

Kraków Small Group Meeting on Cognitive Consistency

20-22nd May 2016

Book of Abstracts



CENTRE FOR SOCIAL
COGNITIVE STUDIES KRAKÓW

Kraków Small Group Meeting on Cognitive Consistency
20th-22nd of May, 2016;
Institute of Psychology, Jagiellonian University
Kraków, Poland

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About the Meeting

The goal of the meeting is to enable an exchange of current ideas between researchers working on cognitive consistency. Research on the topic of cognitive consistency has had a long tradition in social psychology (Abelson et al., 1968; Festinger, 1957, 1964). Over the last sixty years, numerous studies have been conducted to investigate Festinger's proposition that "the existence of nonfitting relations among cognitions is a motivating factor in its own right" (Festinger, 1957, p. 3). The assumption that incongruent beliefs produce negative tension which motivates a restoration of consistency has inspired research in domains ranging from decision-making to attitude change and social influence, among many others. However, important theoretical questions remain; as such, there has recently been renewed interest in the topic of cognitive consistency (Gawronski & Strack, 2012). The goal of this small group meeting is to enable a fruitful exchange of ideas between researchers working on the topic of cognitive consistency. Here are examples of questions that the meeting would focus on:

- Is cognitive consistency a goal in itself as suggested by Festinger (1957), or is it better understood as a means to a goal? And if it is a means, what is the goal served by this means?
- What are the factors that determine the degree of cognitive inconsistency an individual experiences?
- Does any expectancy-violating information necessarily evoke negative affect, or can inconsistency be related to positive emotions in certain circumstances (e.g., positive surprise)?
- What individual differences and contextual factors moderate reactions to inconsistency?
- What are the neuropsychological reactions to expectancy-violations?

These fundamental questions will be discussed in depth at the proposed meeting.

Conference Venue

Institute of Psychology
Jagiellonian University
Ingardena Street 6,
31-006 Kraków



Conference program

20th May, Friday

10:00–10:15 Opening

10:15–11:15 **Invited talk**

Arie Kruglanski – Epistemic and Affective Responses to Cognitive Inconsistency: The Validation-Satisfaction Model

11:15–11:30 Coffee break

First session (11:30–13:00)

11:30–12:00

Małgorzata Kossowska – Disconfirmed expectations may lead to both simple and complex cognitions: The role of motivation toward closure

12:00–12:30

Marcin Bukowski – Can inconsistency promote flexibility? The case of various uncontrollability experiences

12:30–13:00

Małgorzata Gocłowska – Schema-violation preference associates with greater creativity

13:00–14:00 Lunch

14:00–15:00 **Invited talk**

Bogdan Wojciszke – Striving for Consistency Shapes Responses to Other's Outcomes and Immoral Behavior

15:00–15:15 Coffee break

Second session (15:15–16:45)

15:15–15:45

Mirosław Kofta – Personal Inconsistency and Outgroup Attitudes: How Induction of Self-uncertainty Modifies Authoritarian Response to Immigrants.

15:45–16:15

Immo Fritsche – Group-Based Defenses as Extended Primary Control: Social Responses to Threatened Control Are Not (All) About Uncertainty Reduction

16:15–16:45

Felix Czepluch – Threat to control may facilitate vigilance for norm-related information

16:45–17:15 Coffee break

17:15–18:15 **Invited talk**

Andrzej Nowak – Coherence and trust

Dinner at 19:30, restaurant Konfederacka 4, ul. Konfederacka 4

21st May, Saturday

9:15–10:15 **Invited talk**

Piotr Winkielman – Consistency in context: Fluency and consistency as a function of mental task, rather than a stimulus

10:15–10:30 Coffee break

Third session (10:30–13:00)

10:30–11:00

Skylar Brannon – What is (in)consistent? Lay perceptions of inconsistency in impression formation

11:00–11:30

Hannah Nohlen – A facial EMG study on the role of inconsistency and evaluative context in shaping affective responses to ambivalence

11:30–12:00

Marret Noordewier – The temporal dynamics of surprise

12:00–12:30

Yoram Bar-Tal – The need for certainty (NC): its effect on cognitive consistency

12:30–13:30 Lunch

13:30–14:30 **Invited talk**

Rex Wright – Effort Processes in Cognitive Dissonance Reduction

14:30–14:45 Coffee break

Fourth session (14:45–16:45)

14:45–15:15

Ulrich von Hecker – Spatial representation of coherence

15:15–15:45

Torun Lindholm – Social influences on dissonance reduction in medical decision making

15:45–16:15

Katarzyna Jaśko – “Say it isn’t so”. Reliability of the source and openness to inconsistent information

16:15–16:45

Katarzyna Cantanero – Need for meaning and individual differences

16:45–17:15 Coffee break

17:15–18:15 **Invited talk**

Cindy Harmon-Jones – The Action-Based Model of Dissonance

Dinner at 19:30, Albertina Restaurant and Wine, ul. Dominikańska 3

22nd May, Sunday

9:00–10:00 **Invited talk**

William B. Swann – Moving beyond “single-slice” conceptualizations of affect: A process model of the interplay of positivity and self-verification strivings

10:00–10:15 Coffee break

Short Presentations (10:15–11:00)

David Vaidis – Looking for a Minimal Paradigm: Is Exposure to Discrepancy Generative of Cognitive Dissonance

Paweł Strojny – When expectancy-inconsistent information reduces uncertainty better. The role of need for cognitive closure and cognitive capacity

Ewa Szumowska – ‘When the going gets tough, the tough get going’: Motivation towards closure and effort investment in performance of cognitive tasks

11:00–11:30 Coffee break

11:30–12:30 **Invited talk**

Travis Proulx – Meaning Maintenance Model: The Five 'A's of Meaning Maintenance

12:30–13:30 Lunch

Sixth session (13:30–15:00)

13:30–14:00

Wijnand Van Tilburg – Finding Meaning in Ideology: Going to Political Extremes in Response to Boredom

14:00–14:30

Michał Parzuchowski – From love to magic: Motivational and cognitive determinants of individual differences in sympathetic magic in close relationships

14:30–15:00

Piotr Dragon – Exploring the relation between warmth and competence in social perception: a connectionist modeling approach

15:00–15:15 Closing

Posters*

Helmut Appel – Undecided, uncommitted. The role of dissonance reduction for indecisiveness

Sebastian Cancino-Montecinos – Cognitive dissonance leads to an abstract mindset

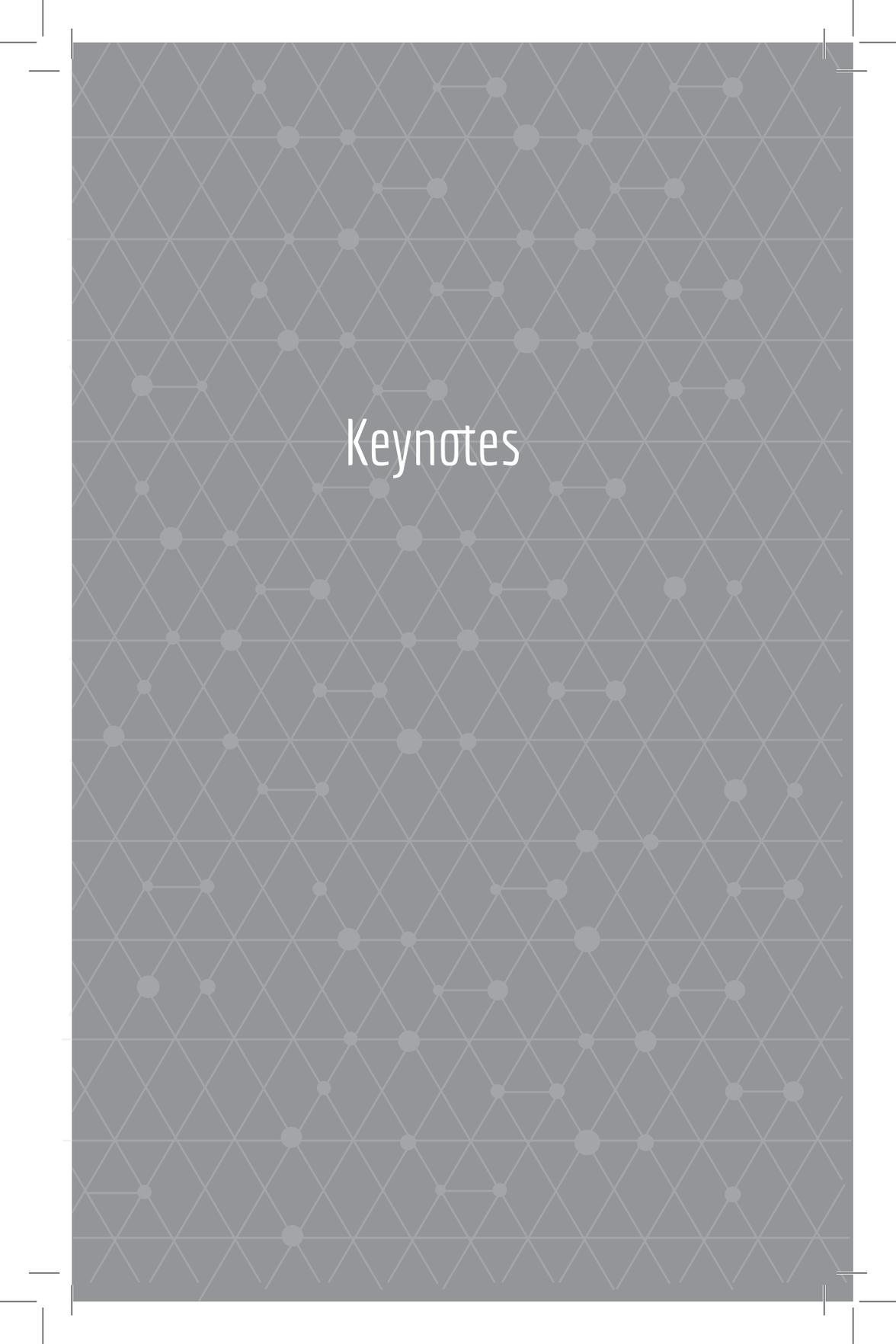
Gabriela Czarnek – The Moderating Impact of Effort Engagement on Stereotyping in Older Age

Aneta Czernatowicz-Kukuczka – Religiosity as a self-regulation tool: The role of religiosity and working memory in dealing with uncertainty

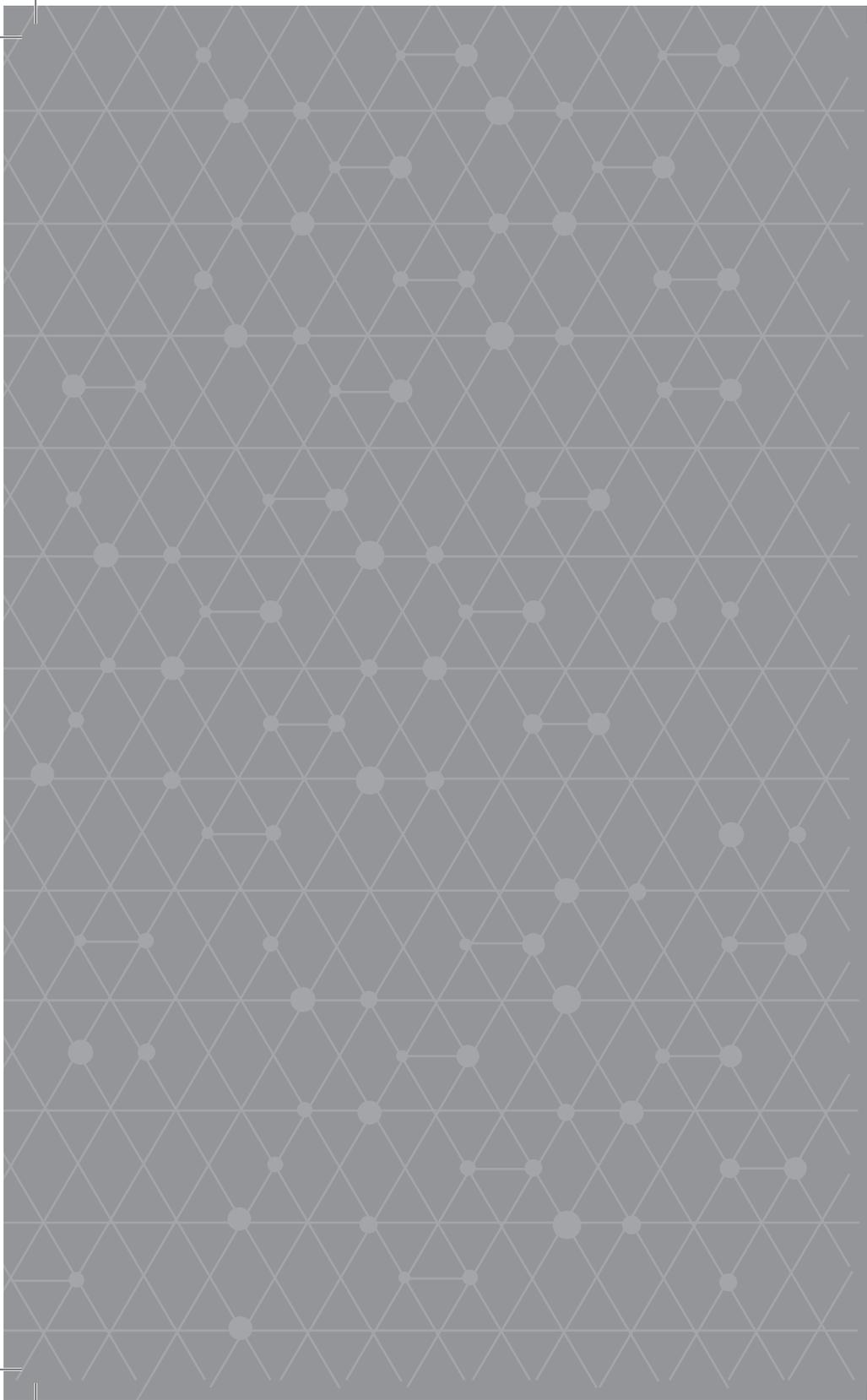
Agnieszka Strojny – I do not change my mind if I'm not sure - the joint effect of need for closure and cognitive resource limitation on fundamental attribution error

Paulina Szwed – From arousal to relief. Prejudice as a self-regulatory mechanism

* There is no separate poster session. However, all posters will be available during the whole meeting.



Keynotes



**Arie Kruglanski, Katarzyna Jaśko, Maxim Milyavsky, Marina
Chernikova, David Webber**

(University of Maryland)

**Epistemic and Affective Responses to Cognitive Inconsistency:
The Validation-Satisfaction Model**

The present paper articulates the distinction between epistemic and affective reactions to cognitive inconsistency implicit in major cognitive consistency formulations. From the epistemic perspective, cognitive consistency functions as a means of knowledge validation, rather than as an end in itself. Information consistent with a hypothesis validates it whereas expectancy-inconsistent information invalidates it. In contrast, affective reactions to consistent or inconsistent information relate to the degree and type of individuals' motivational investment in the hypothesis being tested. Invalidation of a positively valenced hypothesis, and/or validation of a negatively valenced hypothesis elicits negative affect in proportion to the hypothesis' degree of desirability or undesirability. Similarly, invalidation of a negatively valenced hypothesis and/or validation of a positively valenced hypothesis evokes a corresponding degree of positive affect. From the present perspective then, cognitive consistency as such does not represent a general human need or striving whose frustration generates upset. Upset or, conversely, satisfaction stem from desirability of the inferential outcome of the validation process rather than from inconsistency or consistency as such.

Bogdan Wojciszke

(University of Social Sciences and Humanities, Sopot)

**Striving for Consistency Shapes Responses to Other's Outcomes
and Immoral Behavior**

Based on the balance theory, we hypothesized that emotions induced by other person's outcomes function as responses restoring balance within cognitive units consisting of the perceiver, other persons and their outcomes. Several studies showed that emotional reactions towards others' outcomes depend on the perceiver's attitudes in such a way that outcomes of a well-liked person rise congruous responses (sorrow after failure and joy after success), while outcomes of a disliked other lead to incongruous responses (schadenfreude after failure and resentment after success). The same logic rules

responses towards immoral behavior of others. A series of studies found that when a person is well-liked by the perceiver, her transgressions are perceived as less immoral than identical transgressions committed by a neutral or disliked person. Although the present social psychology tends to neglect pre-existing attitudes, we conclude that such attitudes should be given more attention because they generate strong consistency pressures which may heavily influence interpersonal emotions and perceptions.

Andrzej Nowak, Marta Kacprzyk, Karolina Ziembowicz

(Florida Atlantic University and University of Warsaw)

Coherence and trust

In a series of studies we explore the relationship between the coherence of a message or the characteristic of the source and trust toward the sources of the message. We are especially interested if coherence affects the relational or epistemic aspects of trust. Implications for the dynamics of social relations and social influence will be discussed.

Piotr Winkielman

(University of California, San Diego)

Consistency in context: Fluency and consistency as a function of mental task, rather than a stimulus

Many social judgments are influenced by processing fluency - the ease with which information is perceived, categorized, retrieved, and analyzed. This evidence usually comes from studies which manipulate fluency by (i) objective features of the target stimulus (e.g., clarity, duration, contrast, symmetry, etc), or (ii) perceiver's history that changes actual fluency of the target stimulus (e.g., repetition, predictability, priming, etc). Based on this evidence, many believe there is a straightforward recipe for understanding the impact of fluency. However, just like psychological consistency, fluency is a subjective property - it is in the processing experience, not in the stimulus. As such, any stimulus could be potentially made "consistent" or "inconsistent", "fluent" or "disfluent", depending on the current judgment context. In my talk, I will show how easy it is to "flip" fluency with contextual manipulations, and, as a consequence, influence a variety of judgments and hedonic reactions. This theoretical perspective predicts and explains

several new and interesting empirical phenomena, including the “cross-modal fluency” effect, “ugliness-in-averageness” effect, and “dis-trust-in-smiles” effect as well as provides new explanations for the “uncanny valley” phenomenon.

Rex Wrigh

(University of North Texas)

Effort Processes in Cognitive Dissonance Reduction

Festinger’s iconic theory of cognitive dissonance proposed that people experience dissonance when they hold cognitions – or cognitive elements – that conflict in a psychological sense. Dissonance was assumed to activate a motive to bring cognitions in alignment, with dissonance reduction following. Dissonance reduction was conceived as an effortful process whose intensity varies with the magnitude of dissonance and, thus, the strength of the motive activated. A different perspective on dissonance reduction is suggested by the later theory of motivation intensity developed by Festinger’s student, Brehm. I will provide an overview of motivation intensity theory and consider lessons pertaining to dissonance reduction.

Cindy Harmon-Jones

(University of New South Wales)

The Action-Based Model of Dissonance

Over 50 years of research on cognitive dissonance theory suggests that dissonance reduction is a pervasive motivated process and an important influence on attitudes. However, the original theory of cognitive dissonance failed to explain why cognitive inconsistencies cause discomfort and motivate attitude change. The action-based model extends the original theory by proposing that dissonance reduction assists individuals in effectively following through with behavioural commitments. The model assumes that cognitions often impel specific actions. It then posits that the negative affective state of dissonance is aroused most strongly when cognitions with action implications conflict with each other, making effective action difficult. The negative emotion of dissonance signals to the individual that the inconsistency needs to be resolved so that unconflicted behaviour can occur. Data will be presented in support of this model.

William B. Swann

(University of Texas at Austin)

Moving beyond “single-slice” conceptualizations of affect: A process model of the interplay of positivity and self- -verification strivings

For people with negative self-views, there is a fundamental tension between their desire for evaluations that are positive versus their desire for self-verifying (i.e., subjectively accurate). Past work has attempted to capture this tension with the concept of a “cognitive-affective crossfire”, wherein people with negative self-views believe that positive evaluations are inaccurate but nevertheless feel better after receiving them. I suggest that the crossfire argument is misleading because it implicitly assumes that affective reactions are one-off phenomena that are not part of a sequence. In reality, affective responses are better understood as part of a series of reactions that unfold as people process more and more information relevant to the evaluation. This means that it is hazardous to draw conclusions about the relative potency of the desire for positivity vs. self-verification based on laboratory investigations because it is difficult to identify the most appropriate time frame. Although imperfect, the optimal strategy for assessing the relative potency of the two motives may be to conduct field investigations, as reactions in naturally occurring contexts presumably reflect people’s responses after they have attempted to reconcile any conflicts between their affective and cognitive reactions. Research relevant to these assertions is presented. I conclude that conceptualizing affect as a process rather than a one-off phenomenon could inform the broader literature on cognitive consistency as well as the self-enhancement, self-verification debate.

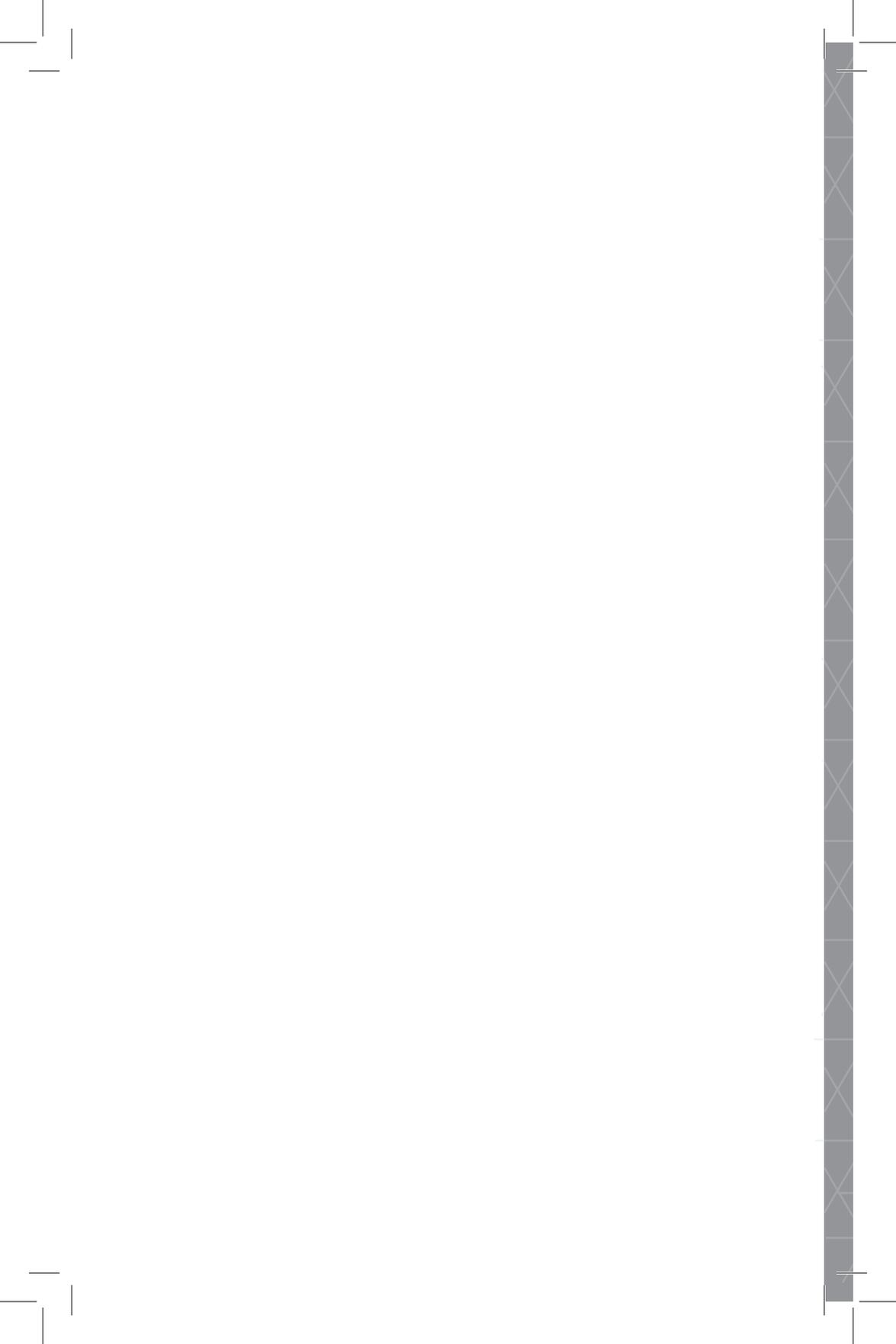
Travis Proulx

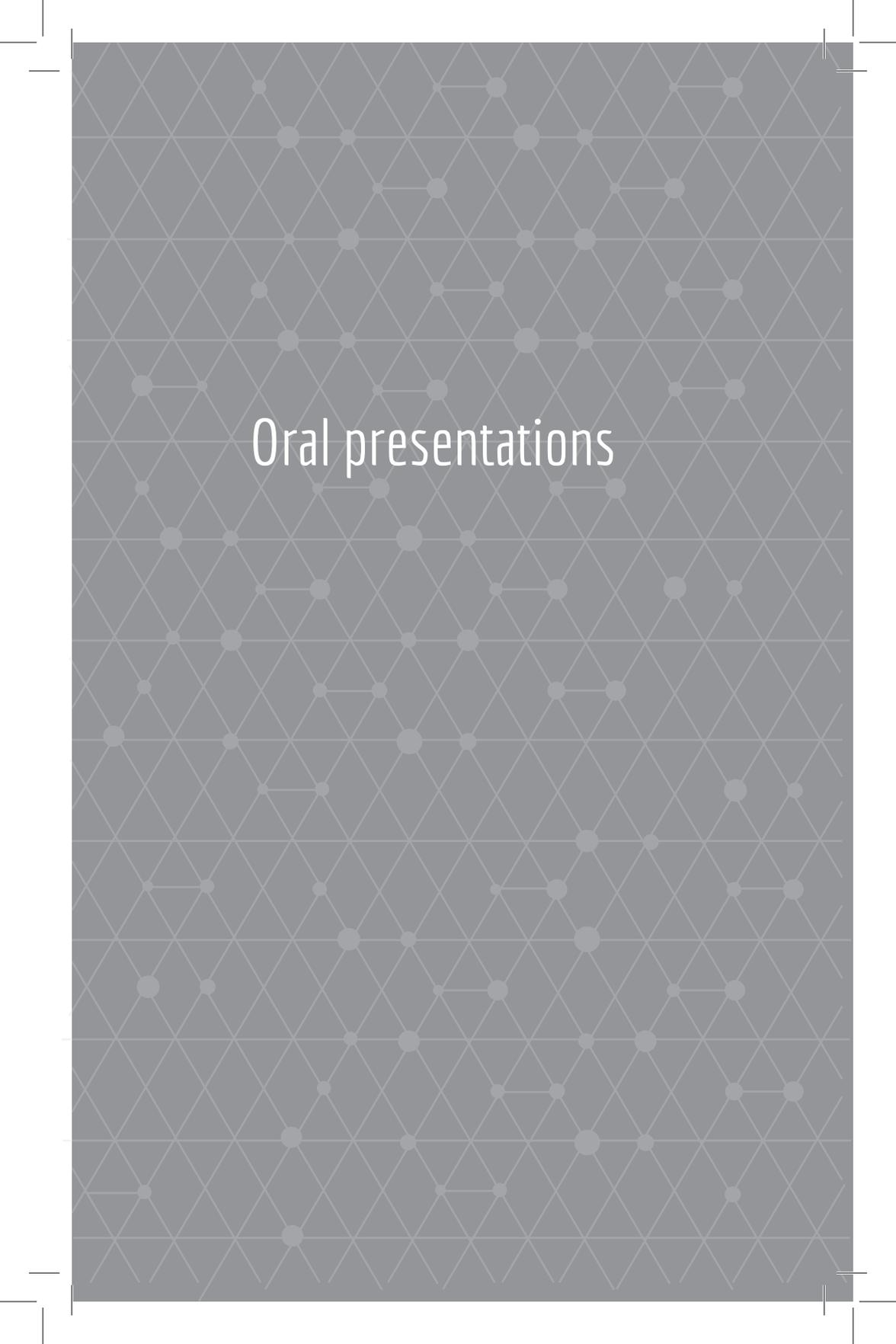
(Cardiff University)

Meaning Maintenance Model: The Five ‘A’s of Meaning Maintenance

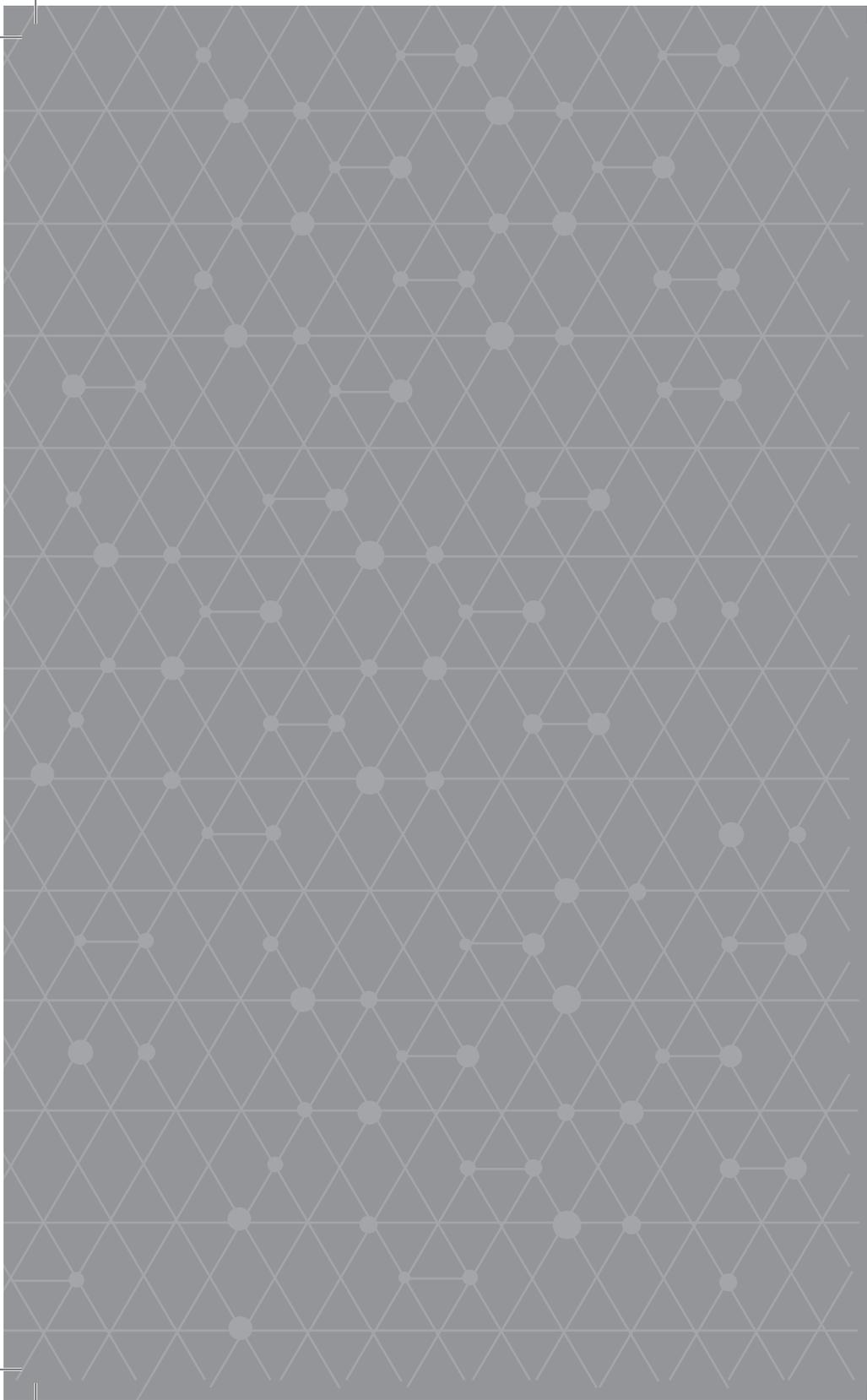
Social psychologists commonly demonstrate the following effect: threaten people’s beliefs or goals, and they will engage in a typical array of compensation behaviors. Often, these behaviors involve the affirmation of alternative beliefs or goals, which may or may not be relevant to the commitments that were threatened. Just as often, an

aversive state is assumed to follow from the experience of the threat, which is understood to motivate the compensation efforts. Despite the analogous qualities of these effects, there are many different theories within the “threat-compensation” literature purporting to explain some or all of the analogous phenomena. The meaning maintenance model (MMM) offers an integrated account of these behaviors, as well as the overlapping perspectives that address specific aspects of this threat-compensation process. According to the MMM, the effects associated with this process bottleneck at neurocognitive and psychophysiological systems that detect and react to the experience of inconsistency, which in turn motivates compensatory behaviors. From this perspective, compensation behaviors are understood as palliative efforts to relieve the aversive arousal that follows from any experience that is inconsistent with expected relationships—whether the meaning violation involves a perceptual anomaly or an awareness of a finite human existence. In this talk, I will summarize these efforts, the assimilation, accommodation, affirmation, abstraction and assembly behaviors that variously manifest in every corner of our discipline, and academics, more generally. I will also present recent psychophysiological data that distinguishes between threat and inconsistency, as they are differentially implicated in these compensation effects.





Oral presentations



Małgorzata Kossowska, Piotr Dragon, Marcin Bukowski

(Jagiellonian University)

Disconfirmed expectations may lead to both simple and complex cognitions: The role of motivation toward closure

In this paper, we elaborate on the circumstances under which people motivated to reduce uncertainty (i.e., high in need for closure) either engage in more effortful and open-minded cognition or rely on simplistic processing styles. Specifically, we argue that when expectations about self, others and social world are confirmed or at least not threatened, people rely on their routine way of information processing. Thus people high in need for closure use simple cognitive strategies, while people low in need for closure are more prone to use more complex cognitions. However, disconfirmed expectations about self, others, and social world may constitute fear of invalidity that reduces individuals' motivation toward closure. As people high in need for closure are affected by disconfirmed expectations more than those low in need for closure, they become more motivated to reexamine existing assumptions, seek out additional information, and revise their expectations. In consequence they use more effortful and complex processing style that low in need for closure people. Thus we claim that when people's expectations are disconfirmed, they are able to adapt processing strategies to salient goals and inner states.

We tested these assumptions in several studies in which we manipulated situational factors such as uncontrollability or ambiguity experience, threat posed to the self-image or power position, or inconsistent information about a stereotyped group. In addition we measured different manifestations of simple vs. complex cognition (e.g., stereotyping, memory for schema-consistent information, applying rules that simplifying intergroup perception). In some studies effortful strategy was indexed by cardiovascular activity.

Marcin Bukowski, Juan Lupiáñez, Soledad de Lemus

(Jagiellonian University)

Can inconsistency promote flexibility? The case of various uncontrollability experiences

Experiences that are inconsistent with one's expectancy of having control over the environment have been considered as aversive and often leading to rigid processing strategies. However, inconsistencies might also have a motivating value and promote more flexible and context-sensitive cognitive strategies. In this research we examined, whether exposure to mixed, expectancy inconsistent and consistent experiences regarding one's ability to exert personal control can subsequently modulate cognitive flexibility. We manipulated the experience of personal control by changing the proportion and sequential order of solvable and unsolvable tasks, this way obtaining high, low and mixed uncontrollability conditions. In the first study we used the Social Category Switching Task as a measure of social categorization flexibility, in which participants categorize faces based on their gender or age. When control was deprived participants showed higher switching costs between different social categories than in low and mixed uncontrollability conditions. In the next study we used a more complex switching procedure that entailed, apart from the gender categorization, also stereotype congruent or incongruent social roles. We replicated the previous finding showing increased switching costs in high uncontrollability condition and a boost of performance in the mixed uncontrollability condition. Additionally, we discovered that low intensity positive affect mediates the effect of mixed uncontrollability experiences on cognitive flexibility. In the third study we found that mixed uncontrollability can also decrease the implicit ingroup bias assessed with an IAT procedure. We discuss how different types of uncontrollability can shape cognitive flexibility and highlight the motivating value of expectancy-inconsistent and consistent experiences.

Małgorzata Gołowska, Danny Groskamp, Matthijs M. Baas,

Andrew J. Elliot, Carsten K. W. De Dreu

(University of Rochester & University of Amsterdam)

Schema-violation preference associates with greater creativity

Creative and innovative ideas often violate expectancies, and our research considers the link between expectancy violations, flexible

thinking, and creativity. In past studies we have shown that exposure to schema- and stereotype-inconsistent information can prompt greater flexible thinking and creativity, provided that need for structure is low (Gocłowska, Baas, Crisp & De Dreu, 2014; Gocłowska & Crisp, 2013). We argued that these effects occur because schema-inconsistency cues people out of schematic thinking, and because people low in the need for structure are less averse to schema-inconsistencies (Gocłowska, Baas, Elliot & De Dreu, in review). In a new set of studies we examine the association between a preference for schema-inconsistencies (vs. consistencies) and creativity. Participants indicated their explicit preference for images consistent vs. inconsistent with stereotype- and schema-based expectations (e.g., an astronaut on a beach vs. the same astronaut standing on the Moon). The two studies show that peoples' preference for imagery that violates (vs. confirms) stereotypic expectations links to greater fluency, flexibility and originality on a divergent thinking task, and that schema-violation preference (alongside novelty seeking) explains the seminal association of openness to experience and creativity. We also find that a preference for schema-violations links to greater success in real-life creative achievements.

Second session, 20th May, 15:15–16:45

Mirosław Kofta, Marek Błażewicz

(Warsaw University)

**Personal Inconsistency and Outgroup Attitudes:
How Induction of Self-uncertainty Modifies Authoritarian
Response to Immigrants**

Self-uncertainty and inconsistency of self-views seem to be intimately related: The first is likely to promote the second and vice versa. In our studies we looked both for factors augmenting effects of self-uncertainty on negative outgroup attitudes and factors buffering this kind of effects. We hypothesized that right-wing authoritarianism on the one side, and ingroup identification on the other, might play a decisive role in this process.

Given that authoritarian ideology arises from coping with dangerous and unpredictable social world (Duckitt, 2001), self-uncertainty should foster authoritarian reaction, i.e. should increase negative evaluation of the outgroups among high RWA people. On the other hand, high identification with one's own national group should buffer

these effects due to feelings of togetherness, security, and trust aroused by ingroup belongingness (high ingroup identification was shown to decrease depression and stress and enhance life satisfaction, see Nakashima et al., 2013; Sani et al., 2013). Supportive to our hypotheses, In two online studies we found that, under low national identification, experimental induction of self-uncertainty increased negative impact of RWA on attitudes toward immigrants. However, under high national identification these effects totally disappeared. Also, we found that high degree of self-affirmation operates in a similar fashion as high group identity, i.e., counteracts the emergence of the authoritarian reaction after self-uncertainty treatment. In conclusion, the studies show that high degree of group identification, as well as self-affirmation, may buffer the authoritarian reaction, that is to say, may counteract activation of negative attitudes of high RWA people toward outgroupers after induction of self-uncertainty. Thus, even if uncertainty of self-views tends to promote intergroup hostility among authoritarians, this tendency might be effectively buffered by the processes reestablishing self-security and self-affirmation.

**Immo Fritsche, Janine Stollberg, Sandra Griebel,
Christina Lell**

(Universität Leipzig)

**Group-Based Defenses as Extended Primary Control: Social
Responses to Threatened Control Are Not (All) About
Uncertainty Reduction**

Defensive social responses to threatened personal control have often been attributed to people's desire to uphold a sense of order and consistency (Landau, Kay & Whitson, 2015) leading to efforts of secondary, or compensatory, control by supporting external controlling agents. In the present talk, we complement this research by outlining the model of group-based control (Fritsche et al., 2013) which suggests that people may increase identification with and acting in terms of their ingroup as a strategy of extended primary control through the (social) self. Unfortunately, research has rarely tried to disentangle compensatory and group-based responses to threatened control. We first present experimental evidence that contradicts a compensatory control account, such as a threat to control mindset manipulation increasing support of system changes (when social change was the ingroup norm; Study 1) and terrorist threat as a consequence of the

Paris bombings engendering the opposition against a xenophobic right-wing movement (when this was the ingroup norm; Study 2). Second, we present two preliminary studies trying to disentangle compensatory and group-based responses to threatened control. In these studies participants who scored high on desirability of control (Study 3) or who were reminded of threatened personal control (Study 4) increased their approval of ingroup action (by the EU) for stabilizing the European economy but not of actions by a potent outgroup agent (China). We discuss the implications of our studies for distinguishing between group-based and compensatory control responses.

Felix Czepluch, Philipp Jugert, Immo Fritsche

(University of Leipzig)

Threat to control may facilitate vigilance for norm-related information

Various kinds of threat have been shown to increase adherence to cultural worldviews, values, and norms (Jonas et al., 2014). According to the model of group based control (Fritsche et al., 2013), individuals threatened in their personal sense of control are motivated to restore a sense of control by thinking and acting in terms of group membership. We hypothesize that threat, specifically to people's personal sense of control, facilitates normative vigilance. That is, threatened individuals should demonstrate increased attention for, and improved cognitive processing of, normative information relevant to their social identity. Two unpublished studies provide preliminary support for this notion of normative vigilance following threat. In Study 1, 65 university students received either a mortality salience or dental pain manipulation and subsequently read a text about norm violations of a fellow group member during a stay in Japan. After a delay, participants who had received the mortality salience treatment were more likely to be distracted by norm related words in a Stroop color-naming task—however, this effect also depended on the level of identification with the relevant ingroup. In Study 2, 140 university students who received either the mortality salience threat or dental pain manipulation were instructed to study a picture of a library which they thought they would be visiting later on in the study. In a subsequent lexical decision task, participants who had received the mortality salience treatment demonstrated significantly faster reaction times for norm related words (i.e. silent, quiet, still, whisper). To build upon these preliminary findings, we

aim to conduct a number of studies utilizing a direct manipulation of control threat and a broader range of paradigms. Should we be able to further support our hypotheses regarding normative vigilance, this may provide the foundation for a detailed model of norm related behaviors in reaction to threat.

Third session, 21st May, 10:30–13:00

Skylar Brannon, Dario L. M. Sacchi, Bertram Gawronski

(University of Texas at Austin)

**What is (in)consistent? Lay perceptions of inconsistency
in impression formation**

Cognitive consistency is important for understanding the world, as evidenced by extensive research on behaviors aimed at resolving inconsistencies. There has been, however, surprisingly little attention given to lay perceptions of inconsistency. Using a memory-based measure of expectancy violation, the current research addresses this gap by investigating perceived inconsistencies between positive and negative information along the warmth and competence dimensions in impression formation. In two studies ($N = 1288$), we found that perceived inconsistency was driven by new impression information that was incongruent with the valence of prior impression information. This effect of valence incongruence generalized across warmth and competence, suggesting that information along one dimension lead to expectations that information along the other dimension would match in valence. Further, we found no evidence for valence asymmetries regardless of the dimension along which the impression was formed. The current findings provide important insights for extant theories of impression formation by suggesting that previously identified impression formation phenomena operate at a later processing stage that occurs after an inconsistency has been identified. Additionally, these results highlight the importance of lay perceptions of inconsistency in understanding how cognitive consistency is maintained.

**Hannah Nohlen, Frenk van Harreveld, Mark Rotteveel,
Ard J. Barends, Jeff T. Larsen**

(University of Amsterdam)

A facial EMG study on the role of inconsistency and evaluative context in shaping affective responses to ambivalence

Ambivalence can represent an inconsistency ('I like and dislike Bob'). Along this reasoning, ambivalence is thought to elicit negative affect, yet evidence for such a link is inconclusive. Using facial EMG, we tested the idea that affective responses to ambivalence are dependent on the inconsistency of evaluations in the current situation. In a person perception task, participants were presented with positive, negative, or positive and negative information about different target persons. When participants processed the information without having to respond, ambivalent information elicited the same affective response as positive stimuli, participants showed more zygomaticus (positive affect) and less corrugator activation (negative affect) than to negative stimuli. When participants had to make a choice, ambivalent information elicited the same affective response as negative information. This was qualified by the possibility to resolve the inconsistency between evaluations. Specifically, ambivalence only led to a relative decrease in positive affect when evaluative context did not help resolve the inconsistency between ambivalent evaluations and created a conflict (e.g., Bob is intelligent and dominant. Do you think Bob is a good collaborator?). When the same ambivalent information (e.g. "Bob is intelligent and dominant") was presented in a context in which the opposing evaluations were not inconsistent (e.g., "Do you think Bob can write a good research paper?"), participants reported to experience lower levels of conflict and displayed more positive affect (i.e. more zygomaticus activation). By taking a cognitive consistency approach, the current data contribute to the reconciliation of previously inconclusive results on affective responses to ambivalence.

**Marret Noordewier, Seger Breugelmans, Eric van Dijk,
Sascha Topolinski**

(Leiden University)

The temporal dynamics of surprise

We show that to understand surprise, it is key to take the temporal dynamics of sense-making into account. This temporal perspective implies a two-stage process: People first respond to the unexpectedness of an event, independent of its valence (i.e., they feel surprised). Then, following sense-making, responses unfold contingent on the valence of the event. Surprise represents negative interruption, because the unexpectedness is in conflict with people's epistemic need to predict, prepare, and understand outcomes (Miceli & Castelfranchi, 2015, see also Abelson et al., 1968; Gawronski & Strack, 2012; Harmon-Jones, 1999). This logic implies that irrespective of whether the surprising outcome is positive or negative, the nature of initial responses should be the same. Only after sense-making, responses should differentiate depending on the valence of the outcome. I will present a series of studies that support this unfolding logic. Using various methods (e.g., autobiographical recall, repetition-change, facial expression coding over time), we found that responses to positive surprises were initially more negative than later. Moreover, expressions to positive and negative surprises were initially similar, but after time differentiated depending on the valence of the event. Thus, to understand surprise, it is key to distinguish it from the state that follows it.

Yoram Bar-Tal, Katarzyna Stasiuk, Renata A. Maksymiuk

(Tel Aviv University)

The Need for certainty (NC): its effect on cognitive consistency

Cognitive consistency between a given premise and other relevant segments of knowledge is the only criteria for achieving certainty in the validity of the premise. Yet, the role of the need for certainty (NC; whether situational or general personal characteristic), in this process is rarely recognized. It is our understanding that the inclusion of NC in the explanation of the nature of cognitive consistency may clarify various questions such as cognitive consistency as a goal or a mean, when and why cognitive inconsistency may produce feeling of uncertainty and lack of control. In this presentation we

outline the development and validation of a new NC scale. The scale consists of 20 questions representing four factors: how certain needs the respondent be regarding a) decisions taken by him/her, b) personal characteristics, c) general social issues, and d) perceptions and characteristics of other people. The results of the studies show that NC differs from other epistemic motivations, that it moderates the effect of cognitive inconsistency and that the different subscales may characterize different people and therefore may explain different results of cognitive inconsistency in different domains and populations.

Fourth Session, 21st May, 14:45–16:45

Ulrich von Hecker, Ulrike Hahn

(Cardiff University)

Spatial representation of coherence

Five experiments examined spatial correlates of the experience of coherence, that is, the extent to which propositions ‘fit together’. Experiment 1 demonstrates for Heiderian triads (i.e., sets of liking/disliking relations between three fictitious persons) that name pairs from balanced triads, such as two friends commonly disliking a third person (high coherence) are seen as closer to each other in physical space as compared to name pairs from unbalanced triads, such as two persons disliking each other and having a common friend (low coherence). This pattern of results is conceptually replicated in two further experiments for categorical syllogisms. Two terms in conclusions from valid syllogisms (high coherence) were seen as closer to each other than when two terms came from invalid syllogisms (low coherence). In two further experiments, similar closeness effects are demonstrated for word pairs from small scenarios that “made sense” in terms of causal connectedness (latent causality) as opposed to word pairs from scenarios perceived as causally unconnected. These findings are discussed in the context of spatial binding theories, applied psychology, and embodied cognition in general, and their methodological implications highlighted.

Torun Lindholm, Amina Memon, Ola Svenson

(Stockholm University)

Social influences on dissonance reduction in medical decision making

Two studies investigated social influences on dissonance reduction in medical decision making. Study 1 compared decision-consistent biases when individuals freely made-, or when another person made the decision. Participants read a scenario in which one of two patients should be prioritized for surgery. Facts about the patients were given on counter-balanced scales. Participants decided themselves whom to prioritize, or were told that a physician made the decision, and then reproduced the facts from memory. When choosing freely, participants distorted memories of facts to become more supportive of the choice. This effect was evident, albeit reduced, when the decision was made by a physician.

Study 2 investigated majority/minority feedback effects on dissonance reduction for decisions concerning ingroup or outgroup members. Swedish participants decided whether a physician should comply or not to the request of a terminally ill patient, with a Swedish or a Turkish name, who asked for help to commit suicide. After making their decision, participants were informed that a majority or a minority had chosen the same alternative. Decisions about an in-group member were consolidated more if participants received minority, than majority feedback. This reversed for decisions on out-group member. Results suggest important social moderators of dissonance reduction strategies.

Katarzyna Jasko, Maxim Milyavsky, Joshua Jackson

(Jagiellonian University)

“Say it isn’t so”. Reliability of the source and openness to inconsistent information

In order to preserve their belief systems in the face of inconsistency, individuals may dismiss inconsistent evidence by discounting the source of the information or finding an alternative means to achieve consistency. We tested the hypothesis that when it is easy to discount the source of inconsistent information, individuals will use the discounting strategy. However, when biasing becomes difficult, they will not distort the reliability of the source; as a consequence, they will be more open to inconsistent information. In two studies conducted in

the context of political elections in Poland and the US, we obtained evidence supporting this hypothesis. Second, we tested the strategy of coping with inconsistency by finding alternative means. We hypothesized that when the trust in the preferred source of knowledge is undermined, individuals will search for a different means of preserving their overall confidence in their beliefs. We tested this hypothesis in the context of belief in science and found evidence for the compensatory selection of means to achieve understanding of the world.

**Katarzyna Cantarero, Wijnand A.P. Van Tilburg,
Agata Gasiorowska, Bogdan Wojciszke**

(SWPS University of Social Sciences and Humanities)

Need for meaning and individual differences

We propose individual differences in the need for meaning and developed a scale to measure these. In Study 1 (N=163) we showed that the construct is unidimensional. Study 2 showed that Polish and English versions of the scale, completed by bilinguals (N = 36) indicated good correlations. We conducted Study 3 (N = 327) in Poland and the UK. Confirmatory Factor Analyses supported the cultural equivalence in factor structure. British (N=147) and Polish (N=113) data showed that the need for meaning is only moderately or little correlated with need for closure (+), need for cognition (+), preference for consistency (+) and meaning in life (+), confirming discriminant validity. Study 6 (N = 256) indicated that need for meaning is correlated with internal locus of control(+), extroversion(+), conscientiousness(+), openness(+), self-esteem(+), neuroticism(-), but not agreeableness. These studies provide compelling evidence for individual differences in the need for meaning.

Short Presentations, 22nd May, 10:15–11:00

David Vadis, Alexis Akinyemi

(Université Paris Descartes, Sorbonne Paris Cité)

**Looking for a Minimal Paradigm: Is Exposure to Discrepancy
Generative of Cognitive Dissonance**

(nb: the third study is yet in collect of data at this time 2016.02.15. We expect to finish the collect by the end of March. Moreover, as I would really like to join this small group meeting I agree if you

want to modify this presentation to a poster communication). This presentation explores the effect of the exposure to discrepant stimuli with accepted pattern as generative of a motivational process. More specifically we look for the minimal conditions for the arousal of cognitive dissonance, which mean low self-involvement, low responsibility, low commitment, and no behavior: what we call informational dissonance (Vaidis & Gosling, 2011). In three studies, we used a task inspired by Postman and Bruner (1949): Ps had to recognize and select cards suits, but half of those cards were tricked (color reversed). Studies 1 and 2 showed that Ps in the trick condition took longer time to identify suits (about 200ms longer), experienced an emotional arousal similar to the dissonance's pattern (Exp. 2; E&D 1994's discomfort index: $\alpha = .70$, $p = .02$, $d = .70$) but they were not aware of the perceived inconsistency. In Study 3, Ps were just exposed to the stimuli without having to select the suit. Moreover, Ps filled in a questionnaire of Preference for Consistency (Cialdini, Bator & Newsom, 1995). We expected a greater discomfort for the Ps with high preference for consistency in the exposure to discrepant stimuli only. These results should cope with some alternative explanations and help to understand the processes involved in informational dissonance or exposure to inconsistency.

Paweł Strojny, Małgorzata Kossowska

(Pedagogical University of Cracow)

When expectancy-inconsistent information reduces uncertainty better. The role of need for cognitive closure and cognitive capacity

Motivation and cognitive capacity are key factors in people's everyday struggle with uncertainty. However, the exact nature of their interplay in various contexts still needs to be revealed. The presented paper reports on two studies aimed to examine the joint consequences of motivational and cognitive factors for preferences regarding incomplete information expansion. In Study 1 we demonstrate the interactional effect of motivation and cognitive capacity on information preference. High need for closure resulted in a stronger relative preference for expectancy-inconsistent information among non-depleted individuals, but the opposite among cognitively depleted ones. This effect was explained by the different informative value of questions in comparison to affirmative sentences and the potential possibility of assimilation of new information if it contradicts

prior knowledge. In Study 2 we further investigated the obtained effect, showing that also other kinds of incomplete information are subject to the same dependency. Our results support the expectation that, in face of incomplete information, motivation toward closure may be fulfilled by focusing on expectancy-inconsistent sentences. We discuss the obtained effect in the context of assumptions that high need for closure results in a simple processing style, advocating a more complex approach based on the character of the provided information.

**Ewa Szumowska, Sindhuja Sankaran,
Małgorzata Kossowska**
(Jagiellonian University)

**‘When the going gets tough, the tough get going’: Motivation
towards closure and effort investment in performance of
cognitive tasks**

Previous studies have demonstrated that higher scores on the Need for Closure (NFC), referring to an individual’s aversion toward ambiguity and the desire to quickly resolve it, leads to a reluctance to invest effort in judgments and decision making. However, we argue that higher scores on NFC may lead to either an increase or a decrease in effort investment depending on the ease with which the task can be completed (i.e., easy vs. difficult means to achieve closure) and the importance of the task goal. We tested these assumptions in three studies in which we measured task importance and manipulated the demands necessary to achieve closure. We found that when closure could be achieved via both less demanding and more demanding means, higher NFC scores were associated with decreased effort investment unless the task was perceived as important (Study 1). However, when attaining closure was possible only via more demanding means, higher NFC scores were associated with increased effort investment, regardless of the perceived importance of the task (Study 2) and regardless of the manipulation of the strategy to perform the task (Study 3). The results are discussed in the light of Cognitive Energetics Theory.

Wijnand Van Tilburg, Eric R. Igou

(King's College London)

Finding Meaning in Ideology: Going to Political Extremes in Response to Boredom

Boredom makes people attempt to re-establish a sense of meaningfulness. Political ideologies, and in particular the adherence to left- versus right-wing beliefs, can serve as source of meaning. Accordingly, we tested the hypothesis that boredom is associated with the stronger adherence to left- versus right-wing beliefs, resulting in more extreme political orientations. Study 1 demonstrates that experimentally induced boredom leads to more extreme political orientations. Study 2 indicates that people who get easily bored with their environment adhere to more extreme ends of a political spectrum compared to their less easily bored counterparts. Finally, Study 3 reveals that the relatively extreme political orientations among those who are easily bored can be attributed to their enhanced search for meaning. Overall, our research suggests that extreme political orientations are, in part, a function of boredom's existential qualities.

Michał Parzuchowski, Aleksandra Niemyjska

(University of Social Sciences and Humanities in Sopot)

From love to magic: Motivational and cognitive determinants of individual differences in sympathetic magic in close relationships

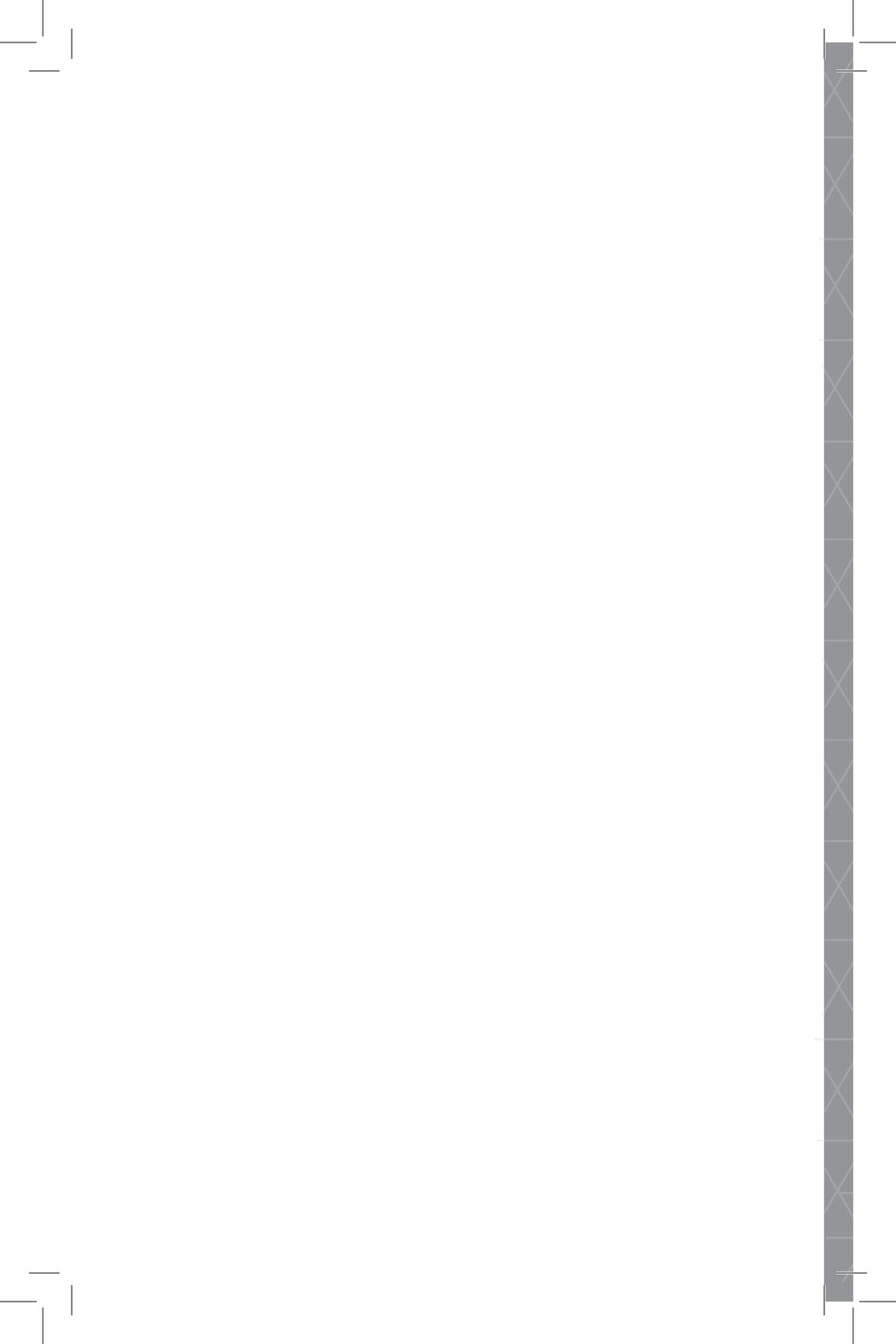
As much as it violates fundamental principles of nature and science, sympathetic magic (SM) in close relationships may seem synonymous with more general phenomenon of paranormal (Tobacyk, 2004), superstitious, magical and supernatural beliefs (also called PSMS beliefs, see Lindeman & Aarnio, 2007). In four studies we argue that individual differences in the acceptance of SM in close relationships arise from a unique combination of cognitive and motivation processes. More specifically, unlike PSMS beliefs, SM is determined by both unrestrained reliance on the experiential processing (King et al., 2007; Risen, 2015) and a specific pattern of attachment orientations (Mikulincer et al., 2003), that is high anxiety and low avoidance. Many studies have

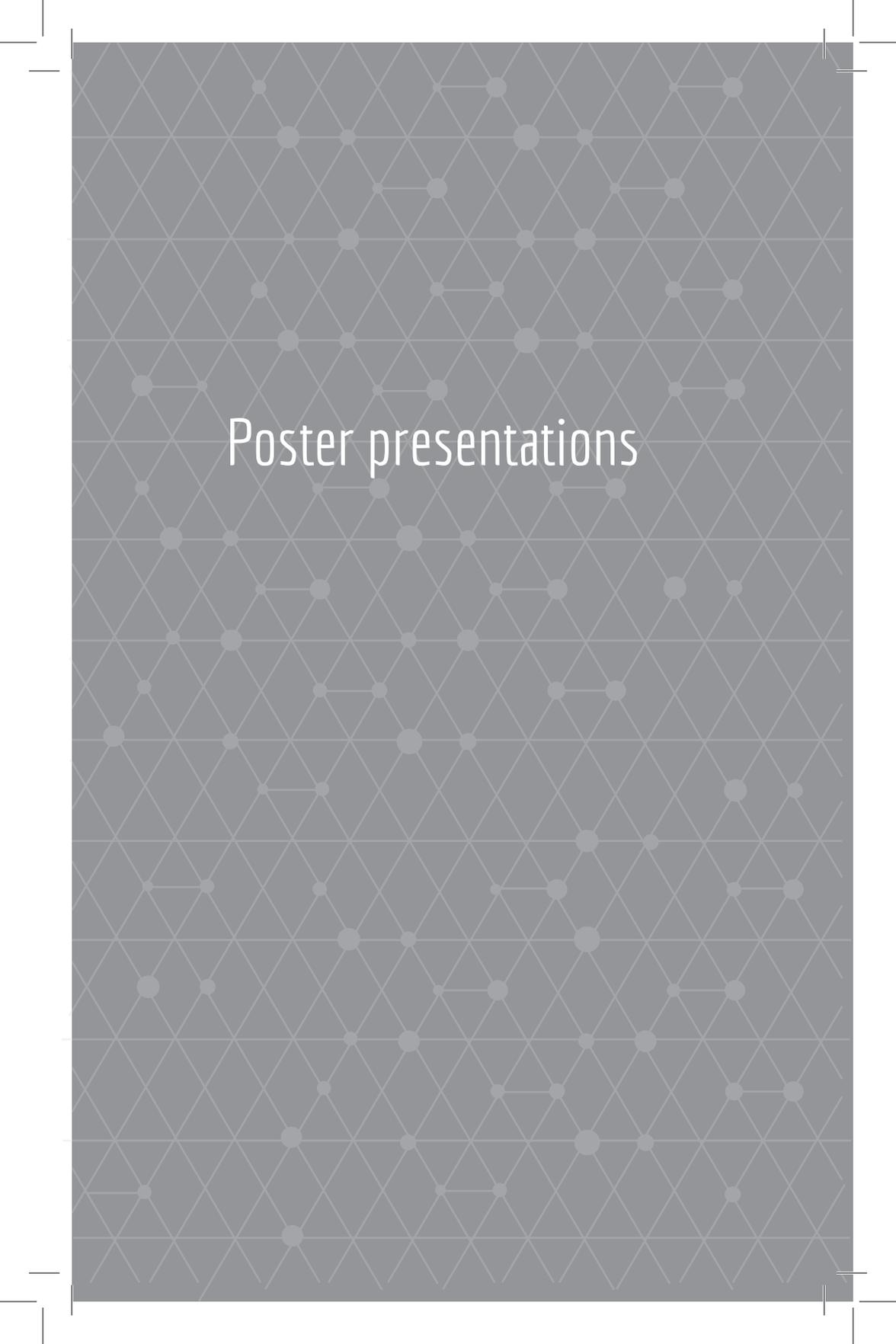
shown that PSMS beliefs result mainly from inaccuracy in using knowledge about entities and processes in the world (e.g., Aarnio, & Lindeman, 2005; Lindeman & Aarnio, 2007). Consequently, we predict that cognitive factors such as increased experiential processing, decreased rational processing (Pacini & Epstein, 1999) and decreased cognitive reflection (Frederick, 2005) would predict both SM and paranormal beliefs, however, these effects would be more pronounced for paranormal beliefs (as it's essential determinants). In contrast, SM did depend mostly on motivation to maintain closeness to a loved one (Niemyjska, 2015). Thus, it was strongly and uniquely predicted by increased attachment anxiety and decreased attachment avoidance, because these interpersonal orientations denote dispositional hunger for closeness and dispositional avoidance of intimacy (Mikulincer et al., 2003) that may be attained respectively by acceptance or rejection of SM. Furthermore, SM in romantic relationships unlike paranormal beliefs did increase perceived closeness to a partner and were predictive of collecting inanimate objects representing a partner.

**Piotr Dragon, Rob Holland, Andre Klapper, Małgorzata
Kossowska, Daniel Wigboldus**
(Jagiellonian University)

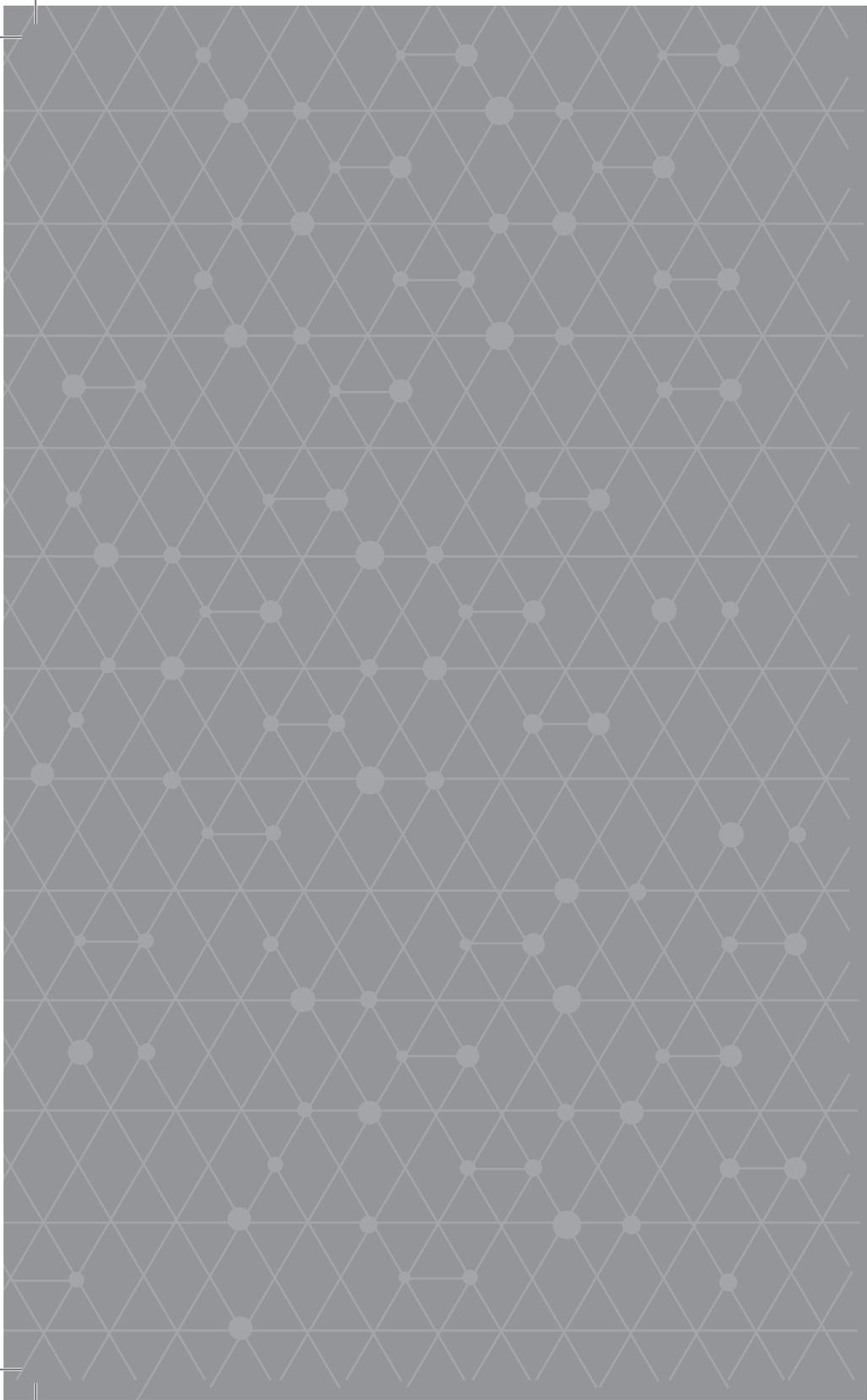
**Exploring the relation between warmth and competence in
social perception: a connectionist modeling approach**

The connectionist model of relationship between two fundamental dimensions of social perception: warmth and competence will be presented. When these two dimensions are used to form impressions of people, sometimes it results in positive relationship between dimensions (halo effect), while other times the relation is negative (complementary perception). These two patterns of results are explained in accordance with two different mechanisms (cognitive and motivational). Using connectionist modeling perspective, we introduce a model that integrates current findings regarding relationship between warmth and competence.





Poster presentations



Helmut Appel

(University of Cologne)

Undecided, uncommitted – The role of dissonance reduction for indecisiveness

Indecisiveness is the perceived inability to choose across decision contexts. Although it is contemporarily ubiquitous and highly distressing for those affected, its underlying mechanisms remain far from being well-understood. Crucially, post-decisional processes, such as experiencing regret, constitute a defining feature of indecisiveness. Because regret is experienced when cognitive dissonance is high, a deficient ability to attain cognitive consistency by means of dissonance reduction might contribute to indecisiveness. This view is in line with the action-based model of cognitive dissonance (Harmon-Jones, 1999) that looks at dissonance reduction more as an adaptive mechanism facilitating effective action rather than a self-serving bias. It is supported by findings relating indecisiveness to hesitancy, procrastination, and academic underachievement. The aim of the present research is thus to investigate the role of dissonance reduction processes for indecisiveness. First exploratory evidence of indecisiveness and deficient cognitive dissonance reduction in a free choice paradigm is presented, and setups for future research are outlined. By taking the perspective of failed behavioral self-regulation, as observed in indecisive individuals, the adaptive role of dissonance reduction for acting effectively is highlighted. We tested these assumptions in several studies in which we manipulated situational factors such as uncontrollability or ambiguity experience, threat posed to the self-image or power position, or inconsistent information about a stereotyped group. In addition we measured different manifestations of simple vs. complex cognition (e.g., stereotyping, memory for schema-consistent information, applying rules that simplifying intergroup perception). In some studies effortful strategy was indexed by cardiovascular activity.

Sebastian Cancino-Montecinos, Torun Lindholm, Fredrik Björklund

(Stockholm University)

Cognitive dissonance leads to an abstract mindset

This study investigated the effects of cognitive dissonance on abstract thinking. According to action-identification theory, whenever people try to understand a situation in a new way they activate an abstract mindset. Based on this premise, dissonance was hypothesized to put people in an abstract mindset. The induced compliance paradigm, in which participants are asked to write a counter-attitudinal essay under either low choice (producing little dissonance) or high choice (producing more dissonance), was employed. Results showed that dissonance did in fact activate an abstract mindset, and this effect was more pronounced for participants having a more concrete mindset to begin with. This suggests that increasing abstraction, as a reaction to cognitive conflict, is a way for people to resolve inconsistencies.

Gabriela Czarnek, Małgorzata Kossowska, Michael Richter

(Jagiellonian University)

The Moderating Impact of Effort Engagement on Stereotyping in Older Age

This research project aims at answering a question whether the relationship between age and stereotyping might be modified through effort engagement. Previous research showed that due to reduction in mental resources as well as changes in socio-emotional goals older adults in comparison to younger counterparts are more prone to stereotyping and exhibiting prejudice towards many social groups. The proposed model suggests a new idea that these age-related changes might be compensated through higher effort expenditure. In our study, higher effort investment was triggered by self-involvement (manipulation of accountability). On a physiological level, higher effort expenditure is indexed by higher level of Systolic Blood Pressure (SBP) with older adults exhibiting higher SBP in all the conditions and across all the task periods. The behavioral results showed no differences between younger and older adults within enhanced self-involvement condition while in a control condition younger adults achieved better results than older ones. The results are discussed within a Brehm's Motivation Intensity Theory and Hess' Selective Engagement Theory.

Aneta Czernatowicz-Kukuczka, Małgorzata Kossowska, Maciej Sekerdej

(Jagiellonian University)

Religiosity as a self-regulation tool: The role of religiosity and working memory in dealing with uncertainty

The main aim of our studies was to examine the religiosity as a strategy of dealing with uncertainty. As self-regulation is cognitively demanding process, we suspected that relationship between uncertainty and religiosity will occur only for people with high cognitive abilities. In the first study we proved that chronic motivation to avoid uncertainty leads to greater adherence to religious behaviors, but only among people with high working memory capacity. In the second study we replicated this interaction in the situation of experimentally induced uncertainty. We discuss these results as an evidence for strategic role of religiosity in the reduction of uncertainty.

Agnieszka Strojny, Małgorzata Kossowska, Paweł Strojny

(Jagiellonian University)

I do not change my mind if I'm not sure - the joint effect of need for closure and cognitive resource limitation on fundamental attribution error

The fundamental attribution error (FAE) is tendency for people to place emphasis on internal characteristics to explain someone else's behavior in a given situation rather than considering the external factors. Information about the internal and external causes of behavior are processed differently. Initially, the observed behavior is used to characterize the person. This process is automatic and effortless. Then information about the situational constraints may be taken into consideration, but it requires effort. Lack of effortful adjustment is often considered as the source of FAE. Studies have shown that FAE occurs when cognitive resources are limited. The need for cognitive closure elevates the tendency to cognitive structuring, and processing of information in simple, effortless style. Previous studies have shown that an increase in NFC causes an increased FAE. A series of three studies verified effect of cognitive resources limitation and NFC on FAE. All studies have consistently demonstrated that subjects with high NFC and available cognitive resources are making situational adjustment, because of their motivation towards achieving certain knowledge joint with sufficient resources.

**Paulina Szwed, Małgorzata Kossowska, Mirosław Wyczesany,
Aneta Czernatowicz-Kukuczka, Maciej Sekerdej, Eligiusz Wronka**

(Jagiellonian University)

**From arousal to relief. Prejudice as a self-regulatory
mechanism**

Inconsistency among cognitions or beliefs creates a disturbing state of psychological arousal associated with tension or discomfort. It forces a drive to reduction and motivates elimination actions. Depending on situation and individual differences, the actions can be effortful or effortless. Typically they induce an increased use of heuristics (Kim and Baron, 1988), reducing the availability of cognitive resources and leading to stereotype-based judgements (Bodenhausen, 1990). Thus, in the present study we want to check whether prejudicial attitudes may act as a self-regulatory mechanism that helps individuals to reduce an unpleasant arousal-related state.

We tested the main hypothesis on a sample of religious Poles divided into two groups, selected by orthodoxy level (total n=38). Firstly (1), we assumed that beliefs inconsistent with religious worldview lead to arousal and that magnitude of this tension is equivalent to orthodoxy level (because of higher importance of religious worldview). Indeed arousal increased among participants with high orthodoxy level after providing a stimuli inconsistent with beliefs. Secondly (2), we suspected that highly orthodox reduce arousal by forming prejudicial attitudes. As predicted, their level of arousal decreased after filling out a prejudice questionnaires and, in control group, stayed on the same level after filling out an openness questionnaire.

The results suggest that an inconsistency-evoked arousal may underlie prejudice attitudes.

List of participants

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