroup relations are yet to be explored in future studies.

### WHO WOULD YOU PUSH? A DOCTOR OR A TELEMARKETER: EXAMINING THE ROLE OF STATUS IN MORAL DECISION MAKING

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In the present research, we were interested in moral decision making as a consequence of status of the protagonist in the dilemma. In the first study, we used two moral problems- the footbridge problem wherein the protagonist is pushed off the footbridge to save 5 people tied to a track and the switch problem wherein the protagonist could pull the switch to save 5 people tied to a track. In general, past research has shown that switch trolley problems are considered to be more morally permissible than the footbridge dilemma. However, we were interested in manipulating the status of the protagonist and examine the influence of one's status and contribution to the society in the way people make moral judgements. Status and contribution to the society based on one's profession was pilot tested and the following categories emerged: high status, high contribution – Doctor and Judge; high status, low contribution- Celebrity and Minister; low status, high contribution - Social worker and Teacher; low status, low contribution - Unemployed and Telemarketer. Participants were randomly allocated to one of these conditions and they had to answer questions of moral permissibility and justifiability pertaining to both moral dilemmas. We also measured Social dominance orientation (SDO) and in general, as predicted, results indicated that those individuals high on SDO would justify pushing the protagonist off the footbridge if he was of low status. There were no differences in moral permissibility, that is, both high and low SDO individuals found it morally impermissible to push the protagonist off the footbridge. The second study is in the process of being conducted wherein we aim to manipulate the status of the 5 people tied to the tracks. We predict that, high SDO individuals would justify pushing the protagonist off the footbridge if it means that the 5 individuals who are of higher status can be saved. In two studies we manipulate the status either of the protagonist or the victims and we generally predict that those individuals who legitimise status hierarchies would find a way to justify saving the individual(s) of higher status.

#### ATONING GUILTY PLEASURES: ORAL CONSUMPTION AND MORAL COMPENSATION

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People appear to adapt their behaviour to maintain a moral equilibrium: After an immoral act they attempt to compensate by engaging in a moral act, as if to re-establish their moral self-image. Compensatory behaviours can involve not only helping others, but also punishing oneself. Can these behaviours be elicited by a violation of one's desired body image, such as the sin of glu-

ttony? In Study 1 (N = 63) we found that women who habitually restrain their food intake were more likely to report prioritising others' needs before their own, a correlational relationship mediated by guilt. Experimentally, participants who recalled an overeating (vs. neutral) experience reported more guilt and desire to self-sacrifice (Study 2, N = 160), or assisted the experimenter with a tedious questionnaire for longer (Study 3 (N = 62). Thus, one way of re-establishing one's moral self-worth following excessive food consumption appears to be demonstrating one's prosocial disposition. Another way may be to engage in self-punishment. Indeed, overeating (vs. neutral) recall led to longer performance on the painful cold-pressor task (Study 4, N = 67). In sum, excessive food consumption cam be viewed as a moral transgression that violates one's desired body image and elicits both interpersonal and intrapersonal compensatory behaviours aimed at restoring one's moral self-image.

#### DOES SOCIAL PRIMING REDUCE WORD READING IN THE STROOP TASK? A PROCESS DISSOCIATION APPROACH

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Naming the surface colour of a coloured word faster and more accurate when surface colour and word meaning match compared to trials in which they mismatch defines the Stroop effect (for a review, see MacLeod, 2001). Recent research found reduced or even eliminated Stroop effects by social priming: Participants were either primed with the social concept "dyslexia" or "dyscalculia" before performing the Stroop task. Only participants with the dyslexia social priming showed reduced Stroop effects (Augustinova & Ferrand, 2014; Goldfarb, Aisenberg, & Henik, 2011). However, it is still discussed which cognitive process is affected by the social priming procedure. While Goldfarb et al. (2011) argued that early automatic processes are reduced by the priming procedure, Augustinova and Ferrand (2014) concluded that late controlled processes are influenced. A process dissociation model (Lindsay & Jacoby, 1994) will be used to scrutinize which process is affected by the social priming procedure. The model provides estimates for the automatic word reading process and the controlled colour naming process. Applying the model requires analyses of error data instead of response latencies. To achieve a modest amount of errors a response deadline of 800ms was administered and vocal responses assessed. In a first experiment, participants (N = 20) completed an initial session of the Stroop task, including congruent and incongruent stimuli. Then they received the social priming of dyslexia and afterwards finished a second session of the Stroop task. In the first study, a reduction of the Stroop effect in the block directly following the social priming procedure could be observed in the raw error data. Descriptively, the reduction of the Stroop effect could also be observed in the word reading parameters. A second experiment (N = 40) will include an additional control group that receives a social priming of dyscalculia. No effect of priming on the Stroop effect is expected for the control group. Results of the two experiments, process parameter estimates and future prospects will be discussed.

#### CURIOSITIES IN THE REPLICABILITY DEBATE: WHEN A SECOND LOOK OFFERS NEW CONCLUSIONS

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The increasing amount of direct replications in Social Psychology paves the way to reevaluate many previously discovered findings in Social Psychology. In this paradigm, failed direct replications are often seen as an indicator of false-positive findings, file drawer biases or at least the fragility of an effect (e.g., Simons, 2014). However, even though such seemingly final conclusions might be tempting, they are not always warranted. Apart from acknowledging the possible existence of moderators, researchers too often seem to overlook the meta-analytic logic of cumulating evidence (Braver, Thoemmes, & Rosenthal, 2014) and the natural variation of p-values in

significance-testing (Cumming, 2008). According to this logic, researchers should not rely on the results of a single study but rather integrate all available data into their analysis. In fact, a meta-analytic perspective may even suggest that due to a "failed" replication study, we should increase rather than decrease our confidence in the existence of an effect. We provide an example from a current replication paper that shows how a dichotomous perspective of failed or non-failed experiments can lead to greatly varying conclusions. In a recent replication project, Rohrer, Pashler, and Harris (2015) could not replicate a priming effect on the evaluation of fair market ideologies and therefore concluded that this casts doubt on the existence of the effect. Curiously a meta--analysis of the accumulated data suggested to revise the estimated magnitude of the effect, but overall provided more evidence for the effect, rather than against it: When including both, the data from the original studies and the unsuccessful replications in the analysis, we received a significant homogeneous effect that showed a decreased likelihood of a Type- I error compared to the original study alone. Hence, we conducted a meta-analysis across all available published and unpublished data to control for a possible publication bias. Across data from 1592 participants we found a small but highly heterogeneous effect that suggests the existence of moderators. A second look on data can offer quite different conclusions; we argue, that even though failed replications of underpowered studies should certainly cause us to revise the estimated magnitude of the effect, we should be more careful to conclude whether an effect exists or not. This cumulative meta-analytic approach shows how adding additional data can lead to increasingly better estimates of the true effect.

#### KAMA MUTA: A SOCIAL RELATIONS MODEL OF BEING MOVED

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The emotion of being moved or touched is widely experienced but only tacitly defined, and has received little systematic theoretical or empirical attention. To integrate this literature and explain this phenomenon, we develop the kama muta model, in which we conceptualize 'being moved' as a culturally implemented social-relational emotion responding to and regulating behavior in communal sharing relations. Based on social-psychological and anthropological work, we hypothesize that being moved is elicited by experiencing or observing sudden intensification of communal sharing relationships. When sufficiently intense, being moved is accompanied by weeping, chills, and feelings of warmth in the center of the chest, and experienced as positive. In Study 1, we investigated the relation of being moved to communal sharing by sampling everyday relationships. Specifically, participants provided a list of 20 persons they interacted with in their daily lives, from which the computer picked two. Participants filled in relational models and emotion measures for both social relationships. In Study 2, we elicited one report each of recent episodes of weeping because of a positive feeling and because of a negative feeling and measured being moved as well as a set of sensations and appraisals. In Studies 3 and 4, participants watched between three and ten video clips that elicited being moved, and reported being moved, appraisals, and sensations after each clip. In Study 5, participants watched videos chosen to elicit different emotional responses, namely happiness, fear, sadness and being moved, and we compared sensations and appraisals for these four emotional responses. Studies 1 and 3-5 were conducted with US MTurk workers and with Norwegian undergraduate students, and Study 2 was conducted with US MTurk workers. In total, data from 909 online participants were analyzed. Using multi--level analyses, we confirmed across five studies and two countries that indicators of increased communal sharing predicted being moved. In Study 1, we found that communal sharing can be indexed by ratings of interpersonal closeness. In the remainder of the studies, we found that an appraisal of increased closeness, as well as three other related appraisals, predicted being moved. In Studies 2-5, weeping, goosebumps, and warmth in the chest were sensations associated with being moved. In Study 2, participants reported more being moved in the positive tear condition, and in the other studies being moved correlated with positivity ratings. Our theory and evidence provide a new framework to understand feelings typically labeled as 'being moved.'

### CHILDREN'S INTERGROUP HELPING: THE ROLE OF INTERGROUP ATTITUDES, IDENTIFICATION, NORMS, AND INTERGROUP ANXIETY

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When 18 month old children see an adult unsuccessfully reach for a marker which (s)he accidentally dropped on the floor, most of them will get up and hand over the marker (Warneken & Tomasello, 2006). It is quite miraculous that children who can barely walk or talk will spontaneously offer help such help. It clearly appears that children have a proclivity to do good. At the same time, however, there is good reason to expect that children are not helpful to each and every one. There is a wealth of developmental and social psychological evidence showing that children's behaviour does not only depend on their psychological dispositions and abilities but also on the intergroup context (Bennett & Sani, 2004; Levy & Killen, 2008, for reviews). The large majority of that research has focused on negative aspects of intergroup relations such as prejudice and discrimination. Research on the consequences of intergroup contexts for children's positive behaviours, such as helping, is scarce and the findings are inconclusive. The studies either find in-group bias in children's helping (Katz, Katz, & Cohen, 1976; Kinzler & Spelke, 2011), out-group bias (Zinser, Perry, Bailey, & Lydiatt, 1976) or no bias (Bigler, Jones, & Lobliner, 1997; DeJesus, Rhodes, & Kinzler, 2014). To better understand why this is the case, it is important to gain insight into the underlying socio-cognitive motivations of children's helping behaviour. In this study a total of 229 children (aged 10-13 years) from 6 different schools were given the opportunity to help an out-group (Surinamese) or an in-group (Dutch) peer by entering codes into the computer. Children were told that the recipient had to guess words and that for each five codes entered (s)he would receive one letter. In addition, possible socio-cognitive moderators where measured: in-group and out-group attitude, ethnic identification, perceived out-group norm, and intergroup anxiety. Results showed that whereas children's decision to stop or continue helping did not depend on the recipient's group membership, children entered more codes and spend more time helping when it concerned an out-group peer compared to an in-group peer. Only intergroup anxiety was significantly related to children's out-group bias in helping. Children who reported stronger intergroup anxiety helped the out-group peer longer and more compared to the in-group peer. Whereas, children with less intergroup anxiety helped in- and out-group peers equally. This suggests that children help peers that they are less comfortable with more, possibly as a way to manage their anxiety. A follow-up study is currently being conducted to understand these results further.

### USERNAME PRONOUNCEABILITY AND LENGTH AFFECT PERCEPTIONS OF SELLER TRUSTWORTHINESS IN ONLINE MARKETPLACES

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What information do buyers in online marketplaces take into consideration before engaging in a transaction with a seller? How do buyers assess that a private seller on an online auction site can be trusted and will not behave opportunistically? Because trust in online transactions is difficult to establish, effort has been put by many online marketplaces like eBay or Amazon.com in developing systems that allow extracting how trustworthy a seller is. These Reputation systems are built on the basis of objective feedback scores that buyers can give about the quality of the previous transactions they had with a seller. But are there other, more subtle cues that can influence individuals' perceptions of sellers as more or less trustworthy? For example, can the ease with which the username of an eBay seller is pronounced affect how trustworthy she/he is considered? We tested this hypothesis in six experiments. We created several eBay seller profiles with easy- and difficult-to-pronounce usernames and asked participants to indicate how trustworthy they considered each to be (9-point rating scale). To simulate real profiles, sellers' reputation was also manipulated (sellers had either good or bad reputation, manipulated through a "star rating" system).

In Experiment 1, sellers with easy-to-pronounce usernames were rated as more trustworthy that sellers with difficult-to-pronounce usernames. And even though a main effect of Reputation was also observed (sellers with better reputation were trusted more than those with worse reputation), the effect of pronounceability was observed both for good and bad reputation sellers and was not qualified by that factor. This suggests that the subjective experience of fluency associated with username pronounceability influenced participants' trustworthiness assessments over and above the use of objective information. Experiment 2 introduced a finer manipulation of pronounceability, disentangling its effects from those of username length. Results showed that the two dimensions influenced trustworthiness ratings independently. Four follow-up experiments tested the limits of these effects. Experiment 3 ruled out the hypothesis that the pronounceability and length effects emerge because individuals associate difficult-to-pronounce or long usernames to immigrants, and Experiment 4 showed pronounceability and length effects persist even when participants are explicitly asked to correct them. Finally, username pronounceability and length effects did not dependent neither on whether it was the sellers' intention to create difficult- or easy-to-pronounce usernames (Experiment 5), nor on how long ago the sellers' profiles were created (Experiment 6).

#### BIASED USE OF STATISTICAL KNOWLEDGE USING FALSE-ALARMS IN BASE-RATE PROBLEMS

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According to dual-process approaches to inductive reasoning, judgment is the combined result of Intuitive and efficient, Type1 processes; and analytic, dependent on cognitive resources, Type2 processes. To study how T1 and T2 interact researchers make abundant use of reasoning problems that present a conflict between intuitive and analytic responses. Base-rates problems (Kahneman & Tverky, 1972) are emblematic exemplars of conflict problems. In these problems participants choose between two opposing response options - one favored by the base-rates and the other favored by the stereotypical description of a target. Stereotype-based responses are usually taken as evidence of T1. Base-rates responses, on the other hand, are taken as evidence of T2 (i.e., the deliberative overriding of the intuitive response in lieu of a base-rates response). However, such one-to-one correspondence between processes and responses may be problematic due to its circularity. Opposing response options are taken as signs of different types of processes and Types of processes are inferred from responses options. In the language of signal detection theory, responding according to Base-Rates is always a Hit and not responding according to Base-Rates is always a Miss...there is no way to estimate False-Alarms. So it is hard to know when Base-rate responses reflect the appropriate use of Base-rates or a mere bias to use base-rates. To address this problem, we developed false alarm versions of Base-rate problems where the conflicting base-rates are biased and thus are no longer a valid source of information to respond (see Fong, Krantz & Nisbett, 1986). In a first study, participants responded to 15 base-rate problems: five conflict, 5 no--conflict (i.e., base-rates and stereotypical description converge in the same answer) and 5 false-alarm problems. Dependent measures: mean proportion of Base-rate responses (reflecting the adequate use of base-rates in conflict problems but the inadequate use of Base-rates in false-alarm problems); and mean response times for each kind of problem. We replicated previous results by showing that responding according to base-rates to Conflict-problems is associated with longer decision times (a sign of T2). However, these responses were also positively correlated with False-alarms indicating a bias to use Base-rates regardless of their applicability. We conclude that T2 may be less rational than usually assumed as it may correspond to the biased use of statistical information. Follow-up studies replicating these initial findings will also be presented. We discuss the implications of these results for dual-process approaches of inductive reasoning.

#### ALTERING THE INCUMBENCY EFFECT USING THE PRINCIPLES OF QUERY THEORY

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In political elections, voters prefer candidates who are currently in office (incumbents) over new candidates (challengers). This bias favoring incumbents hinders voters from engaging in balanced decision-making and leads them to overlook equal, if not more qualified, challengers. This phenomenon has been well-documented in historical elections and in experimental studies, however its underlying cognitive mechanisms remain unclear. In our research, we examine how candidate preference formation is influenced by the manner in which voters consult their memory during political decision making. Using query theory (Johnson, Häubl, & Keinan, 2007) as a premise, we hypothesize that the effect of incumbency on candidate preference is mediated by the order in which individuals query information from memory. Individuals 'typically' first query information about the incumbent, which creates richer representations and suppresses later queries about the challenger. Furthermore, by reversing this typical query order, the incumbency effect can be reduced, and by emphasizing this typical guery order it can also be exacerbated. We tested our predictions in two studies using a hypothetical election scenario and the well-established aspect listing methodology for measuring and altering query order. In Study 1 (N = 256), we found that candidate preferences are mediated by the hypothesized 'typical' query order (b = -.18, 95% CI [-0.35, -0.05]). Study 2 replicated this effect and revealed a significant interaction between incumbency and guery order in the predicted direction (eta squared = .03). Reversed guery order reduced the incumbency effect compared to the emphasized guery order (although neither condition differed from the control condition). In sum, not only is query order related to the preference for an incumbent, but altering query order can alter this incumbency effect. In a new line of studies, we attempt to replicate and expand on our study of the cognitive processes underlying the incumbency effect. Specifically, we are in the process of testing an ecologically valid tool for altering query order that may have the potential to reach a larger population outside of the laboratory. While the aspect listing methodology only prompts participants to pose evaluative questions (i.e. queries) to themselves and then attempts to capture the outcome of these queries, we attempt a more direct approach: we will explicitly provide participants with evaluative questions in a predetermined order in the context of a normal survey. This new tool may allow for the real-world application of query theory to alter and promote balanced political decision-making.

### DOES THE RELATION BETWEEN BELIEF IN FREE WILL AND LIFE SATISFACTION DEPEND ON SELF-ESTEEM?

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Beliefs about free will are not only an interesting topic of discussion, but may also have implications for one's well-being. Previous research revealed a small, positive relation between belief in free will and life satisfaction. However, is belief in free will associated with higher life satisfaction for everyone? While people high in self-esteem evaluate themselves in a positive way, people low in self-esteem evaluate themselves in a negative way. People high in self-esteem may indeed be more satisfied with their lives when they believe in free will (and attribute the traits they consider positive in themselves to their own choices and actions). However, people low in self-esteem may be more satisfied when they do not believe in free will (and feel less responsible for the traits they consider negative in themselves). In Study 1, we investigated this hypothesis using a questionnaire approach. In Study 2, we manipulated participants' self-esteem in the lab. In Study 1, 100 participants filled out the Free Will and Determinism Scale, the Satisfaction with Life Scale, the Rosenberg Self-esteem Scale, a number of explorative questionnaires, and demographical information. In line with our predictions, while there was a marginally significant positive relation between belief in free will and life satisfaction for people scoring high on self-esteem, there was a negative relation between belief in free will and life satisfaction for people scoring low on self-esteem. In Study 2, 120 participants first filled out demographical information, their current mood (pre-measure), and the Free Will and Determinism Scale. Next, a self-esteem manipulation followed. Participants carried out a (fake) intelligence test, followed by bogus feedback (negative/ positive), or no feedback. Afterwards, participants filled out the Satisfaction with Life Scale, their

current satisfaction, and their current mood (post-measure). Within the low self-esteem condition, mood dropped more for participants scoring higher on belief in free will. Within the high self-esteem and no manipulation conditions, there was no relation between belief in free will and mood change. No significant interaction on the satisfaction measures was found. Our results suggest that self-esteem moderates the relation between belief in free will and life satisfaction (questionnaire study) or mood (lab study). Although there seemed to be a somewhat positive relation between belief in free will and life satisfaction for people high in self-esteem (Study 1), there especially seemed to be a negative relation between belief in free will and life satisfaction/mood for people low in self-esteem.

# MOTIVATED CONCEPTIONS OF THE SELF ACROSS TIME: SELF-SERVING BELIEFS ABOUT CURRENT PERSONALITY, FUTURE PERSONAL DEVELOPMENT, AND THE MEANING OF PAST BEHAVIOR

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The present research provides new evidence for motivational influences on people's conceptions of the self in past, present, and future: A series of experiments demonstrates that people's motivation to see themselves in a positive light affects (a) how malleable they perceive their personality to be at present, (b) how they expect their personality to develop in the future, and (c) how much meaning they ascribe to their past experiences. In particular, participants (a) perceived present weaknesses in their personality as more malleable than strengths, and (b) expected their present strengths to remain constant, but their present weaknesses to improve in the future. As a result of these motivated implicit theories about present and future personality, participants tend to imagine their future self as a more ideal version of their current self. Several additional findings suggest the motivational nature of these effects: The difference in perceived malleability for strengths versus weaknesses was only observed for the self, not for other people. When the desirability of possessing a certain trait was manipulated, that trait was perceived to be more malleable when it was depicted as undesirable. And these different beliefs that people have about how malleable their traits are, and how they will develop in the future, were associated with their desire for change, which is stronger for weaknesses versus strengths. Finally, such self-serving tendencies did also emerge with regard to people's conceptions of their past self. Specifically, motivation was also shown to influence (c) the extent to which people believe memories of their past self to provide insight into their present self: Participants believed positive memories of their past self to be more revealing of their current personality and to provide greater self-insight than negative memories, regardless of whether these memories were recalled spontaneously or deliberately. In sum, this line of research shows that motivation not only affects people's beliefs about how changeable their traits are at present (e.g., whether people think that they can change in how anxious they are), but also how they envision their future self (e.g., whether they see themselves as more or less anxious 10 years from now), and how much meaning they give to memories of their past self (e.g., whether they consider their anxious behavior as a child as revealing something meaningful about their present self or not).

#### HOW BEING OBSERVED MAGNIFIES ACTION

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How the presence of observers affects people's self-regulation and performance is one of the oldest questions of social psychology. It has been shown that if an individual is observed during an action, the mere observation typically affects the performance of the action, by facilitating the

performance of easy tasks and hindering the performance of complex tasks. Surprisingly, however, past research has not looked at whether the perception of a given action is affected by the presence of observers. We set out to test the hypothesis that the presence of observers amplifies the perceived magnitude of actions. Specifically, the presence of observers motivates people to establish a shared reality with these observers: to tune their understanding of their own action with the observers. As a result, people experience their actions from their own perspective and from the perspective of the observer simultaneously, which magnifies the actions. In Study 1, we show that observed (vs. unobserved) participants perceive they have had a larger food portion, because being observed leads them to adopt multiple, simultaneous perspectives on their action. In Study 2, we test whether mere arousal could instead be the mechanism underlying our effects. To this end, we informed people that they were observed only after they have taken the action (in this case, eating). Still, observed (vs. unobserved) participants magnified their recollection of the magnitude of the action and thought they had eaten larger portions. In Study 3, we further test whether social desirability could account for the magnifying effects of being observed by exploring whether being observed magnifies the perception of one's failures in addition to successes. In line with the multiple-perspectives account, observed (vs. unobserved) participants reported both more correct and more incorrect answers, and thus magnified desirable and undesirable actions, whereas a social desirability account would predict only a magnification of desirable actions. In Study 4, players in a Badminton tournament reported how much they contributed to their team's success as well as failure. We demonstrate that the more observers were present (i.e., audience members), the larger the amplification of the perceived contribution to both positive and negative team outcomes. Taken together, the presence of observers fundamentally affects people's perceptions of their own behavior. Thus, we show how the social context influences not only what people do, but also how people think about what they do.

### THE SHOOTER BIAS IN GERMANY: REPLICATING THE CLASSIC EFFECT AND INTRODUCING A NOVEL PARADIGM

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Are Turks and Muslims in Germany perceived as dangerous? We present two high-powered experimental studies, a close and a conceptual replication, of the shooter bias – the tendency to shoot faster at Black armed compared to White armed targets and react slower to Black unarmed vs. White unarmed targets in a shooter task (Correll et al., 2002). Experiment 1 (N=163) is a close replication using the original shooter paradigm with Arab-Muslim targets. Participants showed a classic shooter bias: A significant interaction in reaction times with faster 'shoot' responses for armed Arab-Muslim targets compared to armed White targets ( $_{p}^{2}$ =.11, 90% CI[.04; .18]). This provides further evidence that the shooter bias is robust against context variations. Experiment 2 (N=166) is a conceptual replication, further adapting the paradigm to the German context. In this novel 'avoidance task', participants are presented with street scenarios, in which Arab/Turkish or White targets with knifes or harmless objects appear either on the left or right. Participants' task is to change to the opposite sidewalk if a target carries a knife (i.e, 'avoid'), or to stay on the same sidewalk if a target carries a harmless object (i.e., 'approach'). Results showed a significant interaction effect: Compared to White targets, reaction times were faster for armed Arab/Turkish targets, but slower for unarmed Arab/Turkish targets ( 2=.20, 90% CI[.12; .28]). Results are interpreted as an avoidance bias for Arab/Turkish targets – an effect almost twice as large as in the original shooter bias paradigm. This avoidance bias may have severe real-life implications, such as the potential to disrupt cross-group interactions. Furthermore, we discuss the influence of perceived target-prototypicality on the magnitude of shooter and avoidance biases using a mixed model with stimuli as random factors. Taken together, our research provides evidence for threat--associated response patterns toward negatively stigmatized groups in Germany.

### **SOCIAL PERCEPTION OF THE VICTIMS AND PERPETRATORS OF SEXUAL HARASSMENT** Studzińska, A.

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The aim of the presented studies was to see if the sex of a victim and a perpetrator of sexual harassment (SH) influences how they are perceived. Drawing from the concept of dyadic morality (Gray, Young, & Waytz, 2012; Gray & Wegner, 2009) I hypothesize that because women as a social category are seen as more moral then men, and men are seen as more agentic, women are by definition placed in the role of moral patients, and men - moral agents. Moreover, in case of SH usually it is the women who are "receiving" SH (patient) and the men are "giving" it (agent), and as such by default SH cases include a woman who is a moral patient and a man who is a moral agent. Consequently, in the presented studies, I tested the following hypothesis: 1. A man is perceived to suffer less from SH than a woman 2. A man-perpetrator of SH causes greater harm than a woman-perpetrator 3A. A person who harasses a man is evaluated better than a person who harasses a woman OR 3B. A woman-perpetrator is evaluated better than a man-perpetrator. The participants in two studies (N1 = 221, N2 = 147) were presented with a text depicting a real case of SH in one of its four versions: male on female, female on male, male on male or female on female. Subsequently they were asked to evaluate the perpetrator and the level of the victim's suffering. The results support the hypothesis that women are perceived as moral patients who suffer more (H1) and cause less harm (H2), while the men are moral agents who are evaluated in a more negative way than women (H3B).

### THE EFFECT OF GRATITUDE TRAINING ON DAILY FUNCTIONING OF WOMEN WITH BREAST CANCER

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Introduction Gratitude is understood as an emotion, a disposition or life orientation, enabling people to appreciate the good things in everyday life. In the recent years, there has been growing number of research which suggests the influence of gratitude on the increase of happiness and psychological wellbeing. We decided to verify, whether this effect is also observable in the group of oncological patients... Method 61 women with breast cancer were invited to participate in a 2-week gratitude diary study, in which every day they were asked to report daily events and their mood, depression level, anxiety, acceptance of illness, stress coping methods, quality of life and other well-being related constructs. Additionally, half of them were asked to list reasons why they felt grateful that day. There were pretest and posttest measures taken, which involved similar constructs as daily measures but at a dispositional level. Results Multilevel modeling analyses indicated that daily gratitude was positively related to e.g., self-esteem, positive affect, well-being, perceived partner support, while being negatively related to depression and negative mood. It is worth noting, that those relationships were stronger in the gratitude group. Moreover, the gratitude group experienced higher daily gratitude, self-esteem, optimism and social support. Comparison of pre and post measures showed that there was a decrease of emotion--oriented and avoidance-oriented stress coping styles in the gratitude group over the 2-week gratitude training. Furthermore, the results suggested that the gratitude group chose task-oriented stress coping style more often than emotion- and avoidance-oriented styles, which dominated in the control group. There was also an increase in the level of dispositional gratitude. Conclusion The results of the present study suggest that gratitude may be an effective tool for increasing daily well-being of women with breast cancer. It is worth considering the possibility of using the gratitude training as a form of autotherapy.

#### **NEED FOR CLOSURE AND MULTITASKING PERFORMANCE**

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A large set of our everyday activities involves simultaneous combination of several tasks and researchers argue that in today's fast-paced, electronic world multitasking has become the "new normal." Thus, identifying characteristics of (un)successful multitasking is very important. In three studies we tested the role need for closure (NFC) plays in multitasking performance. We predicted that this specific motivation, defined as a tendency to reduce uncertainty and ambiguity via cognitively rigid processing style, would lead to poorer performance on multiple tasks but only for those who have low shifting ability. When shifting ability is high, no decrements, or even better multitasking performance of high NFC individuals should be found. Further, we hypothesized that better multitasking performance of high NFC individuals might be due to better focalization of attention and the ability to ignore interruptions. To test these hypotheses, we asked our participants to perform two simultaneous tasks (Study 1), two simultaneous tasks interrupted by tasks not related to the task goal (Study 2) and multiple tasks during which various interrupters were presented (Study 3). The results supported our predictions as it turned out that whether NFC was related to better or worse multitasking performance depended on shifting ability (Study 1 and 2). Also, high NFC participants engaged in interruptions to a lesser extent (Study 2) and were better at ignoring them than low NFC participants (Study 3). Thus, better handling interruptions might explain enhanced multitasking performance related to NFC.

#### HOW THE BRAIN LOOKS AT OTHER-RACES: A FUNCTIONAL NEAR INFRARED STUDY ON INTER--ETHNIC FACE PERCEPTION

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In everyday life, face perception is believed to be the very first type of human relationship. An important factor influencing face perception is the race. Own-race faces are both recognized better (Other-Race Effect) and processed at a deeper level of elaboration. Previous fMRI and PET studies have highlighted the presence of a neural other-race effect (NORE), with larger activation for own- vs. other-race faces during face categorization and recognition tasks. In the present research, we used functional near-infrared spectroscopy (fNIRS) to contrast the neural activation for own-versus other-race faces during a passive viewing task to determine whether very brief (250 ms) and unconstrained face perception is sufficient to elicit different hemodynamic responses to these stimuli. Caucasian participants were presented with close sequences of either Caucasian or African faces. Results showed a larger activation for own- compared to other-race faces in the areas of cuneus and precuneus (BA19). These areas seem to be associated to the detection of familiar face and self-resemblance effects. In this perspective, these findings suggest that even a brief face presentation is able to elicit a differential neural activation in response to other-race faces. Investigating first facial perception is important for the understanding of the very first phases of inter-ethnic relationships. Moreover, neuroimaging studies can provide us with neurophysiological markers of the cross-race differential treatment.

#### CAN SELF-INITIATED JOINT ATTENTION PROVIDE A REWARD THAT DRIVES MOTOR LEARNING?

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"Interactionist" views on social cognition hold that interaction constitutes the basis for the development of social skills. This means that interaction can "bootstrap" social skills because its intrinsically rewarding nature makes us want to interact, and thus allows for motor learning, and the development of (social) skill. This experiment aims to show how the experience of self-initiated joint attention in social interaction carries an intrinsic reward that can drive motor learning, using eye-tracking of people interacting with virtual faces, which has previously been shown to activate the brain's reward system. This expands beyond previous findings in the processing of

social reward, in that here we manipulate experienced action contingencies. Our paradigm is based on previous studies showing that it is possible to use financial or food reward to train saccadic response time in humans and primates. Participants were presented with a face/avatar on a computer screen with which they had to make eye contact, and to the left or right of which could appear a stimulus (50/50 probability), to which they had to shift their gaze as fast as possible. Only if saccades were made fast enough, the avatar followed their gaze. In a control condition, participants receive a monetary reward displayed on a rotating cylinder roughly the size and colour of an avatar's face. One target side has a higher pay-off in case of success (80%) than the other (20%). Following a no-reward practice block, participants see 6 blocks where systematically one side's fast saccades are rewarded more. They end with a final block in which the reward pay-off has switched sides. We expected decreased saccade preparation time (time between target onset and start of saccade) for the more rewarding target side with the final block leading to a disruption of learning, on both high-reward and, to a lesser degree, the low-reward side. Preliminary results suggest a learning effect in both the monetary and social condition, and are discussed in the light of the role of imitation versus non-imitative action contingencies, and explicit versus implicit reward.

### WORK MORE THEN FEEL MORE: THE INFLUENCE OF EFFORT ON AFFECTIVE FORECASTING Toma, C.<sup>1</sup>; Jiga-Boy, G.<sup>2</sup>, & Corneille, O.<sup>3</sup>

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When we invest effort into something, most of us expect material or emotional pay-offs. For example, when putting effort into a research project, we expect satisfaction and proud if the project gets funded, but disappointment and anger if the opposite happens. The question we address in this paper is whether people use effort as a cue when forecasting their affective reactions to future events. Four studies tested the hypothesis that more effort triggers more intense affective forecasts. Studies 1 and 2 examined how effort shapes affective forecasts in case of positive events. In Study 1, PhD students awaiting an editorial decision estimated the effort they had invested in preparing the manuscript and how happy they would feel if it were accepted. Subjective estimates of effort were positively related to participants' anticipated happiness, an effect mediated by the higher perceived quality of one's work. Study 2 replicated this effect, this time using a manipulation of effort in the context of creating an advertising slogan. Study 3 further showed that effort not only shapes affective forecasts, but it actually enhances affective forecasting biases: Participants' affective forecasts (happiness, proud and satisfaction) were higher than their real affect, an effect that was stronger for participants in the high-effort condition than in the low-effort condition. Study 4 extended those findings to negative events: Participants who took an anatomy exam expected to feel much worse about failing the exam than it was really the case, an effect again moderated by the effort condition. We discuss the implications of the relationship between effort and affective forecasting and the conditions under which such relationship is functional.

### ORAL MOTOR SYMBOLISM: HOW NAMES SHAPE ATTITUDES Topolinski, S.

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A large body of research has shown that semantically meaningless body movements, such as arm stretching or sitting in an upright posture induce motivational states. In the present talk a newly emerging arena of research is reviewed that explores such motor inductions of motivational states and attitudes via the oral motor system, that is, with mundane mouth movements. One unobtrusive route to induce very specific mouth movements is to construe words whose articulation requires certain movements. For instance, words can be construed whose consonantal

articulation spots wander from the front to the rear of the mouth (inward, like in BAKA) or from the rear to the front (outward, like in KABA). Because such inward movements resemble positive eating behavior like drinking or swallowing and outward movements resemble negative expectoration acts like spitting, participants prefer inward over outward words without being aware of the underlying articulation manipulation. This and many other effects reviewed in the talk show novel motoric routes to attitudes and surprising links between language, embodiment, and evaluation.

#### ARE DISASTERS PERCEIVED AS LESS HARMFUL IF THEY ARE CAUSED BY A THIRD PARTY?

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Previous research showed that intentional harm is perceived as more monetary costly than unintentional harm. Surprisingly, little is known about they perceived psychological extent of disasters, especially within an international context. In two studies participants had to read a faked newspaper article about a dam burst in a faraway country that caused several deaths and left thousands homeless. In Study 1 participants read that the dam was either build by a company from the same country as the victims (in-group perpetrator), or by a company from a neighboring country (out-group perpetrator). The results of Study 1 indicate that the disaster was psychologically perceived as less severe when the disaster was caused by an out-group. In Study 2 we added a condition that the dam was built by a company from the participants' country. Study 2 showed that participants perceived the disaster as most severe when it was a caused by their in-group, followed by the victims' in-group, followed by the victims' neighboring country. Moreover, mediational analysis showed that this effect is driven by state empathy. These findings can contribute to a better understanding of why people sometimes fail to support victims of international disasters.

#### RESISTANCE TO IMPLICIT IDENTITY THREAT

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Although overt discrimination and stereotyping are becoming increasingly socially unacceptable, on an implicit level these processes continue to shape our interactions. For the victims of these processes, implicit stereotyping and discrimination create implicit social identity threat, and here we examine how victims of implicit identity threat deal with this experience. Some theorists have argued that implicit identity threat cannot be resisted, because it is difficult to recognise (e.g. Dardenne, Dumont, & Bollier, 2007). Indeed, implicit identity threat does not elicit the resistance responses commonly observed following explicit identity threat, such as anger and protesting (Barreto, Ellemers, Scholten, & Smith, 2010). Importantly, however, this does not mean that no resistance is possible at all. Here we hypothesise that participants resist implicit identity threat through implicit strategies, such as implicit in-group bias (Ramos et al., 2015), or task persistence (de Lemus et al., 2016). This hypothesis was tested in 2 lines of study. In the first (N=461), implicit identity threat is manipulated by pairing the subliminal prime "woman" with a supraliminal image of a stereotypical activity (e.g. housework). In the second line (N=292), Spanish participants are exposed to implicit stereotypes of their national group by pairing the subliminal prime "Spanish" with a stereotypical trait linked to the economic crisis (e.g. "lazy"). Results showed that, in the case of women, responses to implicit threat to gender identity depend on identification with women and identification with feminists. Those who identify with feminists, but the broader group of women, resisted implicit identity threat. Exposure to implicit gender stereotypes led these women to show implicit in-group bias: positive characteristics were attributed to the in-group rather than the out-group, reversing the associations seen in the manipulation. Moreover, they persisted in a counter-stereotypical domain (math task), indicating that they wished to disprove the implicit stereotypes. In the second line of studies, similar strategies were observed. When confronted with

implicit stereotypes relating to the economic crisis, Spanish participants show implicit in-group bias, associating positive attributes with the in-group rather than the out-group. Moreover, they show implicit out-group derogation, associating negative attributes with the out-group rather than the in-group. Taken together, these studies show that implicit identity threat can be resisted through strategies such as implicit in-group bias, out-group derogation, and task persistence. Victims of identity threat are not passive, but may develop sophisticated strategies to resist implicit threats to their social identities.

### TO FEEL AS ONE WHILE REMAINING TWO: HOW PEOPLE DISTINGUISH SELF AND OTHER IN SOCIAL INTERACTION

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As social beings, we regularly interact with others, and the way we do this crucially affects our social relationships. In order to efficiently coordinate our actions and establish satisfactory social relationships we need to take into account others' actions and emotions, yet also distinguish those actions and emotions from our own. How do we distinguish our own actions from those of others? Previous research suggests that people are able to distinguish self and other by coding their own actions in reference to their interaction partner. For example, people spatially code their actions as 'left' when sitting to the left of their interaction partner, and vice versa. This spatial coding is commonly measured using the social Simon task, in which participants respond to stimuli that are spatially congruent or incongruent to their seating arrangement, resulting in slowed reaction times (action interference) when incongruent. Recent research showed similar action interference effects as a function of color or identity congruency, raising the question when and how people use different reference frames (e.g., space, identity) to code their actions? Based on the notion that spatial action interference is increased when interacting with similar compared with dissimilar others, we propose that people more easily code and distinguish their actions in reference to non-personal (e.g., spatial) characteristics when interacting with similar others. Yet, when interacting with dissimilar others, people more easily code their actions in reference to personal (e.g., identity) characteristics, which should lead to enhanced identity interference. To test this hypothesis, we developed a multi-dimensional social Simon task, in which participants responded to blue or orange words. These words were either their own name, their co-actor's name, or a no name control condition (identity dimension), and were presented either on the left, middle, or right of a computer screen (spatial dimension). Perceived similarity between co-actors was manipulated through a minimal group paradigm, creating in-group and out-group participant pairs. Results showed strong spatial and identity interference effects. In contrast to previous research, spatial interference was unaffected by perceived group membership. However, identity interference was enhanced when interacting with dissimilar compared with similar others, indicating that people use different reference frames to code their actions depending on the social context. Results will be discussed in relation to social identity and social behavior.

#### MORE IS MORE: NEW FINDINGS ON THE NEURAL CORRELATES OF FALSE BELIEF AND TRAIT ATTRIBUTION

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We present new evidence on two novel paradigms used to explore the neural correlates of false belief and trait attribution. First, meeting more minds allows us to study the processes of false belief attribution. Instead of understanding the mind of a single observer, in this study participants viewed two smurfs observing an event. The smurfs were able to see the complete event and thus

held true beliefs, or only a part of the event and thus held false beliefs about it. We found that observing two false beliefs by two smurfs engaged the medial prefrontal cortex (mPFC; key area of the mentalizing network) more than observing a single false belief by a single smurf. Additional brain areas were activated when participants responded to a surf's specific perspective, including the posterior medial frontal cortex (of the conflict monitoring network) and the temporo-parietal junction (of the mentalizing network responsible for attention orientation). Second, given more information on a person's trait by repeating it resulted in repetition suppression of brain areas involved in the encoding of trait- and person-related information. We found that the ventral part of the mPFC was strongly and consistently recruited in this process, for known others and the self, but as one might expect, less so for unfamiliar others. Implications are that patients with lesions in mPFC brain areas may lose the capacity to make adequate social attributions, and we briefly demonstrate this impairment in social reasoning with new evidence with respect to trait attributions.

### BOREDOM BEGS TO DIFFER: DIFFERENTIATION AMONG NEGATIVE EMOTIONS AS CONCEPT, STATE, AND INDIVIDUAL DIFFERENCE

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Boredom research is booming: Between 1926 and 1980, on average less than one psychology paper per year was published on the topic. Between 2010 and 2015, no fewer than 1,422 psychology papers were published on boredom, with 326 of these published in 2015 alone. Clearly, boredom research is gradually moving from the fringes of psychological science towards a mainstream position. Yet, the surge in popularity of boredom research also increasingly exposes its key weakness: It is unclear if in fact boredom differs from other negative affective states. This raises fundamental questions about the nature of boredom and the validity of its study: Is boredom (substantially) discrete among negative affective states or is it 'merely' a component of other, already much better understood affective experiences? And if indeed distinct, then what best characterizes boredom versus other emotions? We examined in detail whether and how boredom differs from a range of other negative emotions (sadness, anger, frustration, fear, disgust, feeling depressed, guilt, shame, regret, and disappointment). For this purpose we used multidimensional scaling analyses of explicit emotion comparisons (Study 1), their state level correlations (Study 2), and correlations at the level of individual differences (Study 3). We then regressed relevant cognitive appraisals onto the resultant dimensional coordinates. In every study results consistently indicated that boredom is highly distinct from other emotions, both in absolute and relative terms. In particular, the lack of perceived meaningfulness and lack of attention associated with boredom emerged as characteristics that uniquely separate boredom from the other negative emotions. The findings portray boredom as a unique, discrete emotion that differs from other negative emotions primarily in terms of perceived meaningfulness and attention. These results lead to two key recommendations for researchers who investigate boredom, or who plan to join its increasingly popular study. First, we offer a reassurance: boredom is highly distinct from other negative emotions and its specific scientific study is therefore deserving. Second, we set a challenge: because boredom is highly distinct, we urge researchers who involve boredom in their studies—either by 'accident' (e.g., cognitive experimentalists) or by design—to more carefully prevent confounding methods with boredom or confusing boredom with other emotions. We understand our research as constructive criticism of prior research, including our own work, to further advance and improve the validity of boredom research.

### OVERSATIATION NEGATIVELY AFFECTS EVALUATION OF GOAL-RELEVANT (BUT NOT GOAL-IRRELEVANT) ADVERTISED BRANDS

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Past research has examined consumers' motivational state as a moderator of the effect that a relevant advertised brand may have on their attitudes and behaviors. Most of these studies were guided by contemporary theory on goal pursuit. Specifically, when a goal or a need is activated, objects in the environment that can fulfill the goal are more positively evaluated, while objects that hinder an active goal are devaluated. We know for example that when people are thirsty, they evaluate more positively the objects in their environment that can quench their thirst, in comparison to people who are not thirsty. In most of the cases, however, the need/goal of someone is not simply completed or satiated, but can be over-completed such as when one has eaten or drank too much. We don't know much about consequences that an over-fulfilled goal can have on goal-relevant stimuli. An interesting theoretical and empirical question is whether the over--fulfillment of a goal would lead to effects that mirror goal activation. We suggested that a state of over-satiation (by eating or drinking too much) is associated with more negative attitudes towards exposed advertised brands of an over-consumed product. We ran three studies in which we measured or induced over-satiation by asking participants to drink too much quantity of mineral water, and asked them to evaluate advertised brands of the over-consumed product and other goal-irrelevant brands. Results showed that a state of over-satiation negatively affected evaluations, buying intentions, and estimates of future purchases of advertised mineral water brands. Importantly, this negative effect was specific to the advertised brands of the over-consumed product (mineral water), a state of over-satiation did not affect evaluation of advertised brands that were irrelevant to the over-consumed product. These findings contribute to the literature on context effects of advertising in general, and extend previous research on evaluation of goal-relevant objects. Practical implications of these findings are also discussed.

#### CAN ORDINARY PEOPLE DETECT LIES, AFTER ALL?

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The tipping point framework of lie detection posits that people can, and do, accurately detect deception. This framework pinpoints three circumstances that aid accuracy: (1) using methods of measurement that circumvent controlled, conscious cognition, (2) when individual differences or situational factors portend potent risks to lie detection failure, such as in high stakes or threatening settings, and (3) when factors diminish concern over relationship or reputation costs of asserting that someone has lied. We thus depict a psychological system that registers lie detection consistently in nonconscious reactions (e.g., brain-based, bodily, and indirect social evaluations) and that allows information into consciousness to inform overt assessments of lies when the costs of failing to detect deception exceed those of signaling distrust.

#### DISGUST SENSITIVITY AND MORAL TRANSGRESSIONS IN THE PURITY DOMAIN

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Individual differences in trait disgust sensitivity predict a range of political attitudes related to the moral domain, such as opposition to gay marriage, abortion, premarital sex, and one's attitudes towards foreigners and homosexuals. Disgust sensitivity seems to be primarily related to moral judgments in the purity domain (as opposed to the care, fairness, authority, and loyalty domains). Some evidence for such as notion is provided by Horberg et al. (2009), who found that an ad-hoc measure of trait disgust was associated with the punishment of purity, but not justice transgressions. However, no study has systematically tested whether individual differences in disgust sensitivity relate to perceptions of moral severity, nor has it been directly tested how disgust sensitivity relates to moral judgments in any of the other moral domains. In three studies, we tested whether disgust sensitivity correlates positively with condemnation of moral transgressions in the purity

domain. In Study 1 (N=80), we found that disgust sensitivity correlates positively with perceived moral severity of moral transgressions in the purity domain (r=.43, p=.003), but not with moral judgments in the care, authority, or fairness domain. This finding was replicated in a second study (r=.27, p<.001; N=243). In addition, we show that disgust sensitivity is related to willingness to punish the transgressor of purity violations (r=.36, p<.001). Also in Study 3 (N=204), we show that disgust and moral judgments of purity transgressions are positively correlated (r=.44, p<.001). We also found that these associations are not due to trait anger, approach or avoidance strategies (measured with both the BIS/BAS scale and the Regulatory Focus Questionnaire), Private Body Consciousness, or emotion regulation strategies. Our three studies show that disgust sensitivity relates to greater moral condemnation of transgressions in the purity domain. No such consistent and robust correlation was found between disgust sensitivity and judgments of transgressions in any of the other domains. As a next step, we are investigating what mechanism accounts for this association. One potential candidate is that scenarios in the purity domain often involve some kind of contamination cue to which individuals high in disgust sensitivity react more strongly. Another possibility is that individuals higher in disgust sensitivity are more sensitive to deviances from the norm in general, which would be in line with recent suggestions that moral transgressions in the purity domain are perceived as "weirder" than those in the care domain. Finally, to get a better understanding of the link between disgust sensitivity and moral transgressions, we consider the role of different coping strategies.

### SEX MATTERS: HOW QUEST FOR SIGNIFICANCE INCREASES THE IMPLICIT EVALUATION OF EROTIC PICTURES

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Along with other means of recruitment, groups like the Islamic State of Irag and the Levant, or the Islamic group Boko Haram in Nigeria are offering sexual rewards for people joining their ranks. But how does the promise of sex promote radicalism? Building on the quest for significance theory (Kruglanski et al., 2013), we argue that sexual promises may appeal to individuals in need of restoring their personal significance by providing a sense of power and affiliation. In order to test this hypothesis, two experiments were conducted in which significance deprived (or not deprived in the control condition) male participants were primed with power or affiliation sexual motives (or were not primed in the control condition), and tested for implicit evaluation of sexual stimuli in an affective priming procedure. Consistent with our hypothesis, we found in both experiments that power or affiliation primes led to a more positive evaluation of sexual stimuli compared to other stimuli but only in significance deprived participants. However, for participants in the control condition, the priming of sexual motives did not lead to a more positive evaluation of sexual than non-sexual stimuli. These findings suggest that, by conveying a sense of affiliation or power, sex can be appealing to individuals who pursue the attainment or restoration of significance. Implications of the link between individual needs and the appeal of sexual propaganda for understanding radicalization and terrorism are discussed.

## YOU LOOK DIFFERENT: FEMALE POWER HOLDERS' FACES ARE PERCEIVED AS MORE DOMINANT Wang, X., Guinote, A., & Krumhuber, E.G.

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Facial dominance has been previously understood as an objective physical feature (e.g. facial width to height ratio and brow height, Hehman et al, 2014; Toscano et al, 2014), and people with dominant faces more readily occupy power positions across domains (e.g. Mazur et al., 1984; Rule & Ambady, 2009). The current paper examines the reverse relationship; i.e. whether social power as a top-down process influences the perception of physical facial dominance. We focu-

sed on female targets, as their gender role deviates from prototypical dominance traits and power roles (e.g. Eagly & Wood, 2012), thereby forming a particular interesting case. We addressed two questions: 1) Does the knowledge of a female target's power shape face perception by biasing it towards dominance? And 2) If so, what are the social outcomes of this biased perception for female targets? Across four studies, we demonstrated that faces matched with high-power jobs titles (e.g. senior executive officer) were judged as more dominant-looking than those matched with low-power ones (e.g. bar assistant) (Study 1). Power holders (e.g. supervisor) were also misremembered as looking more dominant than power receivers (e.g. applicant). Specifically, participants selected a more dominant facial image from a morph continuum ranging from dominant to submissive versions of the original face (Study 2). This biased perception of facial dominance was amplified when the targets were real world female power holders, such that women who held legitimate power (politicians) or expert power (scientists) were recognized as looking more dominant than they actually were (Study 3). Such dominance bias, however, did not benefit those targets. Further analyses showed that it mediated the effects of power on reduced perceptions of attractiveness, while it did not account for increased competence (Study 3). When power titles (high vs. low) and facial features (dominant vs. submissive) were manipulated, the findings of Study 3 were replicated such that facial dominance resulted in reduced perceptions of attractiveness and likeability but not increased competence. These detrimental effects of facial dominance were identical for both high (e.g. senior executive officer) and low-power (e.g. bar assistant) targets (Study 4). Taken together, these findings suggest that power automatically activates the facial dominance schema, leading to biases in first impression, memory and recognition. However, the impact of facial dominance is negative for women, which is consistent with role congruity theory (Eagly & Karau, 2002).

#### SUSPICIOUS MORALS: DISTRUST INCREASES FLEXIBILITY OF MORAL JUDGMENTS

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Experiences of trust and distrust pervade our social interactions. Accordingly, a distrustful state of mind has specific cognitive consequences that enable people to deal with situations where appearances may not be taken at face value. In particular, a distrust mindset enhances the generation of alternative interpretations and increases creativity and cognitive flexibility. Creativity has previously been shown to enhance the ability to generate justifications for one's own moral transgressions. Moreover, an abstract, more flexible construal promotes moral hypocrisy, the endorsement of different moral standards for the self compared to others. Based on these findings, three studies investigated whether a distrust mindset, compared to a trust mindset, affects flexibility of moral judgments. Specifically, we hypothesized that distrust would increase moral hypocrisy: Distrustful participants should evaluate their own moral transgressions more leniently than other people's. Study 1 (N = 246) established a positive relationship between dispositional distrust and moral flexibility. Participants who tended to distrust others agreed more strongly with statements expressing that moral rules may be bend for self-interested reasons (Shu et al., 2011). Two experimental studies with a 2 (mindset: distrust vs. trust) x 2 (target: self vs. other) between-subjects design further investigated the effect of distrust compared to trust on moral judgments of norm--violating behaviors. In Study 2 (N = 277), participants were asked to imagine being on a team with a trustworthy versus untrustworthy co-worker. They subsequently judged how acceptable they would find it for themselves, versus their co-worker, to commit different moral transgressions. We found the predicted interaction effect: Distrustful participants judged the transgressions less severely for themselves than for their co-worker, whereas trustful participants did not show this hypocrisy effect. In Study 3 (N = 219), participants recalled an experience of trust or distrust. They then judged how acceptable they would find it if they themselves, versus other targets, engaged in various daily-life moral transgressions. These targets and transgressions were unrelated to the initial experience of trust or distrust. The predicted interaction pattern emerged, with only participants in a distrust mindset exhibiting significant moral hypocrisy. The present results shed

light on the consequences of distrusting other people, applying previous findings on the basic cognitive effects of distrust to the domain of moral judgment and behavior. Rather ironically, distrustful individuals appear to be particularly flexible in their moral judgments themselves, applying double moral standards. These findings have important implications for interpersonal and social relationships.

#### **EFFECTS OF TEMPORAL DISTANCE ON EMOTIONAL MIMICRY AND CONTAGION**

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When seeing an emotional expression, people typically unconsciously imitate this expression (i.e., emotional mimicry; Dimberg, Thunberg, & Elmehed, 2000; Hess & Fischer, 2013) and adopt the emotion in their own subjective feeling (i.e., emotional contagion; Hatfield, Cacioppo, & Rapson, 1993). The present research investigated the effects of temporal distance on emotional mimicry of (Experiment 1) and contagion with (Experiment 2) basic emotions (i.e., happiness, sadness, and anger). Since anger is an approach-related emotion that narrows cognitive scope (Gable, Poole, & Harmon-Jones, 2015), we assumed that anger might be mimicked and adopted more in a temporally close situation. Sadness, in contrast, broadens cognitive scope (Gable & Harmon--Jones, 2010) and involves a long-term perspective on the social relationship (Fischer & Manstead, 2008). Thus, mimicry and contagion of sadness might be relatively more functional with a broadened temporal time perspective, as indicated by high temporal distance. Since previous research showed that mimicry of happiness is relatively unaffected by (social) context factors (Van der Schalk et al., 2011), it might be unaffected by temporal distance. To test these hypotheses, we used electromyography in a laboratory study (Experiment 1) and self-report in an online study (Experiment 2). In Experiment 1, participants imagined their life tomorrow (temporally close) versus in one year (temporally distant). They then rated the expressions of happy, angry, and sad stimuli while we measured their facial muscle reaction. The stimuli were either black and white photographs or stick figures. Psychological distance had no influence in mimicry of happiness displays. However, participants frowned less in reaction to stick figures depicting sad (vs. angry) expressions in the temporally close condition. In Experiment 2, an online sample read emotional short stories about a protagonist who felt either first angry and then sad or vice-versa. The story took place either in year 2015 (temporally close) or in year 2020 (temporally distant). Before and after the stories they rated their momentarily feelings of anger and sadness. Conceptually replicating the findings of Experiment 1, participants adopted the sadness (vs. anger) of a person in a short story less when it was temporally close (vs. distant). The findings of these studies suggest that sadness, in contrast to anger, might not as easily transfer from strangers in a psychologically close situation. A long-term social context is necessary for sadness mimicry and contagion to occur. This research underlines the importance of the socio-cognitive context for understanding emotional mimicry and contagion effects.

#### AUGMENTED REALITY TECHNOLOGY AS A TOOL OF REDUCING MEMORY-RELATED ETHNIC BIAS

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Theoretical and empirical works suggest that the direct, embodied contact with place's history facilitates understanding of its past. Places which were deprived of historical continuity are less liked and threatened by ethnic bias in collective memory - an overestimation of the role played by one's own ethnic groups in the city's history (Lewicka, 2012). The main function of this bias is the justification of the currently dominant group's right to that place. Based on an embodied cognition concept, we assumed that direct experience with place's historical meaning would be crucial for understanding its multicultural history and reducing ethnic bias. The embodied cogni-

tion approach assumes that the human body is the most important medium between the person and the world, so our cognition is always bodily mediated. Moreover, the environment directly and indirectly regulates the body; the body is in some sense the expression or reflection of the environment. (Gallagher, Zahavi, 2012). Also, according to the embodied cognition theories, an embodied place memory is the real, environmental memory, including bodily sensations and emotions associated with the place. This kind of memory shapes the emotional and meaningful relationship with that place. Direct research on the relationships between embodied experience of memory traces and opinions about place is possible because of the recent development of Augmented Reality technology. AR technology gives a possibility of recreating past of such places and in a consequence tests an influence of experience of place's history on psychological aspects of the people-place relationship. The specific research questions of our research were: 1. Could recreating place history via AR modify emotional attitudes towards it? 2. How efficient is the embodied AR-mediated experience in influencing the understanding of multicultural place meaning? 3. Can embodied historical experience be an efficient method in reducing memory-related ethnic biases? A between-subjects experiment was conducted, in which participants either walked with an AR application displaying historical photos in real environment or watched photos on computers. The chosen place was the former Jewish district in Warsaw, Poland. The results of multiple regression analyses showed that the AR application can facilitate positive attitudes towards a place, reduce ethnic bias and enhance multicultural place meaning. We argue that AR could be used as a method of reviving (multi)cultural heritage, but also as a tool of reducing prejudices and increasing openness to other cultures and traditions.

### INTERGROUP CONTACT SHAPES PERCEPTION OF MINORITIES AND PREDICTS VOTING IN REFERENDUM AIMED AT RESTRICTION OF HOMOSEXUAL RIGHTS

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Restriction of minorities' rights by majority represents a serious problem for developing equality in society. The present research examined whether perceived threat from homosexual minority and attitudes towards homosexuals predicted voting in a referendum aimed at a prevention of homosexual minority from gaining more rights (e.g., a same-sex marriage). Although intergroup contact is a well-established mean to reduce prejudice, contact with homosexuals can be scarce due to the possibility to disguise the category membership (i.e., homosexual orientation). A promising avenue that could substitute the effect of direct contact with homosexuals on voting on the restriction of homosexuals rights is positive intergroup contact with other groups, via the so called secondary transfer effect. Thus, we examined also a role of contact with another stigmatized minority – the Roma, characterized by more salient social category membership. We investigated two separate mediating roles of intergroup threats from and intergroup attitudes toward homosexuals and Roma in the link between intergroup contact with both minorities - homosexuals and Roma – and voting in the referendum on homosexual rights. Our results showed that only perceived threat from homosexuals, not intergroup attitudes toward homosexuals, was responsible for the effect of intergroup contact on voting on homosexual rights. Intergroup contact with Roma also uniquely associated with voting in the referendum via threat - but not attitude – generalization. Particularly, positive contact with both homosexuals and Roma lowered the probability that respondents voted for the restriction of homosexual rights through reduced intergroup threat. On the other hand, respondents that indicated high level of negative contact were more prone to vote for the restriction of homosexual rights through increase in threatening perceptions from homosexuals. Our research uniquely contributes to the current literature by showing that intergroup contact is potent in shaping actual discriminatory practices initiated by majority towards minority. Moreover, the reason that lies behind the relationship between intergroup contact and voting on minority's rights is perceived threat of minority by majority.

### TRUST FROM YOUR GUT: ARTICULATORY FLUENCY INCREASES TRANSFERS IN THE TRUST GAME

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Social interactions like trade and cooperation are often beneficial to all involved parties. At the same time, cooperation brings along the risk of betrayal. Therefore, decision makers have to form expectations regarding the other parties' intentions. In general, we define trust as the expectation that the counterpart's intentions are good. While these expectations are sometimes based on previous experiences, in environments with many potential interaction partners, where interaction is additionally often restricted to very few instances, e.g. in digital market places, knowledge of this kind is hardly available. Instead, decision makers then have to rely on their intuitions to predict others' intentions and behaviour. Previous research inspired by recent Dual Process Models has shown that the positive affect caused by the mere ease of processing some stimulus (fluency) is often used as information in intuitive judgements. In the current set of studies, we explore the role of fluency in economic trust games. Specifically, we vary the pronouneability and length of the interaction partners' names and observe the amount of resources invested in the cooperation as a behavioural measure of trust. In line with the fluency account of intuitive judgements, we found that players with fluent names are trusted more than those with disfluent names. Furthermore, we explore moderators of intuitive trust to identify boundary conditions of this phenomenon to improve the generalizability and application of these insights.

