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ABSTRACTS BOOK

KEYNOTES

Keynote 1 - Masi Noor

THE BATTLE OF GRIEVANCES: CONSOLIDATING THE IMPACT OF INTERGROUP COMPETITIVE VICTIMHOOD AND CHARTING NEW DIRECTIONS

Speaker - Prof. Dr. Masi Noor (Keele University, UK)

In this talk, I will review and update my work on intergroup competitive victimhood (CV). This concept refers to efforts by members of conflicting groups to assert that their group has suffered more than their adversaries. While my work on this concept began in 2008, CV was formally introduced in 2012 (Noor et al., PSPR), where we established its theoretical foundation, distinguished it from related constructs, explored its psychological drivers, and examined its consequential implications for intergroup relations. The first part of my talk will provide an overview of the growing body of literature inspired by CV, including findings from our latest meta-analysis encompassing over 37,000 participants across 51 studies. In the second part, I will chart new directions by arguing that CV is far more multifaceted than previously assumed. I will present new evidence demonstrating that CV manifests not only in direct competition but also in subtler, yet equally potent, forms: denying outgroup suffering, blaming the outgroup for their plight, demanding recognition of ingroup suffering, and moralising the ingroup's victimhood. These insights contribute to a deeper understanding of CV's complexity and its consequences for intergroup relations. In the final section, I will share my vision for social psychology as an evolving field, addressing questions of relevance and diversity.

Keynote 2 - Valeria Gazzola

A CROSS-SPECIES APPROACH TO THE MECHANISMS OF VICARIOUS (EMOTIONAL) STATES

Speaker - Prof. Dr. Valeria Gazzola (University of Amsterdam, NL)

How does our brain make us feel what others feel, and how does this feeling influence our (pro-social) decisions? Are humans the only species able to feel others' emotions? During my talk, I will walk you through rodent and human work that shows a common neuronal substrate in response to our own as well as other people's emotional state. In humans, the somatosensory, insular, and cingulate cortices are activated both when experiencing pain and while witnessing others doing so. The cingulate cortex shows similar responses in rodents as well, with individual neurons responding both to the self-experience of pain and the pain of a conspecific. I will then bring evidence showing that such vicarious activations have causal influences on sharing the emotions of others and on deciding to help others. The homologies between humans and rodents suggest that emotion sharing is an evolutionarily conserved mechanism that allows animals and humans to better prepare for yet unseen dangers by tuning into the state of those that have already detected them. At the end of the talk, I will also present work on psychopathic criminals and healthy volunteers that highlights both voluntary and involuntary modulation of vicarious activity, suggesting we have control on how much we recruit such brain circuits and processes. Empathy does not just happen to us: we can choose (or not) to empathize.

INVITED SYMPOSIA

Invited Symposium 1

A Social and Neuroscience Approach to Intergroup Biases in Peace and Post-Conflict Societies (Emilie Caspar)

General abstract:

Intergroup biases shape social dynamics, influencing reconciliation, prejudice formation, and hidden attitudes in both post-conflict and stable societies. This symposium brings together research from neuroscience, psychology, and behavioral sciences to explore how these biases emerge, persist, and evolve. Emilie Caspar examines the intergenerational transmission of intergroup biases in Rwanda, showing how past genocide influences both survivors and their descendants. David M. Amodio investigates how mere exposure to discriminatory rhetoric can unconsciously shape implicit prejudice through memory and learning systems. Jonathan Levy highlights the critical role of neuroimaging in uncovering intergroup bias, revealing how implicit biases can remain hidden in self-reports yet emerge in neural activity. Together, these talks provide a multidisciplinary perspective on the mechanisms underlying intergroup biases and their implications for social cohesion and conflict resolution.

TALK 1

Are intergroup biases found in the next generation individuals in a post-genocide context?

Emilie Caspar (Ghent University)

Understanding how intergroup prosociality evolves in war-torn societies is crucial for examining conflict perpetuation and reconciliation. Conflicts enhance intergroup biases, hindering reconciliation. This talk presents two EEG and behavioral studies conducted in Rwanda among survivors and former perpetrators of the Genocide against the Tutsi, along with their offspring who were not yet born at the time. Study 1 investigated intergroup empathy bias, predicting reduced neural responses to outgroup pain. Results showed that both survivors and perpetrators exhibited this bias, which was also observed in their children. Study 2 examined the intergroup prosociality bias, predicting lower prosocial behaviors towards the outgroup. Survivors and their children selected former perpetrators and their offspring less frequently, experiencing higher cognitive conflict when doing so. Former perpetrators and their children, however, showed a dissociation—choosing outgroup individuals more frequently, possibly as compensation for past wrongdoings, yet still experiencing cognitive conflict. These findings highlight how past conflicts shape intergroup biases and their intergenerational transmission, providing key insights into post-conflict reconciliation.

TALK 2

Can mere exposure to discriminatory rhetoric induce implicit prejudice? An interactive memory systems account

David M. Amodio (University of Amsterdam)

When Donald Trump famously described Mexican immigrants as “criminals, rapists, and drug dealers” during his 2015 campaign launch, many dismissed the epithets as mere rhetoric. Yet such messages, even if dismissed, are nevertheless encoded in memory, from where they could

shape how one subsequently experiences and learns from interactions with members of the stereotyped group. We proposed that through this process, which involves the interplay of semantic memory and instrumental learning, mere exposure to rhetoric could transform into implicit prejudice. In a series of studies testing this hypothesis, participants interacted with players from two groups, described with either positive or negative stereotypes, in a reinforcement learning (RL) task presented as a money-sharing game. Although the actual sharing rates between members of each group were equated, participants formed more positive reward associations with players from the more positively stereotyped group. This effect occurred without participants' awareness and persisted even when they were told to ignore the stereotype. Computational modeling suggested that this effect represents the interplay of semantic memory (modeled as stereotype priors) with instrumental learning of group member rewards (modeled as group-based learning rates). We then show that these stereotype-induced preferences, once formed, spread unwittingly to others who observe these interactions. By identifying a mechanism through which stereotype knowledge can bypass explicit beliefs to induce implicit prejudice, these findings illuminate the impact of discriminatory rhetoric on the formation and propagation of social bias.

TALK 3

Intergroup bias uncovered by neuroimaging.

Jonathan Levy & Annika Kluge (Aalto University)

In this talk, I will present results from two recent studies that highlight the importance of using neuroimaging (MEG) in uncovering intergroup bias. The first study (*N* = 43 Finnish university students) examined a socially non-normative bias – that is, towards immigration in Finland. The second study (*N* = 121 Finnish university students) examined a socially normative bias – that is, towards vaccine-hesitancy during the covid pandemic in Finland. The first study reported that implicit behavioral measures failed to indicate intergroup bias against immigrants, and explicit measures reported rather positive attitudes and sentiments towards the targeted group. Yet, MEG revealed significant neural intergroup bias. By contrast, the second study reported implicit, explicit and neural intergroup bias against vaccine hesitancy, thereby underscoring that when bias is socially viewed as unacceptable, hidden bias may still prevail and can be detected while examining neural activity. Furthermore, the second study revealed that following propaganda against the targeted outgroup, only neural bias increased. These results underscore the necessity of incorporating neuroimaging into psychological research on intergroup relations.

Invited Symposium 2

Raising children in a changing social world: How sociocultural context shapes parenting (Stijn Van Petegem)

General abstract:

Throughout development, parents play an important role in the lives of children, adolescents and young adults. Through their parenting style and the emotional climate created within the family, they may support or hinder optimal development. As past research has shown, when parents are overprotective, controlling or abusive, they may set their children at risk for psychosocial difficulties and psychopathology, whereas a responsive and autonomy-supportive parenting style would foster development and psychosocial adjustment (e.g., Soenens et al., 2019). Considering these findings, researchers aimed to seek and identify the determinants of parents' rearing style and practices. However, much of the empirical work in the psychological field remains limited to the identification of parent-related factors (e.g., personality, psychopathology, family history) and/or child-related factors (e.g., temperamental characteristics) as determinants of parenting. Although insightful, such research tends to disregard the larger sociocultural context in which these parent-child interactions are embedded. This is unfortunate from a scientific point of view, as well-known models of child development (e.g., Bronfenbrenner & Morris, 2006) stress the importance of considering the broader societal, economic, cultural and historical context. The problematic nature of this omission is further intensified by the fact that such approaches implicitly reinforce current trends towards "parent-blaming" (Bristow, 2014), whereby parents are criticized and held personally responsible for relying upon parenting strategies that are in fact attempts to adapt to a changing socio-economic reality. Indeed, the current sociocultural context is marked by many important shifts, including declines in social capital, increasing economic insecurity, climate change and geopolitical tensions, and other evolutions that may elicit worries about the future for the next generations (e.g., Doepke & Zilibotti, 2019; Stevens 2024). For this reason, the present symposium sought to identify the ways in which the broader sociocultural context shapes parenting. In the first contribution, Van Petegem et al. will present the results of a cross-temporal meta-analysis addressing the question whether parents of adolescents and young adults are increasingly perceived as overprotective in their parenting. Indeed, media depiction of contemporary parenthood often describe present-day parents as overly protective of their children, which is considered an important societal concern, as it would put future generations at risk for anxiety and mental health difficulties, as they would be unable to cope with the everyday challenges of adult life. This pre-registered cross-temporal meta-analysis sought to explicitly test whether perceptions of overprotective parenting have increased from 1976 to 2023. The analysis is based on 976 means from 462 studies, totaling 285,345 adolescents or young adults who completed either the PBI (Parker et al., 1979) or the EMBU (Perris et al., 1980). Further, the authors also examined whether variations across time and country of data gathering are explained by differences in social capital (as indexed by country-level perceived trust in others) and economic inequality (as indexed by the Gini index). Finally, the authors examined whether mothers were on average perceived as more overprotective than fathers, and whether this difference was more pronounced in contexts where traditional gender role beliefs are more prevalent. The second contribution (Flamant et al.) also focuses on parental overprotection. Research identified parental neuroticism as a key antecedent of overprotective parenting. According to trait activation theory, this effect may be particularly present or amplified when triggered by certain external cues. In the current research, the authors examined whether and when parental neuroticism leads to overprotective parenting, focusing on the role of three stressful external cues, that is, perceived child problems, perceived environmental threat, and

the transition to higher education. The authors addressed two key research questions across two longitudinal studies. First, in a two-wave study (T1: 2007; T2: 2009) involving 589 Flemish adolescents (mean age at T1 = 13.8 years) and their parents, the authors examined whether perceived child problems triggered the effects of parental neuroticism on overprotective parenting. Latent change models showed that parental neuroticism related positively to overprotective parenting, but that there was no activating or amplifying effect of child problems. Second, a four-wave study with 6-month intervals involved 278 mothers and 189 fathers of Flemish adolescents (mean age at T1 = 16.8 years). Between the 2nd and the 3rd wave, adolescents made the transition from secondary to higher education. In this study, the authors examined whether perceived threat and this educational transition triggered the effects of parental neuroticism on overprotective parenting. Results indicated that the relationship between parental neuroticism and overprotection was more pronounced during the transition period. Moreover, a significant interaction revealed that the effect of neuroticism on the change in overprotection from secondary education to higher education was more pronounced for fathers reporting higher levels of perceived threat. In the third contribution, Lamprianidou et al. aimed to explain between-country differences in parents' gender role beliefs and their parenting. Specifically, this cross-national study examined how parents' gender essentialist beliefs are related to their parenting across 11 countries with different levels of gender inequality. Gender essentialism proposes that women are inherently more qualified for child-rearing than men. The authors explored how fathers' and mothers' gender essentialist beliefs relate to their positive (i.e., responsiveness) and negative (i.e., overprotection) involvement in a sample of 5753 parents (34% fathers) of adolescents (mean age = 17.4 years). Preregistered multi-level analyses indicated that parents' stronger endorsement of gender essentialism related to higher overprotection among both fathers and mothers. No association was found between parents' gender essentialist beliefs and their responsiveness. Further, it was found that country-level gender inequality predicted more parental overprotection and less responsiveness among both fathers and mothers. In addition, these associations between country-level gender inequality and overprotective parenting were explained by parents' endorsement of gender essentialist beliefs. To conclude, the present symposium seeks to provide a more contextualized understanding of contemporary parenthood, by highlighting the fundamental importance of considering the complexities related to the socio-economic and cultural context in which parent-child interactions take place.

TALK 1

Historical and Cultural Differences in Perceived Overprotective Parenting from 1976 to 2023: A Cross-Temporal Meta-Analysis

Stijn Van Petegem[1], Cindy Eira Nunes[1], Annalisa Soncini[1], Şule Selçuk[2], Gaëlle Venard[3], Elliana Lamprianidou[1], Bart Soenens[4], Grégoire Zimmermann[3], & Patty Leijten[5]

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TALK 2

From Neuroticism to Overprotection: How Child Problems, the Transition to Higher Education and Perceived Threat Activate Parental Neuroticism

Nele Flamant[1], Peter Prinzie[1], Bart Soenens[1], Cindy Eira Nunes[2], Bénédicte Mouton[2], Elli-Anastasia Lamprianidou[2], & Stijn Van Petegem[2]

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TALK 3

Parents' Gender Role Beliefs and Their Overprotection and Responsiveness Across 11 Countries: Unraveling the Role of Gender Inequality

Elli-Anastasia Lamprianidou[1], Cindy Eira Nunes[1], Katharina Block[3], Maria Bacikova-Sleskova[2], Eliana De Salvo[4], Frederik De Spiegeleer[5], Terese Glatz[6], Francesca Liga[4], Bénédicte Mouton[1], Cyrille Perchec[7], Nino Skhirtladze[8], Bart Soenens[5], Spyridon Tantaros[9], Ana Tokić Milaković[10], Jolene van der Kaap-Deeder[11], Gaëlle Venard[12], Emilio Paolo Visintin[13], Melanie Zimmer-Gembeck[14], Grégoire Zimmermann[12], & Stijn Van Petegem[1]

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Invited Symposium 3

The Politics of Collective Memory: Historical Narratives and Contemporary Attitudes (Anouk Smeekes & Laurent Licata)

General Abstract:

This symposium explores the impact of collective memory on contemporary social and political attitudes, spanning diverse historical contexts and geographical regions. The four presentations examine how historical narratives shape group identity, political preferences, intergroup relations, and beliefs about social justice. The first presentation investigates the role of societal pessimism and national nostalgia in shaping support for populist radical-right parties in the Netherlands, highlighting how affective connections to a glorified past fuel contemporary political movements. The second presentation examines historical victim consciousness in Central and Eastern Europe, showing how exclusive narratives of victimhood distort Holocaust memory and shape national self-perceptions. Expanding on the theme of historical trauma, the third presentation explores the link between World War II-related collective memory and conspiratorial beliefs, showing how a sense of historical collective victimhood continues to influence these beliefs across multiple societies. Finally, the fourth presentation shifts focus to colonial history and restitution debates, analyzing how members of the Tabwa community in the Democratic Republic of the Congo perceive their colonial past and the return of stolen cultural artifacts and ancestral remains. Together, these studies underscore the lasting psychological and political consequences of collective memory. By investigating the interplay between historical narratives and contemporary attitudes, this symposium offers insights into how societies navigate the past to shape their present and future.

TALK 1

Our gloomy future and glorious past: Societal pessimism, national nostalgia and support for populist radical right parties in the Netherlands

Anouk Smeekes & Marcel Lubbers (Utrecht University, ERCOMER/Interdisciplinary Social Science)

Political campaign slogans, such as “Make America Great Again” or “The Netherlands Ours Again,” indicate that right-wing populists in Western countries use nostalgia to depict the national past as glorious. At the same time, populist radical-right parties (PRRP) portray this glorious past as being in stark contrast with the gloomy present of their country, which is portrayed as being in a state of decline. This suggests that PRRP in Western societies draw on both societal discontent (i.e., the belief that society is in decline and poorly functioning) and national nostalgia (i.e., a longing for the good old days of the country) to mobilize their voters. Although there is a burgeoning literature on reasons for PRRP electoral support, fewer studies have focused on its emotional or affective underpinnings. While scholars have proposed that both societal discontent and national nostalgia are an integral piece of a new master-frame employed by PRRP in Western countries to increase their electoral appeal, these elements have hardly been empirically studied in reference to voters. Relying on an integration of research in political science and social psychology, we hypothesized that both societal discontent and national nostalgia go together with a greater sympathy, and likelihood of voting, for PRRP. In addition, we predicted that national nostalgia is an explanatory mechanism that links societal discontent to more support for PRRP. These hypotheses were tested in the context of the Netherlands, among a representative sample of native Dutch voters, using the Dutch Parliamentary Elections Study of 2021. Results

demonstrated that while both societal discontent and national nostalgia were relevant predictors of PRRP support, there was no strong evidence for national nostalgia as an explanatory mechanism of the link between societal discontent and PRRP support.

TALK 2

The Role of Exclusive and Inclusive Victim Consciousness in Holocaust Distortions: The Case of Central and Eastern Europe

Maria Babińska (Université Libre de Bruxelles) & Michał Bilewicz (University of Warsaw)

The collective sense of historical victimhood among Central European nations—shaped by a history of 20th-century violence—significantly influences their self-perceptions and historical narratives. It is known that people who perceive their own group as victims have a tendency to overlook their group's involvement in harming others, leading to biased historical interpretations. This study examines the influence of historical victimhood beliefs on how people in Poland, the Czech Republic, Slovakia, and Hungary perceive their national groups' attitudes toward Jews during the Holocaust. Using representative samples (N = 8640), we find that across all countries, people tend to highlight heroic responses while downplaying passivity resulting in a distorted representation of the Holocaust. We show that the extent to which individuals overestimate moral actions and underestimate passive or immoral behaviors by their ingroup is influenced by exclusive historical victimhood beliefs. Interestingly, adopting an inclusive view of victimhood did not reduce this bias; in the Czech Republic and Slovakia, it was associated with a more defensive historical stance. These findings suggest that exclusive historical victimhood fosters biased historical perceptions universally in Central Europe, regardless of each nation's role as perpetrator or victim, while the impact of inclusive victimhood varies by country.

TALK 3

How can WW2-related traumatic memories affect conspiratorial beliefs in contemporary societies?

Michal Bilewicz, Maciej Siemiatkowski, Dominik Puchala, & Wiktor Soral, (University of Warsaw, Poland)

This paper investigates the long-term impact of World War II experiences on contemporary conspiratorial beliefs, drawing on the concept of historical trauma and collective memory. We hypothesize that the experience of victimhood during World War II shaped collective memory of powerlessness, manifesting in higher levels of conspiracy thinking in contemporary societies. Utilizing a historical-legacy approach, we analyze data from two cross-national studies. Study 1 (analyzing 26 countries) finds that the scale of World War II losses in a given country predicts COVID-19 conspiracy beliefs more strongly than current conflicts do. Study 2 (analyzing 30 countries) extends the analysis to general conspiratorial views of science, confirming that the scale of World War II losses is a significant predictor of conspiratorial beliefs. Study 3 (using 6 nation-wide representative sample in Central and Eastern Europe) shows that traumatic responses to World War II collective memory are linked to higher conspiracy mentality, and that the sense of powerlessness mediates this effect. Our findings suggest that the psychological scars of past conflicts continue to shape contemporary social and political attitudes, particularly through shaping the collective memory of powerlessness and transmitting the conspiracist perceptions of political life.

TALK 4

Social Representations of Colonialism and Attitudes Towards the Restitution of Cultural Objects and Human Remains Among Members of the Tabwa Community in the Congo

Jean Kalombo Mulimbi (Université de Lubumbashi & Université libre de Bruxelles), Jacques Kalumba Ngoy (Université de Lubumbashi) & Laurent Licata (Université libre de Bruxelles)

This study explores the social representations of Belgian colonialism and attitudes towards the restitution of cultural objects and human remains among members of the Tabwa community in the Tanganyika region of the Democratic Republic of Congo. Through semi-structured interviews with 50 participants across 19 villages—spanning diverse genders, ages, and religious beliefs—we examined their narratives surrounding the assassination of Chief Lusinga Iwa Ngombe by General Emile Storms in 1884, the spoliation of their cultural heritage, and their perspectives on restitution. Results highlight a widespread lack of information regarding the fate of looted artefacts and ancestral remains, yet a strong desire for their recovery. However, concerns emerged about potential negative consequences, such as the rekindling of intergroup conflicts. Participants also reflected on the ontological status of stolen ritual objects, questioning their significance in the present cultural context. This research underscores the complexity of restitution debates within affected communities, revealing both the aspirations and dilemmas tied to reclaiming cultural heritage.

Invited Symposium 4

Closing the Gap: Pathways to Diversity and Equity in Higher Education (Orhan Agirdag & Jozefien De Leersnyder)

General abstract:

Ensuring diversity and equity within higher education is pivotal for creating an inclusive academic environment and addressing persistent inequalities in educational outcomes. Despite decades of democratization efforts, higher education institutions across Belgium and Europe still struggle with significant ethnic, socioeconomic, and cultural disparities. This invited symposium highlights critical insights into mechanisms underlying these gaps and offers evidence-based strategies for improvement. The symposium addresses systemic inequalities in admission procedures, emphasizing how selection practices for psychology students inadvertently perpetuate ethnic and socioeconomic imbalances. It further explores how diversity climates, shaped significantly by lecturers' attitudes and pedagogical practices, influence ethnic minority students' sense of belonging and academic achievement. Building on these themes, the role of professionalization in enhancing teachers' cultural competencies is examined, identifying institutional approaches essential for fostering inclusive educational spaces. Finally, the symposium critically assesses the emerging role of generative AI tools in education, debating whether AI exacerbates existing achievement gaps or provides opportunities to bridge disparities. Together, these contributions underscore the necessity of deliberate, informed interventions aimed at achieving genuine inclusivity and equity within higher education institutions.

TALK 1

Who will become our future psychologists? Inequality of opportunity in the selection for Psychology and the effect on diversity among psychologists.

Lianne Mulder - Health Equity Research

In the Netherlands, various higher education programs use selection procedures, because there are more applicants than available places. Not all groups of applicants have the same odds of admission, according to the PhD research of Lianne Mulder. The inequality of opportunity in the selection procedures has a negative effect on the diversity among students in these programs: candidates who are already (very) underrepresented, for example due to unequal opportunities in primary and secondary education, oftentimes have the lowest odds of admission as well. In the selection for the Psychology program, candidates with a migration background have a lower chance to be admitted, as do candidates who do not have parents who are registered healthcare professionals. 1: This is a problem, because ethnic diversity among healthcare psychologists also lags behind the diversity in society. For example, less than ten percent of these psychologists have a non-European migration background. 2: In order to provide the best possible healthcare, it is important that healthcare providers are representative of the patient population they serve. Therefore, it is essential to strive for fair opportunities in the selection procedure of Psychology, to focus on 'equity' instead of 'equality', and to create a representative student population, capable of providing excellent mental healthcare in a diverse society.

TALK 2

Diversity Climates in Higher Education and the crucial role of Lecturers in closing ethnic gaps in both achievement and belonging.

Jozefien De Leersnyder[1], Bart Duriez[2], Loes Meeussen[1,3], Roy Konings[1] & Evelyn Morreel[1,4]

[1] KU Leuven, [2]Karel De Grote Hogeschool Antwerpen, [3]Thomas More Antwerpen, [4]Odisee

Despite the democratization of higher education, there are still large and persistent ethnic gaps in higher education (HE) in Flanders and beyond: students with a non-EU migration background often feel less belonging and face lower rates of study progress than their ethnic majority peers. To mitigate these gaps, (inter)national research on primary and secondary education are increasingly pointing to the potential of multiculturalist/pluralist policies that acknowledge and value ethnic diversity. Therefore, we here sought to i) replicate the effects of different School Diversity Models (SDMs) in HE on belonging and achievement and ii) zoom in on the potential crucial role of lecturers in creating inclusive learning environments. In Study 1, we examined these aims amongst a population of university college students in Antwerp (N > 1000) and found that students' grades, study progress and belonging were lower when they perceived more assimilationism (devaluing diversity), unaffected by perceptions of colorblindness (ignoring diversity), and better when they perceived pluralist practices. Specifically, the more lectures were seen as embodying a pluralist attitudes, didactics and curricula, the more all students – with and without migration background – benefited. We replicated the latter findings in Study 2 among a sample of university college students in Brussels (N > 900) with another scale. Again, lecturers' pluralist attitude, skill to create an inclusive learning-context, and incorporation of multiple perspectives in their lessons were positively associated with students' belonging and achievement. Based on these studies, we recommend professionalizing lecturers in dealing with ethnic diversity to foster social justice in H-E.

TALK 3

How professionalization can enhance teachers' cultural competencies and contribute to a more inclusive academic landscape

Khadija El Youssfi & Els Consuegra (VUB)

The ethnic gap in higher education remains a major issue in OECD countries, leading to underrepresentation, lower academic achievement, and a diminished sense of belonging among ethnic minority students. Increasing diversity necessitates effective strategies to foster inclusivity, with teachers playing a crucial role in creating an inclusive learning environment. Most research on inclusive teaching and teacher professionalization focuses on compulsory education in Anglo-Saxon contexts. However, little is known about its impact in continental Europe and higher education. There is an urgent need to study how professionalization can enhance teachers' cultural competencies, contributing to a more inclusive academic landscape. Three online focus groups with 15 participants, including teachers, project staff, and professionalization program coordinators, explored challenges and needs regarding ethnic diversity. Key issues identified were hesitancy to act, unconscious biases, and limited knowledge of inclusive didactics. Findings suggest that professionalization programs are more effective when implemented at the team or institutional level, supported by a well-structured, widely endorsed policy. There is a strong demand for practical tools and a collective approach within faculties to address the ethnic gap. In the coming months, further in-depth interviews will provide more insight into professionalization needs related to cultural competencies. Findings will be shared during this conference session.

TALK 4

AI and the Achievement Gaps in Higher Education: An Equalizer or a Double-Edged Sword?

Orhan Agirdag & Panayota Cotzaridis (KU Leuven)

This study examines the role of generative artificial intelligence (AI) usage among undergraduate students in higher education and its implications for the achievement gaps. Drawing on a unique dataset of 1,200 first-year bachelor students enrolled in 30 academic programs across 10 Flemish higher education institutions, we first assess the prevalence and purpose of AI use across different ethnic, gender, and socioeconomic groups to establish baseline patterns of adoption and application. We then employ multilevel analyses, integrating both mediation and moderation models, to explore the relationship between AI use and student outcomes. Mediation models are used to elucidate the underlying mechanisms through which AI may influence cognitive and psychosocial outcomes, while moderation models examine whether the strength and direction of AI's impact vary among ethnic, gender, and socioeconomic groups. This approach aims to provide critical insights into how AI contributes to or mitigates the achievement gaps, offering guidance for policies and practices designed to promote equal opportunities in higher education.

Invited Symposium 5

Can Digital Tools Help Bridge the Inequality Gap in Health? Insights from Health Literacy, Reach, Acceptability, and Efficacy (Ann DeSmet)

General abstract:

Mobile health (mHealth) interventions are interventions that use mobile, often Internet-supported, tools such as smartphone applications, tablets, wearables (e.g., smart watches and pedometers), and personal digital assistants (PDAs) to promote health, illness self-management, or remotely support treatment. They potentially have a high reach, low threshold and are available to people at the exact time they need it. As such, mHealth interventions carry the added potential of a higher retention rate at population scale compared to non-mHealth interventions. Despite the potential of digital technologies, questions remain about the actual public health impact of mHealth interventions in their ability to reduce health inequalities. Certain groups of the population are known to have a lower adoption of health behaviors and to experience lower access to health care and/or higher morbidity, including people from ethnic minorities, from economically disadvantaged backgrounds, from sexual minorities, people with lower health literacy levels, with a lower educational status, or women in certain patriarchy cultures. Moreover, these groups of the population may also experience more barriers to using mobile health apps. This thus raises the question whether and how digital tools can help bridge the health inequality gap. This will be addressed in three research talks and summarized in a general discussion at the end of the symposium. The first talk by Ann DeSmet (ULB; UA) addresses the question whether there is evidence of a digital health divide that can increase health inequalities, by presenting findings from two systematic reviews. A second and third talk next address how to reduce potential digital health inequalities. The second talk by Nynke Van der Laan (Tilburg University) presents findings from a project to prevent digitalization from exacerbating existing health disparities and will focus on insights from the advisory panel and an experimental survey. A third talk by Stephan Van den Broucke (UC Louvain) will present research findings and best practices on how to increase digital health literacy. Olivier Klein (ULB) will act as discussant to tie together conclusions and suggestions for further research across the three talks.

TALK 1

Ann DeSmet[1, 2], Heide Busse[3, 4], Cynthia C Forbes[5], Zhirui Guo[6], Eline Smit[7], Dorothy Szinay[8], Jin Wan[7], Laura M König[9, 10]

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Mobile health interventions are promising behavior change tools. However, there is a concern that they may benefit some populations less than others and thus widen inequalities in health. Two separate systematic reviews investigated differences in uptake of, engagement with, and effectiveness of mobile interventions for weight-related behaviors (i.e., diet, physical activity, and sedentary behavior) in a healthy adult population based on a range of inequality indicators including age, gender, race/ethnicity, and socioeconomic status. A first review only examined experimental studies (*N* = 13), whereas a second investigated observational studies (*N* = 88). The review of experimental research included a limited number of studies and showed inconsistent findings, concluding that evidence of the presence of a digital divide in mobile interventions targeting weight-related behaviors is inconclusive. The systematic review of observational studies showed that younger age and higher socio-economic position were mostly associated with increased uptake, although these differences did not translate into higher engagement or effectiveness. Results for other inequality indicators were mixed, and some (e.g. migration [*k* = 4], sexual orientation [*k* = 1]) were rarely studied. In sum, evidence for a digital health divide remains mixed, although some barriers to the uptake of mobile interventions, such as access to the required technology and digital literacy exist. Research urgently needs to address potential inequalities beyond age, gender/sex and socio-economic position to ensure that mobile interventions do not widen existing health inequalities

TALK 2

DIGIQUITY4HEALTH project: How digital choice environments affect equity and disparities in healthy consumption

Nynke van der Laan[1]

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The digital transformation of the food environment (e.g., supermarket websites and apps) presents both opportunities and threats regarding responsible consumption, particularly for promoting healthy food choices. In the past, digitalization has given rise to disparities resulting from a digital divide. Similarly, digital choice environments have shown potential for promoting healthy food choice, for example by personalized nudging, but predominantly benefited individuals of higher socioeconomic position (SEP). The DIGIQUITY4HEALTH project addresses a significant gap in scientific knowledge by investigating the impact of digital choice environments on healthy food choices and exploring how its unique features, e.g., personalization, can serve people with lower SEP in ethically justified ways. The ultimate objective is to prevent digitalization from exacerbating existing health disparities and to instead leverage its potential to promote health equity. Low SEP populations are understudied, and gaining insights into low SEP is significantly hindered by these populations being "hard to reach." To address this challenge, we have established the Low SEP Advisory Group, which plays a key role in the co-creation of our projects. This advisory group was formed in collaboration with various local societal partners and provides input throughout all stages of the research process, including idea generation, development/design, and evaluation. During the idea generation phase, the advisory group contributes by participating in brainstorming sessions on study topics relevant to their socioeconomic background and sharing lived experiences from which research ideas can be developed. In the development and design phase, they provide feedback on research protocols, test questionnaires, and assess the understandability of stimulus materials. Finally, in the evaluation phase, they assist in interpreting research findings and identifying potential biases

based on their own experiences. This presentation will outline the setup of the advisory panel, the challenges encountered, and the lessons learned from their input. Additionally, we will discuss how such advisory groups have benefited the project as a whole. Furthermore, we will present the first results from a preregistered large-scale online survey experiment. This study addresses the research gap by examining both objective and subjective SEP indicators in relation to the healthiness of food choices in digital choice environments. Emotional factors, knowledge factors, and decision-making styles are explored as potential explanatory mechanisms for the relationship between SEP and healthy food choices. Moreover, the study investigates the effectiveness of different digital nudges across the SEP gradient.

TALK 3

Measuring and addressing Digital Health Literacy in Europe

Stephan Van den Broucke[1]

[1]*UC Louvain*

The increasing availability and use of health-related digital resources such as electronic health records, telehealth, digital health apps and interactive communication options with health care providers and public health agencies, places increasing demands on people's abilities to use these applications and resources. In addition, commercial companies and individuals are also seeking the public's attention through digital channels, including social media, resulting in more interest-driven, manipulative, or simply false information on health being disseminated to the public, requiring particularly critical and analytical skills from the public and individual users. It is therefore necessary that researchers, practitioners, and policy makers recognize and realize the importance of understanding and improving people's proficiency in using digital resources for managing their health conditions and for promoting their health. While increased digitalization of health services can help make health resources available for more people, concerns have also been raised that it may increase health inequalities by creating a digital divide. To address this problem, public health practitioners and policy makers should acknowledge the role of digital health literacy (DHL). As a relatively new concept, digital health literacy is distinct from digital literacy in that it refers to a person's specific ability to access, understand, assess and apply health-related information obtained from digital sources. It is also distinct from eHealth literacy, which focuses mainly on healthcare. The presentation will introduce the concept of digital health literacy and its relevance to health promotion, arguing that consideration of DHL by health promotion researchers, practitioners and decision makers can help to improve people's ability to effectively use digital resources and appropriate and innovative interventions to contribute to health and well-being. It will present recently developed and validated measures of DHL, as well as results of data on DHL obtained in 13 European countries through the M-POHL HLS-19 Survey, emphasizing the social and personal determinants of DHL and its relationship to lifestyle and health outcomes. It will conclude with a discussion on the opportunities and barriers for improving DHL in various countries and cultural contexts and for building the capacity for organizations and decision makers to acknowledge and plan appropriate interventions to positively address digital health literacy for health promotion policy, intervention and research.

TALK 4

Discussion

Olivier Klein[1]

[1] *Université libre de Bruxelles*

The discussion will present overarching findings but also remaining questions and areas that require further research, combining summaries with audience interaction.

Invited Symposium 6

Cognitive Underpinnings of Monitoring and Control (Kobe Desender)

General abstract:

The symposium explores the cognitive mechanisms underlying value-based decision making with a special interest in the role of confidence. It brings together researchers from different universities who examine how humans adapt their decision strategies based on environmental demands, how confidence is updated and modulated by decision revisions, and how metacognitive factors like confidence influence learning processes such as reinforcement learning and the confirmation bias. A central theme is the interaction between confidence and decision-making strategies, highlighting the cognitive and computational models that explain these processes. The symposium consists of a series of presentations by researchers from different institutions, each focusing on a distinct yet related aspect of decision-making and confidence.

TALK 1

Cognitive mechanisms of strategic variability in stable, volatile, and adversarial environments

Janne Reynders, Tom Verguts, & Senne Braem. Department of Experimental Psychology, Ghent University

Everyday life requires variability. For example, in games (e.g., rock, paper, scissors) or sports (e.g., tennis, boxing), it is important to be variable or unpredictable such that opponents cannot predict one's next move. Behavioral experiments in which variable responding is rewarded show that humans and nonhuman animals can strategically increase response variability. However, it remains unclear what cognitive mechanisms underlie such variable behavior. We describe three plausible mechanisms that could lead to variable behavior: a stochastic generator, fast reinforcement/extinction learning, and a frequency-based memory. Each of these three mechanisms was linked to a modulation of a basic learning and decision making (Rescorla-Wagner-derived) model. In three experiments, we tested human participants in an adversarial environment that required them to make strategically variable choices, and compared it to their behavior in a stable and a volatile environment. We fitted eight different versions of our model to this data, assessing which, and how many, of these cognitive mechanisms contribute to strategical variability. This revealed that most human participants, in addition to a frequency-based memory, show elements of a stochastic generator. Last, we also fitted the model to three existing datasets where variable decision-making was reinforced in different species (humans, pigeons, and rats). Interestingly, only humans showed the use of a frequency-based memory, while pigeons and rats did not.

TALK 2

The Role of Decision Revisions in Shaping Confidence Updates

Charlotte Anckaert & Wim Gevers. Centre for Research in Cognition and Neurosciences (CRCN), Université libre de Bruxelles (ULB), Brussels, Belgium.

Confidence updating refers to the extent to which individuals increase or decrease their confidence in response to peer agreement or disagreement. This study examines whether confidence updating is influenced by the decision-making context, which we manipulated by

allowing or disallowing individuals to revise their decisions. Our findings reveal that allowing decision revisions leads to more positive confidence updates. Based on the results, we argue that the choice context does not directly impact confidence levels; instead, confidence functions as a threshold mechanism. Once a lower threshold is reached, individuals are more likely to change their decisions. In addition, we report two unrelated yet theoretically important findings. First, we address confirmation bias, the tendency to favor agreement over disagreement information. We identified a scale bias that makes it hazardous to infer the absence or presence of confirmation bias in confidence ratings. A new analysis approach is proposed that avoids this pitfall. Second, earlier work indicated that peer confidence strength has an asymmetrical impact on final confidence (e.g., influencing confidence for agreement but not for disagreement information). We demonstrate that this is not the complete story. Our results indicate that peer confidence strength has a symmetric influence when confidence updating instead of final confidence is considered.

TALK 3

Selectively influencing confidence from accuracy in value-based learning

Alex Lietard, & Kobe Desender. Brain & Cognition, KU Leuven.

Confidence is a fundamental aspect of daily life, influencing various cognitive processes such as information-seeking and learning. To investigate its role, it is essential to disentangle confidence from actual accuracy and other confounding factors. In this study, we leveraged the choice-congruent bias by subtly increasing the reward for both options in a two-armed bandit task. This manipulation was supposed to preserve accuracy by maintaining the same difference between the two options while increasing confidence. Preliminary results suggest that this paradigm successfully achieves this dissociation.

TALK 4

The Confirmation Bias is Modulated by Confidence during Human Reinforcement Learning

Constance Destais, Nahuel Salem-Garci, Alandrea Grit, Stefano Palminteri, & Mael Lebetron. Paris-Jourdan Sciences Economiques, Paris, France.

Reinforcement learning (RL) provides a framework for understanding the most basic form of association learning. Recent research has revealed the presence of a confirmation bias during information integration in RL, whereby information that confirms prior beliefs is integrated more quickly than information that contradicts them. Simulation studies suggest that the optimality of the confirmation bias could depend on certain task contingencies and that it could be modulated by metacognitive control, but empirical validations of these modulations remain scarce in human RL. In perceptual decision-making, converging evidence suggests that the integration of new information is regulated by confidence — a metacognitive evaluation of the subjective probability of having made the correct choice. In this study, we investigate whether this relationship extends to RL, specifically whether confidence modulates the confirmation bias during RL. A total of 314 participants completed various two-armed bandit tasks. They were asked to report their confidence in their choice on every trial. Choices and confidence accuracy were incentivized. Following recent developments in human RL, we separately model the integration rate for confirmatory vs. contradictory information, and extend this framework to assess whether confidence modulates information integration, by allowing reported confidence to influence the two integration rates. Analyses of the parameters quantifying the impact of confidence on the two integration rates indicate that higher confidence amplifies the confirmation bias. These findings

provide evidence for the role of confidence in reward learning and highlight its specific contribution to the confirmation bias.

Invited Symposium 7

How uncertainty in variant designs can inform neuro-cognitive function (Athena Demertzi & Axel Cleeremans)

General abstract:

In experimental designs, we typically wish to acquire data that reflect participants' confidence to the best of our possibility. However, uncertainty surrounding perceptive inputs, mental experiences or behaviors can also be a valuable source of insight into cognitive and neural function. Here, we bring together experimenters from different psychological fields of research working on uncertainty, in order to delineate how this seemingly source of noise can help us better understand human behavior. Specifically, we will address how uncertainty might shape cost-efficient facial representations (Christel Devue, ULiège), future thinking (Arnaud D'Argembeau, ULiège), perceptual decision-making (Medha Shekhar, ULB), and the experience of our thoughts (Athena Demertzi, ULiège). We will discuss whether and how placing uncertainty at the center stage can provide new knowledge into how the brain and the mind operate to retain our behavior within optimal bounds.

TALK 1

Christel Devue (ULiège)

The uncertainty of when and where we may encounter people, and whether they may have changed their appearance, poses specific challenges to facial recognition compared to the recognition of other objects. Yet, despite inherent memory limitations, humans are capable of recognizing thousands of faces (Jenkins et al., 2018), which enables optimal socio-cultural lives. I will discuss how reliable facial representations may develop according to cost-efficient principles that take into account stability across encounters, distinctiveness, and contextual influences to counteract uncertainty.

TALK 2

Arnaud D'Argembeau (ULiège)

Over the past 15 years, significant progress has been made in understanding the neurocognitive processes that enable humans to anticipate possible futures. Research indicates that future thinking relies on two key components: the ability to generate mental simulations of non-occurrent events, and the use of knowledge about one's life circumstances to guide and temporally structure these simulations. In this talk, I will present recent studies exploring how uncertainty affects this process of future thinking. First, evidence suggests that uncertainty reduces the accessibility of future thoughts. Second, it impairs the ability to make accurate predictions about future events. Third, uncertainty alters the influence of future thinking on decision-making, particularly in the context of delay discounting. Together, these findings suggest that uncertainty undermines confidence in the knowledge structures typically used to anticipate the future—such as personal goals and life regularities, making it more difficult to imagine and predict what lies ahead.

TALK 3

Medha Shekhar (ULB)

Prior research on confidence in perceptual decision making has almost exclusively used simple, static stimuli and has been limited to two-choice discrimination tasks. Therefore, how confidence

is given under naturalistic conditions with complex stimuli and decisions that involve multiple or even indefinite number of choices is not well understood. I will present two studies where we try to address this question. Firstly, we developed a dynamic neural network model (RTNet) which combines the image processing capabilities of CNNs with the empirically supported mechanism of noisy evidence accumulation. We validated this model by showing that it reproduces several important signatures of human decision making and used it to further model and compare different mechanisms of confidence generation. Model fits to human data showed that the best performing strategy was one which computed confidence as the difference in evidence between the top-two alternatives. These findings challenge popular views that confidence neglects all decision-incongruent information (the positive evidence heuristic) or that confidence is based on optimal computations. In a second study, we designed a naturalistic decision-making paradigm to test how complex, real-world factors affect confidence judgments. Our findings showed that a range of factors – including affect, priors, and heuristic information – contribute selectively to confidence but not to the perceptual decision. More broadly, these results highlight major differences in how perceptual and metacognitive processes incorporate different sources of information under naturalistic conditions and begin to reveal the possible causes of inefficient metacognition observed in laboratory settings. Taken together, these findings reveal the specific computations and sources of information that underlie confidence computations in natural environments and broadly support the view that metacognition arises from a more deliberative process than visual perception that integrates various sources of non-perceptual information with sensory input using heuristic computations.

TALK 4

Athena Demertzi (ULiège)

During wakefulness, our thoughts transition between different contents. Alongside, there are moments devoid of specific reportable content, during which we are not sure what is on our mind, a mental state known as mind blanking (MB). Currently, it remains unclear what these blanks refer to: are they due to a failure of memory retrieval, a language issue, meta-cognitive failure, or just the inability to form a thought altogether? Here, I will map out MB regarding its reportable expressions, associated neurophysiological signatures, and adjacent phenomenology to meditative practices and sleep (white dreams). Employing a mechanistic account, I will propose that MB can be related to changes at physiological, neural, and cognitive levels. Overall, I will argue that ongoing experience comes at degrees of richness and that allegedly contentless events are distinct mental states with their own diversity, therefore challenging the view of the mind as a content-oriented operator.

Invited Symposium 8

Queering Psychology: Advancing LGBTQI(A)+ research in Belgium (Annalisa Casini & Olivier Klein)

General abstract:

It has been a long road since the psychological sciences began to take an interest in sexual and gender minorities beyond psychiatric categories (Hegarty, 2020). Nevertheless, since the 1970s, researchers began to question this pathologizing outlook and started to do research "for" and "with" LGBTQIA+ people rather than "on" them. Belgian researchers are currently very active in this vast and heterogeneous field of research. Hence, this symposium, aims to provide a partial but significant overview of ongoing research conducted in Belgian universities. The selected presentations will focus on cognitive (stereotypes and representations) and attitudinal (prejudices) processes, as well as on health predictors (stress) at play in Lesbian, Gay, Trans*, Queer, and Intersex issues. Opening the session, Emma Sarter (UCLouvain), Peter Hegarty (Open University, UK), and Annalisa Casini (UCLouvain) will present a paper titled "Gender binary, distinctiveness and perception of impostorism as correlates of transphobia: when and how observers' and targets' gender matter". Their work starts from the observation that arguments against trans* rights are based on a binary view of sex and gender, the belief that trans* people threaten established gender categories, and the idea that they could be "gender impostors." Also, research suggests that cisgender men are more transphobic than cisgender women. Consisting of three studies, their research aims to understand gender differences and dynamics in attitudes toward trans* women, trans* men, and non-binary individuals, by examining gender binary beliefs, perception of distinctiveness threat, and perception of impostorism. Their results show stronger gender differences in attitudes toward trans* women than toward trans* men and non-binary individuals. Besides, gender binary beliefs, perception of distinctiveness threat, and perception of impostorism are linked to discomfort toward trans* people and opposition to trans* rights, with variations depending on the participant's and target's gender. The second presentation by Jenneke van Ditzhuijzen (Utrecht University and Amsterdam University Medical Center) and Joz Motmans (Ghent Academic Hospital) is titled "Measuring laypeople's notions of intersex in the Netherlands and Flanders". It addresses the issue of the serious stigmatization and discrimination that Intersex people can face in the general society, which a lack of information and knowledge on this topic may reinforce. The first objective of the presented study is to develop and validate a scale for measuring both knowledge of the term intersex and attitudes toward intersex people in the general population. A second aim is to establish a baseline measurement in a representative sample in the Netherlands and Flanders. The results of the baseline measurement indicate that in both countries there still is room for improvement in terms of knowledge and attitudes towards intersex people. This suggests that more knowledge may lead to more understanding so that intersex people can be more open. In addition, the findings speak in favor of a profound reconsideration of the beliefs that sex and gender are binary categories, as people who have fewer issues with people who do not entirely fall into these categories also have more accepting attitudes toward intersex people. The third presentation, titled "Gender Stereotypes and Recognition of Intimate Partner Violence in Lesbian Relationships" will be delivered by Fiona Eyraud (ULB), Olivier Klein (ULB), and Annalisa Casini (UCLouvain). Using mixed methods (qualitative and quantitative), the authors interrogate intimate partner violence and gender stereotypes focusing on lesbian populations, which are often overlooked in research. Domestic violence in lesbian relationships is often minimized due to stereotypes portraying women as non-violent and lesbian relationships as utopias. These stereotypes create barriers to recognizing and addressing violence in same-sex female relationships. This research examines

how these stereotypes affect the identification of physical, psychological, and sexual violence among lesbian partners. The present study seeks to replicate previous findings on intimate partner violence and gender stereotypes, focusing on lesbian populations. Using vignettes that manipulate the type of violence and gender of the perpetrator, authors measure participants' perceptions of severity, culpability, and belief in a lesbian utopia. Additionally, focus groups with lesbian women reveal a high prevalence of violence and a significant gap in tailored support services in Belgium. Preliminary results suggest a high rate of victimization of psychological and sexual violence in lesbian relationships, highlighting the need to challenge stereotypes and improve interventions in Belgium and Europe. The presentation will discuss the theoretical framework, methods, initial findings, and their implications for policy and practice. Finally, Alexis Dewaele, Chao Song, Wei-Hong Zhang, and Ann Buysse, all from UGent, will present a project titled "My Stress is Our Stress: Stress and Coping Processes among Same-Sex Couples". It will discuss the results of a mixed-methods study (i.e., meta-analyses of 67 studies and a comprehensive survey of 5813 individuals and 594 couples) exploring stress and coping in same-sex relationships, highlighting how minority and dyadic stressors affect relationship satisfaction. The research integrates the Minority Stress Theory and the Systemic Transactional Model to explore individual and shared experiences of stress among partners. Key minority stressors include internalized homonegativity, perceived discrimination, and concealment, while dyadic stressors encompass both intra-dyadic and extra-dyadic challenges. Findings reveal that internalized homonegativity has the strongest impact among minority stressors, with concealment significantly predicting individual and dyadic dynamics. Dyadic stress mediates the relationship between minority stressors and partner satisfaction, with actor and partner effects highlighting the interconnected nature of stress within couples. The study also identifies task-oriented coping as crucial for buffering stress, with visibility management particularly important for female same-sex couples. Differences in coping mechanisms based on sexual orientation and relationship duration are explored, showing that bisexual individuals often rely on distraction-oriented coping, while longer-term relationships provide greater resilience. Age and sex differences are critical, with younger individuals and those in shorter relationships experiencing stronger negative impacts. Women are more sensitive to their partners' emotional states, suggesting tailored interventions. The study proposes an integrated model of stress and coping, with significant implications for clinical practices and public policies supporting same-sex couples.

Invited Symposium 9

Fear and discrimination among the offender population (Thierry Pham)

General abstract:

Offenders constitute a very heterogenous population in terms of committed offences, clinical diagnoses and emotional processes. Consequently, discrimination criteria are fundamental for valid diagnosis procedure, risk assessment but also efficient treatment. Our symposium proposes three papers of interest for the discriminant validity among offender population in terms of risk assessment and emotion processing. Firstly, among forensic patients, positive symptoms of psychosis are related to increase of risk of violent behaviors (Fazel et al., 2009; Walsh et al., 2002; Whiting et al. 2022). This risk increases with comorbid substance abuse disorders (Fazel et al., 2009). The first paper will review the specific effect of cannabis usage (Kivimes et al., 2012) on risk of violence among psychotic forensic patients. Secondly, evidence suggests that emotion recognition is central to human interactions. Particularly, fear has attracted the most attention in the literature given its key role as potential inhibitor of violent behavior. However, little research has focused on emotion recognition among sexual offenders. The second paper will outline our recent data on facial, prosody and bodily gestures among adult forensic sex offenders. Thirdly, research has highlighted that training sessions, using simulation with chatbots and virtual avatars, constitute an effective educational approach in medical and mental health sciences (Raiche et al., 2023). The third paper will describe a specific methodology that examines if score risk of violence at the Level Service Inventory-revised (Andrews & Bonta, 1995) varies according to physical traits relating to different cultural backgrounds. We focus on the development of autonomic virtual agents (AVA) in Belgium. Potential research applications are discussed with reference to the international literature. Overall, the symposium discusses potential discrimination criteria for the diagnoses of psychosis and sexual offender emotion processing. Risk assessment methodology is enhanced by the AVA support. The implications of the overall results will be discussed in the light of the dominant domain of Risk Need Receptivity (Andrews & Bonta, 2010) in forensic psychology.

TALK 1

Psychosis and its lack of discrimination: the cannabis-consuming psychotic forensic inpatients

Mancini, M., Tiberi, L.A., & Pham, H.T.

TALK 2

Emotion Recognition in Forensic Inpatients Who Have Committed Sexual Offenses: Investigating Specificity of Fear Recognition Between Male and Female Model Stimuli

Tiberi, L.A., Saloppé, X., Vicenzutto, A., & Pham, T.H.

TALK 3

Autonomous Virtual Agent (AVA): Racial discrimination and cultural bias in the recidivism risk assessment

Delannoy, D., Dauphinais, L. Raiche, A-P. Guay, J.P, & Pham, H.T.

REGULAR SYMPOSIA

1. Advancing non-invasive brain stimulation: mechanisms, challenges, and clinical applications

Author(s): Stefanie De Smet (chair), Qinyuan Chen, Jens Allaert, Paula Horczak, Matias Pulopulos

Abstract: Non-invasive brain stimulation (NIBS) techniques, such as transcranial direct current stimulation (tDCS) and repetitive transcranial magnetic stimulation (rTMS), have gained increasing attention as potential interventions for psychiatric disorders. Their non-invasive nature and accessibility make them appealing alternatives to pharmacological treatments. However, their effects remain inconsistent, influenced by factors such as stimulation parameters, individual variability, and placebo mechanisms. This symposium explores key challenges in the clinical and mechanistic understanding of NIBS, with a focus on cognitive-affective control and symptom modulation in depression and schizophrenia. In the first presentation, Qinyuan Chen will discuss accelerated intermittent theta-burst stimulation (aiTBS) in treatment-resistant depression, demonstrating that stimulation modulates neural responses to criticism, suggesting a potential mechanism underlying its antidepressant effects. The second presenter, Dr. Jens Allaert, will examine expectation effects in tDCS, revealing that positive expectations can paradoxically impair cognitive-affective control, emphasizing the complex interplay between placebo mechanisms and neuromodulation outcomes. In the third talk, Paula Horczak will present a systematic review and meta-analysis of tDCS for negative symptoms in schizophrenia, highlighting a small but significant effect and identifying key stimulation parameters that may enhance efficacy, while also underscoring the heterogeneity and methodological challenges in this research field. Finally, the fourth speaker, Dr. Matias Pulopulos, will discuss the relationship between prefrontal rTMS and parasympathetic regulation, finding that while stimulation modulates cognitive control over intrusive thoughts, its effects on autonomic regulation are less consistent, challenging assumptions about rTMS's impact on physiological markers. Together, these studies provide critical insights into the mechanisms, limitations, and clinical potential of NIBS. They highlight the importance of refining stimulation protocols, considering placebo effects, and reassessing theoretical assumptions, contributing to the ongoing effort to improve NIBS techniques as a reliable psychiatric intervention.

2. Intergroup Biases across Cultures

Author(s): Yuchao Wang (chair), Guillaume Pech, Sofía Ardaya Velarde

Abstract: The first paper of Ardaya Velarde and colleagues, entitled Perception of Sexism in Political Discourses, discusses how sexism in political discourse can take different forms, including hostile, benevolent, and modern sexism. While research on the perception of sexism in political speeches remains limited, it is crucial to understand how these forms shape candidate evaluation and policy support. In this study, we developed and validated a new scale to assess sexism in political discourses. Using a 2x4 experimental design (politician's gender: male vs. female; type of sexism: control, benevolent, hostile, modern), we tested how these factors influence the perception of sexism across two cultural contexts: Belgium (N = 72) and Chile (N = 359). Additionally, we examined the relationships between perceived sexism, candidate likeability, support for gender equality policies, and electoral support. The results show that perceiving a speech as sexist is negatively correlated with candidate likeability, policy support, and electoral support. However, the patterns vary depending on the type of sexism perceived, suggesting that not all forms of sexism are equally detrimental to a politician's image. These findings highlight the importance of how sexism is conveyed in political discourse and its potential consequences for both candidate evaluations and policy endorsement. Future research will further validate these findings in an English-speaking context to assess cross-cultural generalizability.

In the second paper, Pech & Caspar investigated the influence of conformity and obedience on intentions to help a child whose relative had caused harm to the participant's family during historical events of violence. Participants from Belgium, Cambodia, and Rwanda faced different social scenarios with two types of social influence and had to choose whether to respond helpfully. A multi-method and cross-cultural approach combining self-reports, behaviors, reaction times (RTs), and EEG data was used. Participants explicitly reported being more influenced by authority (obedience) than by a group (conformity), a finding supported by faster RTs when following authority recommendations compared to either a group or an individual alone (compliance). However, behavioral and neural data showed no distinction between obedience and conformity. Behaviorally, authority and group influences exceeded individual influence but did not differ significantly. EEG results revealed higher mid-frontal theta (FMθ) activity for both the authority and the group indicating stronger inhibition of alternative choices compared to individual compliance. These results suggest that the type of measurement impacts the observed influence of authority and conformity, thus posing interesting questions regarding what may influence real behaviors. Variations were observed between countries, highlighting the importance of accounting for cross-cultural differences and avoiding generalization from a single population sample.

Moving from the macro-level to a more micro-level focus, the third paper examines gender bias at the individual level, entitled How Gender Egalitarian Attitudes Relate to Androcentric Bias: Evidence from WEIRD and Non-WEIRD Samples. Androcentrism refers to the tendency to center society around men and men's experiences, needs and values while marginalizing women and other genders. Theories of androcentrism argue that men are viewed as default or gender-neutral, whereas women are viewed as gendered. Thinking that men are more representative of broader categories such as "person" exemplifies androcentric bias. Building on previous research demonstrating that androcentrism decreases with increasing societal gender equality, we examine how individual gender egalitarianism is associated with androcentric bias using explicit and implicit measures. Across two studies in Belgian (WEIRD, N = 596) and Chinese (non-WEIRD,

N = 316) samples, explicit androcentrism was measured through face selection and trait ratings for a “typical human”, along with self-reported androcentric ideology. Implicit androcentrism was measured using an adapted implicit association test (IAT) to capture cognitive associations between person/gender categories and men/women. Explicit gender egalitarianism was assessed using three scales for gender role attitudes and beliefs, while implicit egalitarianism was measured with the gender-career IAT. Results showed that individuals with more traditional gender role attitudes, less malleable gender role beliefs, and stronger gender essentialism showed more androcentric bias and ideology, particularly men participants. These relationships were consistent across both Belgian and Chinese contexts. However, there was limited evidence for such a relationship in implicit form. These findings suggest that egalitarian beliefs may motivate individuals, especially men, to be less androcentric across both WEIRD and non-WEIRD contexts. This highlights the potential of promoting gender egalitarian beliefs to counter androcentric bias at the individual level.

3. Under the Covers: Sleep as a Silent Force in Health, Bonding, and Performance

Author(s): Olivier Mairesse (chair), Aurore Roland, Zosia Goossens, Louise Staring, Lucas Van Ruysevelt

Abstract: Sleep is a silent yet powerful force that interacts with psychological, physiological, and social factors across various contexts. Professor Olivier Mairesse will introduce the session with essential background on sleep science, followed by four speakers addressing key aspects of sleep regulation and disruption. The first talk will discuss why many insomnia patients do not seek cognitive behavioural therapy for insomnia (CBT-I) despite its proven efficacy, identifying new barriers beyond awareness and financial constraints. The second talk will examine sleep disturbances in women with endometriosis, highlighting the complex, bidirectional relationship between pain and sleep. The third talk will explore how affective touch may be linked with sleep by supporting emotional regulation and attachment security. Finally, we will shift the focus to esports athletes, investigating how sleep disturbances and mental health challenges impact performance and well-being. Together, these talks provide a broad overview of sleep and its implications for therapy, health interventions, and performance optimization. Every presentation will be followed by a Q&A session.

TALK 1

Barriers to cognitive behavioural therapy for insomnia (CBT-I) - Aurore Roland

CBT-I is the first-line treatment for insomnia. Many meta-analyses have proven its efficacy in both comorbid and primary insomnia. However, there are still many patients with insomnia who do not initiate this treatment. Previously identified barriers are, among others, lack of awareness of the treatment and financial constraints. In this presentation, yet uninvestigated barriers will be explored. Data comes from a questionnaire answered by insomnia patients who had never enrolled for CBT-I and was compared with the answers of insomnia patients who had enrolled for it. More than half of our respondents reported not having engaged in CBT-I, because they did not know of its existence. Financial problems were a barrier in only a minority of respondents. Almost all respondents reported an illness perception that was not compatible with CBT-I leading to their belief that CBT-I would not be helpful for them. More than half of our respondents reported that their problem was not severe enough to seek professional help.

TALK 2

Sleep disturbances and chronic pain in women with endometriosis - Zosia Goossens

Endometriosis is a painful gynecological condition characterized by tissue similar to the uterine lining growing outside of the uterus. It affects approximately 10% of women, but the true prevalence remains uncertain due to an average diagnostic delay of seven years. In other words, 190 million women worldwide must manage symptoms such as chronic and cyclic pain, fatigue, and comorbidities like migraines and fibromyalgia, all of which significantly impair daily activities, mental health, and sleep. Given that both chronic pain and female sex are risk factors for insomnia, women with endometriosis may be particularly prone to sleep disturbances and insomnia. Addressing sleep disturbances in this population might be essential to improve well-being, as sleep and pain are bidirectionally related, where pain disrupts sleep and disrupted sleep increases pain sensitivity. In conclusion, the relationship between sleep and pain is a complex puzzle that demands further exploration. Therefore, adult women with diagnosed endometriosis filled in a cross-sectional survey to measure symptom interconnectedness and perceived causal

relationships between symptoms such as sleep, pain, depression, anxiety, and perceived injustice.

TALK 3

Touch deprivation and mental health: Sleep and the need for physical contact during social isolation – Louise Staring

The COVID-19 pandemic forced social isolation measures that profoundly affected mental health, sleep quality, and gave rise to the experience of "touch hunger". This study investigated how the need for physical contact (NPC) relates to mental well-being and sleep during the second lockdown. Surveying 2,827 adults, we estimated a Bayesian Gaussian Copula Graphical Model (BGCGM) and a Bayesian Directed Acyclic Graph (DAG), and conducted mixed ANOVAs. We observed a decline in physical contact with non-family members and in satisfaction with relational lifestyle during the pandemic compared to before. Individuals with a greater need for physical contact (PC) and relational lifestyle satisfaction (RL-SC) reported poorer mental health—including increased worry, depression, and mental fatigue. These findings highlight the potential role of physical touch not only in mental health but also in sleep, underscoring how prolonged social isolation and touch deprivation can negatively impact overall well-being.

TALK 4

Sleep and mental health in esports athletes – Lucas Van Ruysevelt

The rapid rise in popularity of esports has brought increased attention to the unique mental health challenges faced by esports players, yet research in this area remains in its infancy. While initial studies suggest high rates of mental ill-health and sleep disturbances, they remain limited by small sample sizes. A handful of studies have explored the correlational association between esports specific stressors, well-being, mental ill-health, and sleep disturbances, but fail to examine the complex reciprocal interactions between these factors. To address this gap, we developed a comprehensive questionnaire, supported by an Erasmus+ project grant, assessing demographics, well-being, mental health, and sleep disturbances. In addition to these validated scales, we developed a novel scale tailored specifically for network analysis. 1025 esports players completed the questionnaire, with 36.4% reporting poor mental well-being, 45.3% moderate-to-severe symptoms of depression, 33.6% moderate-to-severe symptoms of anxiety, and 70.7% indicators of sleep disturbance. The network analysis revealed that sleep, fatigue, and perceived lack of skill were frequently reported and strongly linked to depressive symptoms and impaired esports performance. Given the high prevalence of depressive symptoms and their central role in the psychopathological network, targeting them may not only improve mental health outcomes but also mitigate esports performance-related- and sleep-related symptoms.

4. Contemporary challenges of parenting: Studying various family forms at different key moments

Author(s): Cindy Eira Nunes (chair), Alessio Gubello, Louise Mathijs

Abstract: Parenting today is shaped by evolving family structures, societal expectations, and external stressors. Parents may thus face many challenges in their upbringing role. Understanding how parents foster resilience, adapt to developmental transitions, and maintain well-being is crucial. This symposium proposes to discuss challenges parents encounter in different family forms at different moments of their life as a family. This discussion will be based on 3 paper presentations and the intervention of one discussant, Dr Nele Flamant.

The first paper, from Eira Nunes (chair) et al, entitled The trajectory of coparenting over adolescent's transition out of high school: Considering socioeconomic stressors of coparenting, will explore the challenges parents face as their adolescent children grow and gain independence. An important task and challenge of coparents is to adapt to their child's changing behaviors and demands as a team. However, the way in which parents adjust their coparenting relationship over time has been largely overlooked. Therefore, this longitudinal study aimed to describe the potential changes in coparenting quality over adolescents' transition out of high school. In addition, we aimed to consider contextual stressors parents may typically encounter over this transition. Therefore, we explored the interconnections between coparenting quality (i.e., conflict and support) and social (i.e., pressure to be a perfect parent) and financial pressures (i.e., financial scarcity and perceived job insecurity) over time. To achieve these goals, 478 parents (40.2% of fathers) were followed over a period of 1.5 years starting in their adolescents' last year of high school. Latent change models revealed that for both mothers and fathers, coparenting support significantly decreased six months after their adolescent's transition. For mothers, this decrease was also accompanied by an increase in coparenting conflict. Models also revealed that contextual stressors predicted lower coparenting quality. For instance, perceived financial scarcity was related to increased conflict for both parents and decreased support for fathers. We also found significant correlated changes between mothers' social pressure and coparenting conflict. In conclusion, this study offers a valuable insight into how the coparenting relationship develops over time considering adolescents' transition and its specific challenges. While coparenting dynamics evolve as adolescents gain independence, other challenges arise earlier in a child's life, particularly in shaping identity and socialization. The next paper focuses on same-gender parent families, highlighting their unique challenges and the strategies they implement to deal with them.

Indeed, the second paper of Gubello et al., entitled Socialization practices in planned gay and lesbian parent families systematically reviews the existing literature on socialization practices among same-gender parent families to clarify the current knowledge on the topic and establish a broader framework for this specific family form. Recent research has indeed highlighted socialization practices as a key family process in planned same-gender parent families. Gay fathers and lesbian mothers play an active role in passing down norms, values, habits, and an understanding of intergroup relationships to their children, while also equipping them with strategies to navigate microaggressions and discrimination. This paper will present a systematic review using four scientific databases—PubMed, PsychInfo, Scopus, and ProQuest—yielding 5,544 articles. After removing duplicates, two independent researchers screened titles and abstracts (IRR = .97), narrowing the selection to 305 articles for full-text review. Ultimately, nearly 50 studies were included for further content analysis, incorporating both quantitative and qualitative data. Findings underscore the significance of socialization processes in planned

same-gender parent families. Parents emphasize key practices, such as discussions about family diversity and children's origins, fostering values of authenticity and self-pride, and implementing coping strategies to address structural injustice and minority stress. These results emphasize the importance of recognizing and supporting the unique challenges faced by same-gender parents and the socialization strategies they mobilize, especially for professionals who work with these families. The last paper will focus on practical implications and how to help parents maintain well-being through challenges.

Mathijs et al.'s paper, entitled Exploring mechanisms of parental well-being in a group-based parenting program: A qualitative study focuses on parents' perceptions and experiences of participating in a group-based parenting program. Parents play a critical role in fostering children's development, making parenting programs a widely implemented approach to optimize the parent-child relationship and enhance parenting behaviors. While substantial quantitative evidence highlights the effectiveness of these programs in improving parenting practices and parental mental health, the underlying mechanisms that contribute to parental well-being remain less understood. This qualitative study aims to address this gap. Semi-structured interviews were conducted with 18 parents of young children (aged 2-10 years) who attended the ACT-Parents Raising Safe Kids program. Thematic content analysis identified three preliminary mechanisms through which the program facilitated positive changes: changes in parents' beliefs, parents' individual coping strategies to manage parenting challenges, and perceived sense of social support. These results provide a deeper understanding of the perceived benefits of parenting programs and emphasize the importance of group settings. By uncovering these mechanisms, this study offers valuable insights for optimizing the design and delivery of interventions to enhance parental well-being.

Together, these studies underscore the diverse challenges parents face across different family structures and life stages. From changing pressures and evolving relationships to early socialization in same-gender parent families, and the mechanisms of parents' well-being in parenting programs, these findings highlight the importance of tailored support and research in the field of parenting.

5. How our past affects our present: Attractive and repulsive history effects on our perception and cognition across modalities, research fields, individuals, and tasks.

Author(s): Eline Van Geert (chair), Michele Fornaciai, Robin Vloeberghs, Mert Can

Abstract: The last decade has brought plenty of new research on attractive and repulsive history effects on our perception and cognition: What we perceive or decide now, partially depends on what we previously have perceived, responded, or decided. However, research results vary across different modalities, methods, and tasks, and researchers have diverse opinions on the processes underlying these history effects. This symposium will gather experts with different research backgrounds (i.e., perception, decision making) to synthesize what we have learned from a decade of intensive research on the topic, as well as to look to the future of this research field. After a brief introduction (5 min.) discussing what these history effects entail, the symposium will center around three key questions and discuss them from different scientific perspectives:

(1) How general are these history effects (across modalities, tasks, individuals)?

(2) How can we explain these history effects?

(3) What do we need next?

Each key question will be introduced (3 min.) and then three experts will briefly pitch their answer (3 x 5 min.), also leaving room for a brief summary, questions, and live audience interaction using an online format, guided by the moderator (7 min.).

For the first discussion concerning the generality of history effects (25 min. – introduced and moderated by Robin Vloeberghs), Dr. Michele Fornaciai will talk about his research on the generality of attractive history effects across different perceptual dimensions (numerosity and time) and different sensory modalities (vision and audition). Mert Can will present his investigation on the occurrence of attractive and repulsive history effects across tasks with different response types and stimulus durations. Dr. Eline Van Geert will discuss whether everyone shows attractive and repulsive history effects and whether they do so to the same extent.

The second key question focuses on possible explanations for the occurrence of these history effects (25 min. – introduced and moderated by Mert Can). Dr. Michele Fornaciai will discuss the neural signature of attractive history effects and what it can tell us about the processes behind these effects. Dr. Eline Van Geert will briefly introduce a Bayesian model that can account for both attractive and repulsive history effects, distinguishing between effects of the previous stimulus and the previous percept. Robin Vloeberghs will illuminate how criterion fluctuations can at least partially explain the occurrence of sequential effects.

In a third part, our experts will reflect on the future of this research field (25 min. – introduced and moderated by Dr. Eline Van Geert). Dr. Michele Fornaciai, Mert Can, and Robin Vloeberghs will discuss their views on how to integrate the different results and theories, and propose a way forward for expanding our understanding of how our past affects our present. They will present their perspectives on what we can learn from the work done as well as on viable future directions for this field. These future directions could include (a) moving away from debates contrasting oversimplistic single-factor explanations (e.g., whether an effect is either perceptual or decisional); (b) determining the relative (in)dependence of history effects at different levels of processing; and (c) developing models that can predict behavioral results across diverse response types and tasks.

With the symposium, we hope to introduce a broad audience to the existence and relevance of these history effects, the diversity of research on these effects, and the open questions in the field. Furthermore, by discussing how the diverse findings and theories can be reconciled and integrated, we hope to promote a more holistic understanding of these history effects on our perception and cognition.

6. Human behavior and the natural environment: Insights from environmental psychology

Author(s): Ruth Krebs (chair), Florian Lange, Sarah Kusch, Alessandra Carella, Yannick Joye, Alexander Hooyberg

Abstract: The urgent challenges related to climate change and biodiversity loss demand significant individual and collective action to mitigate further environmental degradation. Despite widespread scientific consensus about human-induced climate change, there remains knowledge gaps on how to foster sustainable human-environment relationships. Research in the field of environmental psychology has outlined two pathways through which this discipline can contribute to understanding the relationship between human behavior and the natural environment. One path focuses on the cognitive and affective processes that may hinder or promote pro-environmental behavior ("human-to-environment"). The second path focuses on the effects of the natural and built environment on human well-being and behavior ("environment-to-human"). In this symposium we will present recent research along both pathways to showcase how psychological science can advance our understanding of motivation or amotivation in the face of climate-related and environmental challenges and contribute to developing behavior-change interventions. Five speakers will present the methods, key findings, and implications of their research, each followed by a brief question round.

Florian Lange (KU Leuven) will present a new behavioral paradigm that allows studying pro-environmental behavior as a function of its opportunity costs. In the Behavioral Allocation Task (BAT), participants can repeatedly decide whether they want to use the next 30 seconds to generate environmental benefits, to work for their own financial benefit, or to engage in a potentially more hedonic activity (i.e., watching videos). A preregistered experiment (N = 228 US residents) showed BAT choice behavior to systematically track the value of those behavioral options. Pro-environmental choices became more likely when they led to larger environmental benefits, but also when the competing behaviors decreased in value. Individual differences in BAT behavior were also found to be moderately correlated to an established measure of pro-environmental propensity. These findings support the suitability of the BAT for studying how people allocate their time between pro-environmental behavior and valued competing behaviors. More generally, they illustrate that interventions may benefit from targeting the behaviors that compete with pro-environmental behaviors.

Sarah Kusch (Ghent University) will focus on the role of cognitive effort, which is a characteristic but understudied feature of many pro-environmental behaviors. While cognitive effort has traditionally been considered as a barrier for engaging in pro-environmental behavior, recent frameworks have promoted the notion that effort can also be a source of value, for example, by increasing the subjective value of an outcome of an effortful action. They reanalyzed existing data (N = 1160) from the Work for Environmental Protection Task (WEPT; Lange & Dewitte, 2023), in which participants can exert cognitive effort in exchange for donations to a pre-selected pro-environmental organization. After performing the WEPT, participants were more likely to donate additional bonus money to their assigned organization compared to an alternative organization. This observation was confirmed in a high-powered, preregistered study (N = 801), which also included a self-report index of subjective value. These findings resonate with the notion that effort is more than just a barrier and can have a positive impact on pro-environmental behavior.

Alessandra Carella (University of Padova) will present her work on consumer choices in the fashion sector, one of the most polluting industries in the global market. This pre-registered study examined how product attributes such as durability, material, and trendiness influence choices

between sustainable and non-sustainable sweaters, considering impulsivity, materialism, and green identity as influencing variables. The results indicated that the sustainable sweater was chosen less frequently as materialism and impulsivity increased and as green identity decreased. Conversely, the new collection sweater (trendy option) was selected more often under the same conditions. Furthermore, information about the product's durability had the most significant impact on the choice of the sustainable option, followed by information about material and trendiness. These findings highlight that informing consumers about sustainability attributes, and in particular the benefits of purchasing a more expensive but longer-lasting garment, can encourage more sustainable decisions. Moreover, the results underscore the importance of considering consumers' levels of impulsivity, materialism, and environmental identity.

Yannick Joye (Vilnius University) is focusing on the putative positive impact of exposure to natural environments on psychological functioning. Two influential frameworks (i.e., Attention Restoration Theory, ART; Stress Recovery Theory, SRT) that have postulated that the demands of modern urban life can be emotionally and cognitively depleting and that nature might act as a restoring counterpart have faced criticism in recent years. Although some limitations could be resolved through theoretical refinements and further empirical work, they will argue that the challenges are more fundamental. Specifically, both ART and SRT fail to meet the criteria for robust scientific theories: their core constructs (e.g., “soft fascination”) lack predictive power due to conceptual vagueness and circularity, and their explanations for restoration are built on contentious evolutionary assumptions about human nature. Furthermore, they challenge the notion that nature’s restorative benefits are inherently “special”, warranting nature-specific theories. Instead, these effects are better understood as manifestations of broader psychological processes that should be integrated into more comprehensive models of human behavior.

Alexander Hooyberg (Ghent University) investigates the impact of coastal environments on mental well-being and health. While it is well-evidenced that inland green nature has positive effects on our health, there is surprisingly little evidence on coastal environments in particular. Alexander combined diverse observational and experimental methods to explore the effects of different coastal environments on psychological and physiological indicators of mental health and individual differences in visitors’ activity-patterns and experiences. As such, he found that coastal residents report to have a better general health than their inland counterparts, that natural environments at the coast are perceived to be more psychologically restorative, that virtual exposure to beaches reduces sympathetic nervous system activity and breathing rate more than green and urban exposure, and that individuals’ activity at the coast vary according to four dimensions (frequency, preference for nature vs. urban, social company, preference to socialize vs. explore). The insights inform landscape planners, tourism managers, and the health care sector about how the coast influences health and well-being, and how to leverage these benefits to ensure sustainable human-environment interactions.

ORAL PRESENTATIONS

1. Oral Presentations 1: UNCERTAINTY AND ERROR AWARENES

TALK 1

The evolution of uncertainty in research throughout the replicability crisis.

Author(s): Rrita Bajraktari (chair), Paul Bertin, Olivier Klein

Abstract: This project is my master thesis. It examines how uncertainty in psychology research articles has evolved over the past two decades (2005–2020), covering the replication crisis and its aftermath. Specifically, I investigate whether the prevalence of uncertainty indicators has changed over time (H1) and whether higherer citations rate contain fewer uncertainty cues than those with lower impact factors (H2). To address these questions, I conducted an extensive literature review to identify linguistic markers of uncertainty (Hyland, 1996; Malhotra et al., 2013; Vold, 2006) and systematically measured their frequency using computational text analysis. The dataset includes approximately 20,000 research articles from 11 psychology journals spanning 18 years, retrieved through university databases and external sources. For data analysis, I employ linear mixed-effects regression to assess temporal shifts in uncertainty markers while controlling for journal variability. Additionally, a mixed-effects ANOVA examines the impact of journal prestige on uncertainty expression. Other factors such as article length, author count, and references are also explored to capture broader trends in scientific writing. While the dataset is fully compiled and the computational framework is in place, the statistical analyses are not done yet. When things are ready, I will preregister. By the time of the conference, the study will be completed, and all materials—including the preregistration, Python code, and results—will be openly shared on OSF. This research aims to provide a comprehensive overview of how uncertainty is communicated in psychological science, shedding light on its evolution over time and across journals with different impact factors.

TALK 2

Dynamic conjunctive and compositional task representations in the right frontal-parietal network support flexible task preparation

Author(s): Mengqiao Chai, Iris Ikink, Stefania Mattioni, Ricardo Alejandro Benavides, Nanne Kukkonen, Mehdi Senoussi, Marcel Brass, Clay Holroyd, Senne Braem

Abstract: Dynamically predicting and updating task goals in our mind is crucial in our daily lives. It has been shown that people can adaptively regulate task preparation processes when the to-be-performed task varied in uncertainty. In this fMRI study, we aimed to further elucidate the neural mechanisms underlying such flexible task control. Forty-three participants were asked to perform one of nine tasks on each trial. Critically, in a subset of blocks, the level of task uncertainty would vary during task preparation. Participants had to actively infer task uncertainty and dynamically modulate task preparation. We expected a key role for the frontal-parietal network (FPN) in subserving this process, which would be reflected by its activation level, representational strength, and representational format. Univariate results indeed revealed regions within right FPN being strongly activated under high task uncertainty. Additional time-evolved analysis further unveiled differential neural dynamics in these regions. The strengths of both conjunctive and compositional task representation during task preparation were further

quantified by task decoding analysis. Results demonstrated dissociable uncertainty-driven modulations in representational strength between conjunctive and compositional task information. Specifically, in certain regions within the right FPN, we observed a concurrent decreased conjunctive representation and sustained compositional representation, suggesting an adaptive cognitive strategy of flexibly recombining compositional task elements. Together, these findings offer novel insights into the neural mechanisms underpinning human flexible task preparation, uncertainty-driven behavior, and hierarchical cognitive control.

TALK 3

From heartbeats to errors: investigating the link between interoceptive abilities and conscious error detection

Author(s): Catherine Culot, Joran Engelschenschilt, Wim Gevers, Wim Notebaert

Abstract: Error awareness, the ability to consciously recognize one's mistakes, plays a crucial role in adaptive behavior and learning. Previous research suggests a connection between interoceptive signals, such as cardiac changes, and error detection. For example, errors are often accompanied by heart rate deceleration, indicating that cardiac signals may contribute to error awareness (Di Gregorio et al., 2024). Interoceptive awareness, the conscious perception of bodily signals, has been linked to cognitive functions (Garfinkel et al., 2013) and can be enhanced by physical activity (Wallman-Jones et al., 2021). This study aimed to examine the relationship between interoceptive awareness and error awareness, hypothesizing that heightened interoceptive awareness from increased heart rate would improve error awareness. Forty participants (15 females; mean age = 24.15, SD = 3.54) completed two tasks under low and moderate cycling intensities (counterbalanced between subjects). The heartbeat discrimination task assessed interoceptive abilities, requiring participants to judge whether a tone was faster or slower than their heartbeat. The go/no-go task measured error awareness by requiring explicit responses to detected commission errors. Heart rate was significantly higher in the High HR condition than in Low HR. Increased heart rate improved interoceptive accuracy (i.e., more accurate estimations) but reduced interoceptive precision (i.e., greater variability). Error awareness was not affected by physical activity, but participants with larger interoceptive precision differences between conditions were better at detecting errors. This suggests that variability in interoceptive processing might influence error detection with higher sensitivity to noise in bodily signals improving error awareness.

2. Oral Presentations 2: AUTISM AND NEURODIVERSITY

TALK 1

The Associations Between Internalizing and Externalizing Behaviors in Children with Autism and Parenting stress: A Systematic Review

Author(s): Madyson Messiaen (chair), Michel Sfeir, Justine Gaugue, Sarah Galdiolo

Abstract: A systematic review (Prospero Registration Number: CRD42024524871) was conducted to synthesize the existing literature on the associations between internalizing behaviors (IBs), externalizing behaviors (EBs), and parenting stress (PS) in families of children with Autism Spectrum Disorder (ASD). The study aimed to (1) investigate the subtypes of IBs and EBs most associated with PS; (2) explore differences in PS levels between mothers and fathers, both within coparental dyads (i.e., parents raising the same child) and across independent samples; (3) investigate how IBs and EBs change with age; and (4) analyze how the relationships between IBs, EBs, and PS evolve over time. This review included studies evaluating intervention programs aimed at reducing the intensity of these behaviors and/or alleviating daily PS. After searching four databases (PubMed, Scopus, PsycINFO, and Wiley Online Library), 76 studies meeting the inclusion criteria were identified. Our findings reveal consistent positive associations between children's IBs, EBs and PS, regardless of the child's age. Some results suggest that EBs are stronger predictors of PS than IBs, while PS appears to predict both IBs and EBs. The findings regarding the impact of age on the intensity of both IBs and EBs, as well as the role of parental gender on PS levels, remains inconsistent. Regarding long-term associations, some longitudinal studies provide evidence of bidirectional associations between children's IBs, EBs and PS, which may intensify over time. Fortunately, intervention programs showed promising results in reducing both behavioral problems and daily PS, emphasizing the need for targeted interventions to support these families.

TALK 2

Relating oneself to others in time and space: A Relational Frame Theory account of perspective-taking and Theory of Mind in autism

Author(s): Maura Nevejans, Jamie Cummins, Jan De Houwer, Emiel Cracco, Jan R. Wiersema

Abstract: The cognitive ability to attribute mental states to oneself and others, typically referred to as Theory of Mind (ToM), is often proposed as a key factor underlying the social difficulties experienced by individuals with autism. Although a substantial body of research has focused on ToM in autism, the causes of ToM difficulties remain unclear. Relational Frame Theory (RFT) is a behavioral-analytic theory of language and cognition that offers an explanation for ToM and perspective-taking. Specifically, RFT suggests that so-called 'deictic relational responding is the core property of perspective-taking and ToM. Deictic relating involves the ability to relate oneself in space (here vs. there) and time (now vs. then) relative to others (you vs. I). Therefore, it has been proposed that presumed ToM difficulties experienced by individuals with autism may be attributed to difficulties with deictic relating. However, rigorous studies testing if deictic relating is different in autism do not yet exist. To this end, we conducted an online study with a general population sample (N = 125), in which we investigated the relationship between autism traits and performance on a deictic relational responding task. Contrary to our predictions, performance on the deictic relational responding task did not correlate with autism traits. These findings question

the claims made by RFT about the relationship between autism and deictic relating and warrant a reassessment of the accuracy of this often-claimed position.

TALK 3

Evaluating sleep quality and circadian rhythms in pre-school autistic children using actigraphy: A feasibility study

Author(s): Clara Rapp, Mikhaïl Kissine, Lotte Van Esch, Ellen Demurie, Ilse Noens, Herbert Roeyers, BeLAS Consortium, Gaétane Deliens

Abstract: Sleep problems affect up to 81% of autistic children, highlighting the need for objective sleep measures. However, obtaining such measures is challenging in young autistic children due to their sensory sensitivities. Autism is a highly heterogeneous condition, yet no study has explored which individual characteristics predict successful actigraphic monitoring. This study assesses the feasibility of actigraphy in autistic children and identifies profiles supporting long-term monitoring. A cohort of 214 autistic children (2–6 years, 155 boys) recruited through the multi-site BeLAS (Belgian "Language in Autism" Study) project was instructed to wear an actigraph (wGT3X-BT) for 14 days. Parents completed a sleep diary and the Children's Sleep Habits Questionnaire (CSHQ). Valid recordings required at least 5 nights for sleep quality or 7 consecutive nights for circadian rhythm analysis, along with accurate diary completion. Logistic regression examined age, IQ, total-CSHQ score, and ADOS-2 comparison scores as predictors of actigraphy wearability. Actigraphy was successfully completed by 54% of participants. Data loss resulted from intolerance (42%), technical issues (2%), and lost devices (2%). Logistic regression identified higher non-verbal IQ, lower ADOS comparison scores, and lower total-CSHQ scores as significant predictors of successful recordings, with no effect of age or site. Among participants who wore the device, 85% provided usable data for sleep quality and 71% for circadian rhythm analysis. Despite a 46% data loss rate, continuous actigraphy is feasible in preschool-aged autistic children, emphasizing the need to adapt methodologies for assessing sleep in those with greater autistic traits, more sleep difficulties, and lower non-verbal IQ.

TALK 4

The Effect of Pink Noise on Neural Noise and ADHD Traits: A Critical Appraisal of the Moderate Brain Arousal Model

Author(s): Joske Rijmen, Mehdi Senoussi, Jan R. Wiersema

Abstract: The moderate brain arousal (MBA) model posits that individuals with (elevated traits of) ADHD have lower levels of neural noise and that auditory random noise improves their cognitive performance via stochastic resonance (SR). Research shows that auditory random noise improves cognitive performance in individuals with elevated ADHD traits. However, the assumptions regarding neural noise in ADHD and the role of SR in the effect of auditory random noise remain insufficiently examined due to a lack of studies incorporating both a second non-random auditory condition and an index of neural noise. Therefore, 69 neurotypical adults completed the ASRS to assess ADHD traits and underwent eyes-closed resting-state EEG, subdivided into three two-minute blocks: silence, continuous auditory pink noise (random signal), and a continuous 100 Hz pure tone (non-random signal). We then analysed the aperiodic slope of the EEG power spectral density, a proposed direct measure of neural noise. Although the aperiodic slope was not significantly correlated with ADHD traits, a negative trend suggested that elevated ADHD traits are related to increased rather than reduced neural noise. Pink noise

affected the aperiodic slope differently based on ADHD traits, increasing the slope for those with elevated ADHD traits, indicative of a decrease in neural noise. Crucially, a similar effect was observed for the pure tone. These findings challenge the MBA model by demonstrating that both random (pink noise) and non-random (pure tone) signals reduce neural noise in individuals with elevated ADHD traits, contradicting the proposed mechanism of stochastic resonance and the direction of effects.

3. Oral Presentations 3: PARENTING AND SOCIAL INTERACTIONS

TALK 1

The Pressured Parent Phenomenon: On The Potential Role of Self-Compassion in Early Parental Well-Being

Author(s): Katrijn Brenning (chair), Lumein Hillewaert

Abstract: Many parents today experience considerable pressure in their parental role. They feel like they are expected to be perfect parents, available 24/7, and fully responsible for their children's well-being and success in all areas of life. In the present research, we investigate this so-called 'pressured parent phenomenon' by examining various sources of parental pressure (social, personal, and child-related) and their link to parental well-being. Furthermore, we forward the hypothesis that self-compassion represents a potential antidote that may arm parents against the threefold pressured parent phenomenon. Two independent longitudinal studies with young parents are presented within the current presentation. The first study is a three-wave longitudinal study in which parents are followed from pregnancy to 2 years postpartum. In this study, which includes both mothers and fathers, one specific source of internal pressure (parental perfectionism) is examined in association with feelings of parental burnout. The second study is a three-wave longitudinal study in which mothers are followed up over three time points between 7 days and 6 months postpartum. Thereby, we look more broadly at the link between different sources of pressure in relation to different outcomes of parental well-being, while also investigating the potential buffering role of parental self-compassion as a moderating variable. Results show a link between different sources of parental pressure and parental well-being, while self-compassion emerges as a promising target for mitigating the effects of this pressured parent phenomenon. The findings provide a good basis for developing ideas toward prevention and intervention, which will also be discussed during the presentation.

TALK 2

Can Intergroup Contact "Backfire"? Direct and Indirect Secondary Transfer Effects of Majority Group Member Friendships Among Belgian Muslim Adolescents

Author(s): Kim Dierckx, Alain Van Hiel, Charlotte Maene, Peter Stevens, Jasper Van Assche

Abstract: The present study investigated secondary transfer effects (STEs) of minority-majority friendships among ethnic-cultural minorities; that is, transfer effects of having cross-group friendships with majority group members on attitudes toward other minority outgroups. Simultaneously tackling three lacunas in literature, we (1) analyzed a large dataset of adolescent Muslim minority pupils (N = 1,750, mean age = 14.84), (2) examined processes underlying primary and secondary transfer, and (3) investigated how one of Allport's (1954) "optimal contact conditions", i.e., institutional (school) support, affects STEs. Overall, the results revealed little evidence for STEs, but there were two noteworthy exceptions. First, contrary to our hypotheses, a significant negative direct relationship was found between minority-majority friendships and attitudes towards two outgroups (Africans and refugees). Second, our results also revealed a significant positive indirect STE between minority-majority friendships and attitudes towards refugees, via meta-discrimination by and attitudes towards the primary outgroup (Belgian majority group members). No cross-level interactions were found between cross-group friendships and school-level support, indicating that this "optimal condition" does not seem to

facilitate STEs. Taken together, our results cast reasonable doubt on the potential of STEs to ameliorate minority-minority relations.

TALK 3

Empathic Accuracy Across Childhood, Adolescence, and Within Parent-Child Interactions: A Systematic Review

Author(s): Anthony Mauroy, Sarah Galdiolo, Sandie Meillerais, Lesley Verhofstadt, Justine Gaugue

Abstract: Empathic accuracy (EA) is the ability to precisely understand someone else's current thoughts and feelings during an interaction. EA has mostly been studied in adult populations; variations in EA in children/adolescents could be explained by age, developmental changes during childhood, and environmental factors. A systematic review was conducted to synthesize the existing literature on EA in childhood, adolescence, and during parent–child interactions. Following PRISMA guidelines, five electronic databases were searched, yielding 24 references. Most studies were conducted in samples of adolescents. Additionally, the operationalization of EA varied across studies. Although studies showed minor variations of EA with age, there is no clear association of age with EA during childhood. Children and adolescents also achieve similar scores as adults. Additionally, children's and parents' EAs are linked to parents' and children's behaviors during interactions. EA is also associated with gender beliefs: parents and children hold beliefs that girls and mothers should have higher empathy than boys and fathers. It is not possible to determine age variation in EA during childhood. This systematic review highlights a lack of transparent methodologies and specific assessments of EA in children and adolescents in the current literature.

TALK 4

Comparing Reality to What Could Have Been: Effects of self-generated Counterfactual thoughts on the Willingness to Reconcile in interpersonal Conflicts.

Author(s): Martin Rouard, Karl-Andrew Woltin, Stéphanie Demoulin

Abstract: Most interpersonal conflicts are not clear-cut, with one party being the victim and the other the perpetrator. Instead, they are often marked by mutual wrongdoings and reciprocal blame (Siman Tov-Nachlieli & Shnabel, 2014). This perpetrator-victim dynamic makes reconciliation particularly challenging, as both parties seek to emphasize their own suffering while minimizing their responsibility in the conflict, leading to a process known as competitive victimhood (Noor et al., 2012). At the same time, reconciliation requires individuals to reflect on their past actions, recognize their role in the dispute, and acknowledge shared responsibility for its escalation (Poitras, 2007; Chaudry & Loewenstein, 2017). Counterfactual thinking, which involves mentally comparing how one acted with how one could have acted differently, has been shown to influence attributions of blame—both self- and other-directed—as well as emotions such as regret, anger, and shame (Mandel & Dhami, 2005). These thoughts also help individuals anticipate future behavior and strengthen behavioral intentions (Roese, 1994; Roese & Epstude, 2017). Building on these premises, we hypothesize that engaging in counterfactual thinking in interpersonal conflict situations can foster a greater willingness to reconcile with the other person involved. Across multiple studies, we examined how counterfactual thoughts shape reconciliation tendencies in interpersonal disputes, using both recall-based and scenario-based methodologies. Our findings provide insight into the cognitive and emotional mechanisms that

drive reconciliation in interpersonal conflicts and highlight how counterfactual thinking can be leveraged to facilitate conflict de-escalation between individuals.

4. **Oral Presentations 4: CONFIDENCE AND DECISION-MAKING**

TALK 1

Is cognitive effort a paradox? Investigating our Need for Cognition

Author(s): Andrea Burda (chair), Gaia Corlazzoli, Wim Gevers

Abstract: Traditional models depict decision-making as a cost-benefit analysis, which treats effort as costly and aversive. In this framework, humans tend to avoid effort when reward is insufficient. However, recent studies suggest that effort can be sought after for its own sake, challenging its traditional conception. For example, participants have been observed favouring effort over complete inactivity (Wu et al., 2023). This phenomenon is an example of “effort paradox” (Inzlicht et al., 2018), and its cause remains unclear. The present study aimed to disentangle whether the observed preference for effort was driven by an aversion to inactivity or reflects the intrinsic value of effort, justifying its cost by generating its own reward. Participants completed a demand selection task, during which they chose between different versions of a Stroop task. Effort was manipulated through three conditions: a high-demand choice (only incongruent trials), a low-demand choice (only congruent trials), and an inactive condition during which the task completed itself. The design aimed to distinguish effort (low-high) from activity to test both hypotheses. Surprisingly, participants exhibited a strong preference for the high-demand condition, while preference for the low-demand and inactive conditions did not significantly differ. These findings suggest that participants may actively seek effort rather than simple activity. We conclude that effort can be pursued for its intrinsic value. Our study underlines the paradoxical nature of effort and introduces a "need for cognition" as an intrinsic drive to exert cognitive effort.

TALK 2

Experimentally Induced Prior Beliefs Dissociate the Role of Confidence in Information Seeking

Author(s): Hélène Van Marcke, Kobe Desender

Abstract: Decision confidence is regarded as a driving force behind information seeking, i.e. sampling more evidence before committing to a choice. Previous work shows that manipulating prior beliefs causally induces under- and overconfidence. Here, in two pre-registered experiments we assessed how a causal manipulation of confidence via prior beliefs affects information seeking. During the training phase of a perceptual discrimination task, we used a comparative feedback manipulation (Experiment 1) or a difficulty manipulation (Experiment 2) to induce under- and overconfidence. In a subsequent testing phase, participants rated their confidence in each decision, after which they could choose to see the stimulus again before indicating their final choice and confidence. Our results demonstrate a striking dissociation between the type of manipulation used and the effect on information seeking. When under-/overconfidence was induced via comparative feedback (Exp.1), the tendency to seek information was decreased or increased, respectively, and this effect was fully mediated by trial-level confidence. Strikingly, when under-/overconfidence was induced via the difficulty manipulation (Exp.2), participants still used trial-level confidence to steer information seeking, yet overall sought less information in the condition associated with task-level underconfidence. This effect of training difficulty was unmediated by confidence. We discuss our findings in light of training difficulty differences between experiments. Our results demonstrate that the link between confidence and information

seeking is not as simple as previously assumed, and suggest that confidence and information seeking are separately driven by beliefs about past performance versus perceived difficulty.

TALK 3

Visual perception and metacognition in highly sensitive individuals: Insights from an orientation discrimination task

Author(s): Luchuan Xiao, Kris Baetens, Natacha Deroost

Abstract: Background: Sensory Processing Sensitivity (SPS) is characterized by heightened sensitivity to subtle stimuli and linked to brain regions involved in visual and attentional processing. However, its influence on objective perceptual performance remains unclear. This study investigated how SPS influences visual perception and metacognitive awareness using an orientation discrimination task. Method: A total of 132 first-year bachelor students without clinical mental disorders participated in this study. Participants completed the Highly Sensitive Person Scale and the Neuroticism scale, with Neuroticism as a control variable. They then performed an orientation discrimination task, categorizing Gabor patches as upright or tilted. A 1-up, 3-down staircase procedure was used to determine the perceptual threshold for each participant. In the test phase, participants categorized upright and near-threshold tilted stimuli over 120 trials and rated their confidence on a 4-point scale for each response. Final analyses were conducted on a sample of 118 participants. Results: SPS was not correlated with orientation discrimination thresholds. However, individuals with higher SPS, likely due to high level of Neuroticism, demonstrated reduced accuracy for upright stimuli. Additionally, high SPS was associated with slower responses when misidentifying upright stimuli as tilted, even after controlling for Neuroticism, suggesting heightened cautious and deliberate processing under uncertainty. Furthermore, higher SPS predicted reduced metacognitive awareness of errors, suggesting overconfidence in accuracy following deliberation. Conclusions: These findings suggest that caution is warranted when associating higher SPS with superior perceptual discrimination abilities. SPS is linked to cautious yet overconfident processing under uncertainty, independent of Neuroticism.

5. Oral Presentations 5: OBEDIENCE AND MORALITY

TALK 1

Beyond the Trolley Problem: Moral Choices and Motivations in a Real-life Sacrificial Dilemma

Author(s): Dries Bostyn (chair)

Abstract: Sacrificial dilemmas require individuals to decide whether or not to actively harm one person to save several others. Decisions are interpreted as reflecting "utilitarian" versus "deontological" moral concerns. Existing research relies almost exclusively on hypothetical dilemmas. We confronted 438 participants with a real-life dilemma involving (minor) physical harm. Participants decided whether to allow two confederates to receive a painful electroshock or shock a third confederate and provided motivations for their choice. We manipulated whether sacrificial harm required up-close personal action and had participants complete the dilemma twice. Results show responses to traditional hypothetical dilemmas predict real-life behavior but that up-close personal action did not affect what decision participants favored. Interestingly, 35% of participants altered their decision on the second iteration. A motivational analysis revealed diverse moral concerns besides those labeled as "utilitarian" or "deontological", and demonstrates that decisions to commit or refuse sacrificial harm can stem from similar moral motivations.

TALK 2

Priming (dis)obedience

Author(s): Louise De Meulenaer, Emilie Caspar

Abstract: (Dis)obedience is a fundamental aspect of our society, yet little is known about how exposure to explicit concepts of (dis)obedience influences subsequent behaviour and neural responses. This study investigates whether priming individuals with obedience, disobedience, or neutral concepts affects their likelihood of defying authority. Using a within-subject design with a between-subject priming manipulation, 118 participants first completed a baseline condition before being exposed to one of three primes (a short essay on ideas about Obedience or Disobedience, or a Control essay about animals). They then participated in an experimental task where they received orders to administer mildly painful, harmless electric shocks to another participant. Behavioural measures included rates of disobedience, reaction times, Sense of Agency, and subjective feelings of Responsibility and Empathy. EEG data were recorded to analyse event-related potentials (P3, N1, and LPP) and mid-frontal theta activity, associated with cognitive conflict and order processing. A linear mixed model approach will be used to assess the effects of priming on behaviour and neural responses, with prime and time as fixed effects and subject variability as a random effect. By exploring the cognitive and neural mechanisms underlying (dis)obedience, this study aims to provide insights into how external influences shape resistance to and compliance with authority, with potential implications for social influence, moral decision-making, and (dis)obedience in real-world contexts.

TALK 3

Too Tired to Resist or Too Tired to Obey: The Effect of Fatigue on Obedience to Immoral Orders

Author(s): Kai Shaman, Emilie Caspar

Abstract: There is a literature gap regarding the impact of fatigue on destructive obedience (obeying orders that involve hurting others), despite the fact that fatigue is commonly present in the environments where destructive obedience can have drastic consequences (e.g. military). Previous research indicates that fatigue leads to cognitive and moral disengagement, higher impulsivity, lower empathy and inability to downregulate personal distress, while these processes are also implicated in destructive obedience, but there is a dearth of studies testing effects of fatigue on destructive obedience directly. Thus, five studies will test the effects of five types of fatigue (mental, physical, sleep-related, decision and compassion fatigue) on destructive obedience. In each study, participants will undergo a different fatigue-inducing task (vs control condition), followed by performing an obedience-inducing task (delivering painful but harmless electric shocks to a victim) while their EEG is recorded. The resulting fatigue scores and obedience rates, as well as state and trait measures of cognitive and moral Disengagement, Impulsivity, Empathy, and Distress Downregulation will be collected, along with their EEG markers (alpha power, theta/beta ratio, P3, LPP, and beta power). The differences between obedience rates in Fatigue vs No-Fatigue condition will be compared using ANOVA, and possible mediation of effects of fatigue on obedience by Disengagement, Impulsivity, Empathy, and Distress Downregulation will be investigated using mediation analysis. Based on our theoretical model, we expect that fatigue may have six potential outcomes on obedience depending on the main underlying mechanism behind the effect.

6. Oral Presentations 6: POLITICAL BEHAVIOR

TALK 1

The influence of moral disengagement on pro-environmental behavior

Author(s): Nils Demurie (chair), Kim Dierckx, Arne Roets, Alain Van Hiel

Abstract: Background: Research indicates a significant gap between pro-environmental attitudes and actual behavior. To explain this gap, we propose a new model integrating models of ecological behavior with theories of cognitive dissonance and moral disengagement. The proposed model suggests that behavioral barriers, such as strong habits, can create an inconsistency between pro-environmental attitudes and behavior, potentially leading to feelings of cognitive dissonance. This dissonance may be resolved either by acting more pro-environmentally or by adjusting one's attitudes through moral disengagement. For instance, someone might reduce their guilt about flying by rationalizing that a single flight won't have much impact, thereby improving their attitude toward flying. Methods: Two studies were conducted to test the model. In a between-subjects design, comparing high and low behavioral barriers, we investigated how these barriers affect moral disengagement, cognitive dissonance, behavioral attitudes, behavioral intentions, and pro-environmental behavior. In Study 1 (n=256), eating less meat was selected as a high-barrier behavior, while recycling was chosen as a low-barrier behavior. Study 2 (n=188) manipulated behavioral barriers for sustainable consumption with a product choice task. Results: The results from both studies indicated that higher behavioral barriers induce moral disengagement, which negatively affects behavioral attitudes and intentions, leading to less pro-environmental behavior. However, barriers had no significant effect on cognitive dissonance. Conclusions: The present findings suggest that moral disengagement plays a crucial role in explaining pro-environmental behavior and offers new insights for developing interventions to mitigate this process.

TALK 2

Investigating the Impact of Moral Conviction on Cognitive Control: A Pilot Study

Author(s): Alessandro Mazza, Eva Van den Bussche

Abstract: Political extremism is rising in Europe. Moral conviction, or the degree a personal belief aligns with one's core right/wrong principles, strongly correlates with political extremism. It drives political action, justifies violence for aligned causes, and hinders compromise. Cognitive control, the processes guiding goal-directed behavior, has been suggested as crucial to control moral behavior. However, the influence of moral conviction on cognitive control remains unclear. To address this, we conducted an online pilot experiment divided in different parts. First, using a survey, we assessed participant's position and moral conviction on several political topics. Next, we asked them to perform a go/no-go task, where participants were sequentially presented with target stimuli, to which they had to either respond (go) or refrain to respond (no-go), requiring response inhibition. Before each target, a task-irrelevant picture was shown, depicting positive or negative content related to the political survey topics. Performance was assessed using Reaction Times (RTs) and Error Rates (ERs). If high moral conviction moderates response inhibition, participants should show better/worse performance (i.e., lower/higher RTs and ERs) when presented with pictures congruent/incongruent with their position, compared to low moral conviction. However, our results showed that, when participants have high moral conviction, performance decreased regardless of the held position. This pilot study therefore seems to suggest that cognitive control orients individuals towards morally salient stimuli independently of

the affective content. A future full-scale study can explore this relationship further, adding techniques such as EEG, to fully capture the underlying processes between cognitive control and moral conviction.

TALK 3

Politics of Envy? Deservingness Beliefs, Not Envy, Drive Support for Redistribution

Author(s): Jasper Neerdaels, Lisa Blatz, Jan Crusius

Abstract: Support for redistribution is often dismissed as driven by a morally questionable motive: Envy. Seemingly supporting this notion, studies found that liberals are prone to envy and that envy predicts support for redistribution. However, we argue that previous scholars have confounded envy with beliefs about deservingness: Specifically, we hypothesize that liberals are (only) prone to envy because they believe that wealth is often not deserved. Consequentially, we argue that these deservingness beliefs drive support for redistribution, not envy. We find support for our predictions in three preregistered studies. In two surveys, we show that (1) liberalism only indirectly predicts envy via deservingness beliefs, and that (2) deservingness beliefs, not envy, predict support for redistribution. Finally, when liberals are (experimentally) made to believe that wealth is deserved, their support for redistribution decreases. Together, our findings challenge the notion that left-wing politics is a "gospel of envy" (Winston Churchill). Instead, support for redistribution appears to be driven by liberals' tendency to question the fairness of wealth distribution.

TALK 4

Out of reach: The role of Psychological Distance to Politics in Predicting Anti-Democratic Political Attitudes

Author(s): Myrto Pantazi, Kostas Papaioannou

Abstract: Citizens' support for democracy as a system is reported to be diminishing and economic and cultural explanations are proposed as most plausible. Here, we draw on the psychological construal-level theory to propose that perceptions of distance to politics serve as an important predictor of anti-democratic attitudes. Recent work has identified psychological distance as a key factor predicting anti-scientific attitudes, and we extend this concept to the political sphere. We argue that when citizens view the political system as intangible, distant, and irrelevant, they are more likely to reject democratic values. In 2 Studies we measured psychological distance to politics, alongside various political attitudes, both pro- and anti-democratic and find that psychological distance to politics positively predicts anti-democratic attitudes such as political cynicism, support for populism, reactionary beliefs, ressentiment, and autocratic preferences, while negatively predicts support for democracy and voting behavior. In Study 3, we asked participants to imagine being citizens of a fictitious country and manipulated how close or far this country's citizens feel to the country's politics. Participants in the close-to-politics condition reported significantly lower levels of political cynicism, political powerlessness, populism, support for autocracy, ressentiment and reactionary attitudes, alongside an increased support for representative democracy. Our research positions psychological distance as a crucial predictor of anti-democratic attitudes, adding a valuable psychological perspective to the study of grievance politics.

7. Oral Presentations 7: CHILD AND INFANT COGNITION

TALK 1

The Role of Emotional Valence and Trait-Anxiety in Associative Memory: A Developmental Perspective

Author(s): Yulia Chernyshkova (chair), Marine Thieux, Lucie Rose, Klara Kovarski, Charline Urbain

Abstract: This study investigated the impact of emotional valence (positive/negative) on memory for short texts in 43 school-aged children (7–11 years, 23 girls) and 35 adults (18–29 years, 10 women). Participants listened to either a positive text (describing a healthy planet) or a negative text (describing an unhealthy planet). Text recall was assessed immediately after exposure and 24 hours later. Trait-anxiety levels were then measured using the STAI and STAI-C questionnaires. Results revealed a significant age-group effect (adults > children, $p < 0.001$) but no main effect of valence. A significant interaction between age group and valence ($p = 0.003$) showed that valence influenced children's memory (POS > NEG, $p = 0.037$) but not adults' memory. Age-group differences were specific to negative texts (adults > children, $p < 0.001$), while children's performance on positive texts was comparable to that of adults ($p = 0.391$). No effect of session was observed. Trait-anxiety correlated negatively with associative memory performance for negative texts during the first session across both age groups ($r = -0.411$; $p = 0.01$), while no such correlation was observed for positive texts. These findings align with the literature, suggesting that (i) children's memory is more vulnerable to the influence of negative emotions, and (ii) individuals with high trait-anxiety experience greater associative memory disruption for negative emotional content. Further research is needed to better understand developmental differences in emotional memory and the role of emotional regulation in these processes. In line with this aim, we will discuss additional data currently being collected, which explore these differences through the classical associative memory paradigm and emotional regulation questionnaires.

TALK 2

Do Visual Statistical Learning depend more on Brain Maturation or Experience?

Author(s): Lauréline Fourdin, Morgane Colin, Dominique Grossman, Florence Christiaens, Arnaud Destrebecqz, Alec Aeby, Julie Bertels

Abstract: Infants extract and learn regularities in their environment. How age impacts the outcome of this 'statistical learning' process, and what role is played by ex-utero experience and brain maturation, are open questions. Using an infant-controlled habituation paradigm in which 7- to 12-month-olds were familiarized with doublets of shapes, we examined their ability to differentiate between familiar and novel doublets, based on the transitional probabilities between shapes. We tested 54 full-term infants, and 40 very preterms matched for chronological age. The two groups had a comparable duration of exposure to ex-utero visual stimulations; preterms had lower levels of brain maturation. We used regression analyses to predict the duration of habituation and preference for novel doublets, based on age and term status (full-term or preterm). Although preterms took longer to habituate, both groups habituated faster as they got older. Critically, while learning was already evident in the youngest infants, with increasing age preference shifted from familiarity to novelty. Prematurity did not affect these preferences. Hence, although the speed of learning would depend on brain maturation, the latter would not affect the capacity to extract visual regularities nor the outcome of this learning. Rather, infants' preference for novel sequences would depend on their ex-utero experience.

TALK 3

Individual Differences in Preschool Children's Numerosity Perception

Author(s): Irene Oeo Morín, Fien Depaepe, Bert Reynvoet

Abstract: Numerosity perception allows people to approximate the number of objects in a set without explicitly counting. This ability relies on both domain-specific processes, such as numerical acuity (essential for numerical precision), and domain-general processes, such as inhibitory control (essential to ignore non-numerical cues). Individual differences in numerosity perception may result from variations in one or both of these cognitive systems. The present study investigates the underlying structure of a numerosity comparison task and identifies performance profiles in preschool children. A total of 256 children (M = 5.49 years) completed a dot comparison task using stimuli generated by the CUSTOM algorithm. The task controlled for numerical ratio (1.17–2) and non-numerical visual properties (fully congruent, fully incongruent, size congruent, and spacing congruent). Latent profile analysis identified three profiles: (1) High Achievers, generally high performance; (2) Low Achievers, chance-level performance in all conditions; and (3) Poor Inhibitors, strong performance on congruent trials but significantly lower accuracy on incongruent trials, even below the Low Achievers. Beta coefficients indicated that responses were primarily based on Numerosity, but showed a Spacing bias that was significantly stronger in the Poor Inhibitors group. The results confirm the involvement of both numerical acuity and inhibitory control. However, the degree of reliance on these processes varies between individuals in the same age group. While some children primarily rely on numerical information, others struggle to inhibit irrelevant cues, leading to different performance patterns. These findings highlight the need for specific educational approaches that take individual differences into account.

TALK 4

Does sleep convert implicit into explicit knowledge in children ?

Author(s): Dimitri Voisin, Philippe Peigneux, Charline Urbain

Abstract: Background: Wilhelm et al. (2013) found that children outperform adults in converting implicit into explicit procedural knowledge after sleep. Here, we tested this hypothesis using the process dissociation procedure (PDP) to quantify the sleep-related evolution of the implicit and explicit components of a newly, incidentally learned sequence. Method: Twenty-one children (6–11 years old) and 60 adults (18–30 years old) underwent a sequential, visuo-motor, serial reaction time task during a learning and a retest session, the latter including a PDP-based generation task. Participants were randomly assigned either to a sleep (learning in the evening, retest in the morning) or a wake (learning in the morning and retest in the evening) condition. Vigilance, sleep quality and circadian rhythms were controlled. Results: Reaction time analysis confirmed successful incidental sequence learning and consolidation (ps < .001) across groups and conditions. When asked to intentionally retrieve the learned sequence, children and adults, across both conditions, generated chunks above chance level (ps < .032), which can be due to a combination of implicit and explicit memories. However, when asked to produce the learned sequence in reverse order, requiring explicit knowledge, all groups (ps < .034) but children in the sleep condition were unable to refrain generating chunks from the learned sequence above chance levels. Conclusion: These preliminary results suggest that sleep after learning promotes the development of explicit knowledge in children, more than in children after wakefulness and in adults in both sleep and wake post-learning conditions.

8. Oral Presentations 8: PSYCHOLOGY IN INSITUTIONAL CONTEXTS

TALK 1

Inclusive Schools, Happy Students? How Pluralism, Color-Blindness, and Assimilation Shape Self-Esteem and Happiness

Author(s): Roy Konings (chair), Jozefien De Leersnyder

Abstract: Background

UNICEF (2021) highlights a global mental health crisis among youth, with one in five children reporting low self-esteem and unhappiness, linked to long-term risks of anxiety, depression, and reduced academic and economic outcomes. Schools may shape students' well-being through their approaches to ethnic-cultural diversity, or School Diversity Models (SDMs). While pluralist SDMs, which value all ethnic identities, are associated with positive outcomes, most Flemish schools adopt assimilationist or color-blind approaches, whose effects on well-being remain unclear. Additionally, it is unknown whether these practices have different effects depending on the domain (e.g., languages, religions, curriculum, identities). This study examines how these domain-specific practices affect self-esteem and happiness, mediated by perceived discrimination.

Methods

We surveyed 3,073 students (ages 10–12) from 59 primary schools in a superdiverse Flemish urban context. We used multilevel structural equation modeling, in which differences between ethnic minoritized and majority students were also explored.

Results

Pluralist practices were positively associated with self-esteem and happiness, mediated by lower perceived discrimination, especially for minoritized students. Assimilationist practices correlated with lower well-being, driven by higher perceived discrimination. Color-blind practices showed mixed effects, depending on the domain (e.g., positive in curriculum but negative in identity recognition).

Conclusions

These findings highlight the importance of domain-specific, inclusive practices in fostering equitable school environments. Valuing diversity in specific ways (e.g., recognizing all ethnic identities) can reduce ethnic gaps in well-being and promote mental health for all students. This study provides actionable insights for educators and policymakers to create more inclusive and supportive school climates.

TALK 2

Behind bars: How prison shapes inmates' sense of agency and outcome processing

Author(s): Elodie Kox, Emilie Caspar

Abstract: Prison is a common punishment, yet it hinders the successful reintegration of ex-inmates into society. This study investigates whether coercive and restrictive prison settings alter inmates' sense of agency (SoA) – the feeling of control over one's voluntary actions – and the sensory processing of action outcomes (outcome processing). Using behavioral and electroencephalographical methods, we investigated the effects of different prison settings, each

imposing distinct levels of coercion, on SoA and outcome processing in inmates, compared to free controls. Participants could inflict financial pain on a co-participant to increase their gain, either freely or following the experimenter's orders. Compared to controls, inmates exhibited reduced SoA when freely deciding their actions but exhibited greater SoA when obeying orders. Outcome processing was preserved in inmates in open prisons, suggesting that less coercive settings have a smaller impact. These findings offer insights into how prison may disrupt cognitive processes associated with social behavior.

TALK 3

The Impact of Four Months of Incarceration on Reward and Punishment Processing: Evidence from EEG

Author(s): Victoria Rambaud, Ilke Veeckman, Louis Favril, Tom Vander Beken, Emilie Caspar

Abstract: Incarceration is a highly restrictive environment that limits autonomy and decision-making, potentially disrupting cognitive processes. Moreover, its punitive nature may further alter sensitivity to reward and punishment, potentially impacting learning mechanisms over time. This study examines changes in reinforcement learning in newly incarcerated individuals, providing insight into the neurocognitive impact of early imprisonment. Newly detained individuals completed a probabilistic two-armed Bandit Task at two time points: shortly after incarceration (Baseline, T1) and four months later (T2). Bayesian computational modeling estimated reward and punishment sensitivities, learning rates, and choice consistency. EEG data were analyzed to assess reinforcement learning, examining ERP components, including the feedback-related negativity (FRN) and P300 amplitudes; and time-frequency dynamics, with theta and delta power reflecting loss and reward processing, respectively. Mixed-effects models examined changes between T1 and T2. Results are still being analyzed, however, based on preliminary analyses, we hypothesize that punishment sensitivity will decrease from T1 to T2, suggesting adaptation to the prison environment. We also expect learning rates to decrease over time. Regarding neural activity, we anticipate a reduction in theta-band power during punishment feedback processing at T2, reflecting decreased neural sensitivity to negative outcomes. In contrast, we expect an increase in delta-band power during win feedback processing at T2, indicating heightened neural sensitivity to positive outcomes. Newly incarcerated individuals may adjust their learning strategies over time, with decreasing sensitivity to punishment and neural changes in feedback processing. These changes may influence recidivism risk and reintegration upon release, as altered learning mechanisms could affect future behavior.

TALK 4

The Impact of the Prison Environment on Self-Control: A Longitudinal Approach

Author(s): Ilke Veeckman, Victoria Rambaud, Louis Favril, Emilie Caspar, Tom Vander Beken

Abstract: Prison is a coercive institution that entails a loss of freedom, autonomy, and services. Incarceration has negative psychological, social and health effects on inmates, both in the short and long terms. However, prison environments vary considerably in terms of climate and regimes – and their impact. Prior research has found that a positive prison climate is associated with better outcomes in terms of behaviour, treatment motivation and therapeutic change. Other studies have documented that a stimulating prison environment can increase a person's readiness and motivation to engage in rehabilitation efforts and can even result in more positive post-release outcomes. An important aspect of this is self-control, a concept that has a longstanding research

history in both criminology and psychology, with a focus on its potential correlation with crime and recidivism. How different prison environments might affect self-control, has been mostly overlooked in this field. The current project investigates the impact of imprisonment on self-control and mental health in an interdisciplinary neuro-criminological study. The effects of different prison environments are assessed in a longitudinal design, where newly detained and released prisoners are followed for one year. At three different timepoints participants are asked to give their perspective on their current living circumstances, being quality of life when outside or the prison environment when detained, mental health and self-control.

9. Oral Presentations 9: MOTIVATION AND REWARD

TALK 1

Motivation & Reward Processing Require Perceptual Awareness

Author(s): Lena Lange (chair), Pietro Amerio, Guillaume Pech, Axel Cleeremans

Abstract: Recent experiments demonstrated that instrumental conditioning and responding to previously learned stimuli cannot take place in the absence of stimulus awareness (Skora et al., 2023, 2024). These findings prompt a re-evaluation of older empirical work, which reported motivational effects in response to monetary incentives, even for unreportable stimuli (Pessiglione et al., 2007). These effects may have resulted from the employed masking techniques allowing for residual stimulus awareness, potentially distorting the study's findings. We revisited the original paradigm with more rigorous methods aimed at controlling for total absence of stimulus awareness, combining minimal exposure durations with subjective trial-by-trial awareness ratings: employing very brief presentation times in the µs-range renders a stimulus invisible to the participant without having to rely on potentially confounding masking techniques (Lanfranco et al., 2024). Meanwhile, awareness ratings allow to strictly divide trials into below- and above detection threshold. Across presentation times and awareness ratings, we compared behavioural (physical force exerted on a hand-dynamometer) and electrophysiological measures (EEG components previously implicated in reward processing) between high- and low-reward trials using Bayesian analysis methods. We found no evidence of motivational processing in trials where stimulus awareness was absent. Our findings suggest that monetary rewards can influence behaviour only if the subject is at least partially aware of them, challenging previous claims about unconscious motivation. Our results underscore the critical role of conscious perception in reward processing, highlighting how crucial it is to rigorously ensure the absence of stimulus awareness in experimental paradigms investigating potentially unconscious processes.

TALK 2

Associations Between Personal Values and Regulatory Focus: A Partial Replication for Basic Values and an Extension to Refined Values

Author(s): Karl-Andrew Woltin, Joanne Sneddon

Abstract: Together, human values and self-regulatory focus should provide a more complete view of human motivation. Values are trans-situational goals serving as guiding principles across contexts (Schwartz, 1992), whereas self-regulatory focus concerns in terms of promotion focus (on ideals and aspirations) or prevention focus (on oughts and obligations) provides reference standards in the pursuit of specific goals (Higgins, 1997). Scarce previous work with small samples related these motivational systems but provided mixed results (Leikas et al. 2009; Keller & Kesberg, 2017). We examined associations between self-regulatory focus and the 10 basic values (Njoint_samples=1,035), assessed with the Portrait Values Questionnaire (Davidov et al., 2008) as in previous work; but also between promotion and prevention focus and the 20 refined values (Njoint_samples=2,779), assessed with the Best-Worst Values Refined instrument (Lee et al., 2019). Replicating past work, prevention was positively associated with conservation values and negatively associated with openness-to-change values. Unlike in previous work, promotion was positively associated with most openness-to-change values (self-direction-thought, stimulation, and also hedonism), and negatively associated with most conservation values (security-societal, conformity-interpersonal, face, and also tradition). Regarding self-

transcendence versus self-enhancement values, no systematic associations (universalism, humility) or associations again contradicting past work emerged, with both foci being differently associated with achievement and both foci being positively (negatively) associated with benevolence (power). The results of the present research have implications for understanding how these two motivational systems may interact in other domains, such as communication, where messages can be framed to express both values and regulatory focus to increase persuasiveness.

TALK 3

Temporal Dynamics of Effort Discounting: The Role of Cognitive Load and Depression-Related Differences

Author(s): Yang Yang, Clay Holroyd

Abstract: Effort discounting, the devaluation of rewards requiring effort, reflects underlying neural computations of reward valuation and cognitive control. While much is known about effort discounting, its temporal dynamics—how effort valuation changes when required effort is delayed—remain underexplored. This study examines how temporal delays alter effort aversion, focusing on cognitive load and depression-related motivational deficits. Experiment 1 employed the Cognitive Effort Discounting (COG-ED) paradigm with a backward-typing task, revealing that effort aversion decreases over time at the highest effort level. Experiment 2 replicated this pattern using a classic working memory (n-back) task, showing that higher loads (5- to 6-back) amplified the temporal effect. This suggests that effort demand might play a crucial role in shaping temporal effort discounting. Experiment 3 extends these findings to individual differences in depression. Healthy controls exhibited a strong time delay effect at higher effort levels (3-6-back), reinforcing the moderating role of effort demand. In contrast, the depression group exhibited a time delay effect only at a moderate effort level (2-back), where the task required small but noticeable effort (more than 1-back) that was manageable. However, at higher effort levels (3-6-back), they showed a rigidly high effort-discounting pattern, maintaining consistently low subjective value of rewards requiring effort, regardless of time delays. These findings highlight the influence of cognitive load on effort valuation over time and suggest that depression-related effort aversion diminishes sensitivity to effort delay effects. Future research should further investigate the underlying neural mechanisms and explore ways to improve effort-based decision-making in depression.

10. Oral Presentations 10: MEMORY AND SLEEP

TALK 1

Similarity-based confusions in visuospatial working memory

Author(s): Benjamin Kowialiewski (chair), Robin Remouchamp, Steve Majerus, Klaus Oberauer

Abstract: Working memory (WM) is subject to similarity-based confusions, such that similar items are more easily mixed up than dissimilar ones. While well-documented in other domains, this effect has not been tested in the visuospatial domain, leaving the question of how spatial information is encoded in WM open. Here, similarity can be operationalized through spatial proximity: two coordinates are more similar as their Euclidean distance gets shorter. Experiment 1 manipulated spatial proximity in a paradigm in which participants encoded sequences of spatial locations and recalled them in their original presentation order. On half the trials, the locations were close or distant to one another. This first experiment showed that spatially close locations were recalled less accurately than distant ones. Experiment 2 tested whether this effect stems from pure perceptual similarity by narrowing participants' reference frame without altering the physical proximity between items. This manipulation abolished the spatial proximity effect. These findings demonstrate that visuospatial WM, as in any other domain, is susceptible to similarity-based confusions. In addition, these confusions occur in psychological space, rather than arising from perceptual errors. We will present a computational model that explains these findings.

TALK 2

Serial order in verbal Working memory: an fMRI study

Author(s): Simone Maucci, Nina Dolfen, Steve Majerus, Wim Fias

Abstract: Working memory for serial order is a crucial cognitive function, underpinning tasks such as language comprehension and calculation. Theoretical models propose either positional coding, in which items are bound to specific serial markers, or inter-item relational coding, where order is represented through associations between successive items. fMRI studies have consistently implicated the frontal cortex and intraparietal sulcus (IPS) in ordinal processing, with the IPS exhibiting ordinal distance effects—distinct activation patterns for far versus close positional distances during order judgment tasks. While such findings have often been interpreted in favor of positional accounts, standard tasks introduce confounds such as comparison mechanisms. To address this, we employed a modified order judgment task in 40 participants, aiming to disentangle positional and relational coding accounts. Data were preprocessed using fMRIPrep, with first-level and group-level analyses conducted in SPM ($p < .05$, FWE-corrected for small volume). Results revealed engagement of the frontoparietal network, including the left IFG, bilateral MFG, bilateral IPS, bilateral SMA, and right HC, with IPS activity patterns consistent with relational coding models. Crucially, representational similarity analysis (RSA) was used to examine whether specific regions exhibited similarity patterns indicative of positional coding. RSA results in regions of interest identified by Attout et al. (2022) and Cristoforetti et al. (2022) will be discussed. Taken together, RSA and univariate results suggest that both positional coding and relational models can play a role in serial order processing, suggesting that a more comprehensive account may require integrating multiple mechanisms.

TALK 3

Neurocognitive and metacognitive functioning in text comprehension in adults: a narrative review

Author(s): Zhor Raimi, Chrystel Besche-Richard

Abstract: When reading a text, the expected comprehension outcome results from a combination of factors (Long & Freed, 2020). Among them, cognitive factors represent a key component towards a better understanding of the information read. While this question is primarily studied in children (Nouwens et al., 2020), it remains to be determined how cognitive factors articulate to enhance text comprehension among young adults. The aim of this narrative review is to determinate which, and under what conditions, cognitive factors play a role in text comprehension. In order to identify the relevant studies to answer this question, we conducted a search in the following databases: Academic Search Ultimate, PsycInfo and Eric, leading us to identify thirty-nine included studies. Our review revealed that taken together, the current findings highlight not only working memory and executive functions expected implications, but also their interaction with previous and current reader's knowledge as well as the role of metacognitive capacities. More importantly, we identified that those implications vary through methodological settings such as text components, the strategies used and the recording of on-line/off-line measures. These results call for reading comprehension models to include directions established from cognitive and methodological interactions in order to support targeted reading interventions among adults. We open by discussing these perspectives in light of recent findings on social cognition and their impacts on text comprehension.

TALK 4

Linking Quantitative REM Sleep Metrics to Locus Coeruleus Activity During Wakefulness

Author(s): Maarten Spruyt, Nasrin Mortazavi, Puneet Talwar, Elise Beckers, Aurora Gasparello, Gilles Vandewalle

Abstract: The locus coeruleus (LC) is known to be a key regulator of sleep and wakefulness; however, its specific contribution to sleep variability and quality in humans remains unclear. Given that the LC undergoes age-related changes and is among the earliest brain regions affected by Alzheimer's and Parkinson's disease, elucidating its role in sleep is crucial for clinical applications. This study expands on previous research by Mortazavi et al. by replicating its methodology while increasing the sample size to enhance reliability and generalizability of the findings. In vivo LC activity patterns were examined in 27 older (~ 61.3y, 17 females) and 55 younger (22.6y, 33 females) individuals using ultra-high field 7 Tesla functional Magnetic Resonance Imaging (fMRI) during top-down and bottom-up behavioral tasks. Quantitative rapid eye movement (REM) sleep metrics were obtained using polysomnography and analyzed against LC activity. REM sleep theta energy was positively associated with LC activity in the top-down task, while in the bottom-up task it was negatively associated with LC activity in older subjects. Importantly, power in the sigma frequency band preceding bouts of REM sleep was positively associated with LC activity in the top-down task. These findings reinforce the role of LC activity in age-dependent microstructural sleep changes, with task-dependent differences in LC activity highlighting the importance of a balanced level of tonic LC activation for optimal REM sleep expression. This study provides further insight into sleep disturbances in aging and neurodegenerative disorders, where LC dysfunction may play a pivotal role through sleep.

11. Oral Presentations 11: PERCEPTION AND COGNITIVE PROCESSING

TALK 1

Spatial but not temporal orienting of attention enhances the temporal resolution of human peripheral vision in an ecologically valid scenario.

Author(s): François Foerster (chair), Axel Cleeremans, Anne Giersch

Abstract: The temporal resolution of perception determines one's capacity to detect delays between events, which enables ordering the events in time and adapting behaviors accordingly. Whether and how voluntary attention drives visual temporal resolution is still unclear. Here, we present a psychophysical study aimed at 1) evaluating whether cue-based spatial and temporal orientation of visual attention modulates the temporal resolution in peripheral vision, and 2) assessing to what extent these modulations rely on shared or distinct mechanisms of relative dependency. Participants performed an ecologically valid asynchrony discrimination task in immersive virtual reality whilst electroencephalographic and pupillary dynamics were recorded. We found non-cumulative reductions of pupil constriction during the processing of cues orienting attention in space and time. This suggests that pupil size represents a readout of the formation of cue-based spatiotemporal expectations about visual targets. Also, pre-target oscillatory dynamics in posterior theta and alpha bands are suppressed by both spatial and temporal orienting of visual attention, with cumulative effects, while beta band activity remains unaffected. These modulations provide evidence for shared and interactive top-down mechanisms of explicit spatial and temporal attention on visual temporal processing. Yet, only explicit spatial orienting enhances the sensitivity to asynchronies. This highlights that explicit endogenous attention directed to space – but not to time – increases the temporal resolution of peripheral vision. Overall, these results cast unambiguous doubts on the accepted trade-off that spatial attention always meliorate spatial visual acuity while impeding temporal visual acuity, and thus call for the further refinement of models of visual attention.

TALK 2

Taking the eye-tracker out for dinner: characterizing spatial biases during an everyday life behaviour

Author(s): Simon Ladouce, Céline Gillebert

Abstract: Background: Attending to and visually exploring one's environment during everyday tasks provides valuable insights into attentional processes and offers promising avenues for clinical assessment. In this study, we examined whether the presence of a mobile phone induces a measurable bias in spatial attention during a routine activity, eating lunch, and whether such bias can be effectively captured using wearable sensors for gaze and body orientation. Methods: In a repeated-measures design, 24 participants ate spaghetti while their own mobile phone was either absent, or placed on the left or right side of the tray. Gaze dynamics were recorded with wearable eye-tracking glasses, and body rotations were captured with motion sensors. Our analyses focused on deviations in gaze and body orientation from the center of the plate, as well as fixations on surrounding objects extracted automatically through computer vision. Results: Results showed that the presence of a mobile phone significantly influenced gaze distribution throughout the meal. Without a phone, gaze was normally distributed around the center of the visual environment. However, when the phone was present, participants' gaze shifted toward its location, demonstrating a clear lateralization effect. This shift also altered how participants

visually explored other nearby objects, such as a glass on the right and a grinder on the left. Conclusions: These findings highlight the feasibility of using wearable eye-tracking in real-world contexts to characterize spatial biases induced by familiar objects. They further suggest that everyday items can modulate attentional processes during routine activities, offering a quick, non-invasive, and ecologically valid method for assessing spatial biases.

TALK 3

Neutrality doesn't exist: an EEG study of micro-valence

Author(s): Inès Mentec, Guillaume Pech, Axel Cleeremans

Abstract: As noted by Zajonc, "We do not just see 'a house': we see 'a handsome house', 'an ugly house', or a 'pretentious house'". All perceptions are colored by their valence. According to recent proposals, valence would play an important role in conscious perception (Cleeremans & Tallon-Baudry, 2022) and could influence decision-making (Shenhav, 2024). This suggests the omnipresence of valence in our conscious experience. Thus, even prima facie neutral experiences would have a valence, or a micro-valence (Lebrecht, 2012; Mentec et al. in prep). Here, we aimed at documenting the (dis)similarities between the neural correlates of macro- and micro-valences. Fifty participants took part in this first EEG study about micro-valences. Pictures of everyday objects or affectively loaded pictures were presented. Participants were asked to passively look at the pictures or to explicitly rate their valence, depending on the block. Grand mean ERPs highlighted common patterns in the macro and micro conditions in both passive and rating conditions. Despite differences in latency and amplitude, P3 and late positive potential were observed for both micro- and macro-valences, so replicating literature on responses to emotional pictures. These preliminary results give us first insights into the underlying neural mechanism of micro-valences, which might be closer to macro-valences than put forward in the affective neuroscience literature. Multi-variate pattern analyses will be conducted to further explore the (dis)similarity between macro- and micro-valences. We will look at the decodability of positivity vs negativity in both macro and micro conditions. Results will be presented at the meeting.

TALK 4

Detecting lateralization of arithmetic with functional transcranial Doppler Sonography: A failure to replicate?

Author(s): Lisa Moreel, Robin Gerrits, Wim Fias

Abstract: The triple code model predicts that arithmetic fact retrieval—an automatic component of multiplication—is localized in the left hemisphere, whereas procedural calculation—a fundamental process in subtraction—is represented bilaterally in the brain. Connaughton et al. (2017) confirmed these predictions in a small sample (N = 17) using functional transcranial Doppler sonography. This study aims to replicate their findings in a larger, well-powered sample. Participants (N = 51) completed a multiple-choice multiplication and subtraction task, each consisting of alternating easy and complex blocks. During the tasks, blood flow in the left and right middle cerebral arteries was recorded using Doppler Sonography. The lateralization index (LI) was used to quantify hemispheric asymmetry in blood flow. Consistent with the model, the lateralization index showed significant left lateralization during multiplication but no clear lateralization during subtraction. However, a direct comparison of lateralization between tasks revealed no significant difference. The data demonstrates a substantial amount of individual

variability, suggesting that additional factors may influence the hemispheric lateralization of arithmetic problem-solving. No relationship was found between individual lateralization and either task performance or complexity. One possible explanation is that strategy variation drives hemispheric lateralization in arithmetic processing. Alternatively, it is plausible that Doppler Sonography lacks the sensitivity to detect specific changes in lateralization during tasks that engage a broad, predominantly bilateral network, as is the case for arithmetic problem-solving.

12. Oral Presentations 12: INTERVENTIONS AND METHODOLOGICAL APPROACHES

TALK 1

Integrating Employee and Workplace Perspectives in Return to Work After Burnout: A Mixed-Methods Study

Author(s): Eva Geluk (chair), David Stuer, Remco Lenstra, Bart Cambré, Anja Van den Broeck

Abstract: Background

Burnout is a growing occupational health concern, impacting employees' ability to return to work (RTW). Despite its increasing prevalence, evidence on effective RTW interventions remains limited. Research on common mental disorders (CMDs) highlights structured contact, RTW coordination, workplace accommodations, and social support as key facilitators, yet burnout's strong work-related origins pose distinct challenges. This raises concerns about whether CMD-based RTW interventions adequately address burnout RTW. Moreover, RTW intervention knowledge alone may not suffice; understanding the lived experiences of employees and workplace actors is critical for developing interventions that address both individual and organizational needs.

Methods

An exploratory sequential mixed-methods design was employed. The qualitative phase included structured interviews (N=18), in-depth interviews (N=8), and focus groups (N=10). Findings informed a quantitative survey (N=526), analyzed using Grounded Theory and statistical validation.

Results

Three themes emerged: (1) awareness of burnout and RTW challenges, (2) RTW management, and (3) reconfiguration of the workplace context. Employees reported stigma, lack of recognition, and inconsistent workplace communication. Supervisors and HR professionals often lacked training and struggled with balancing organizational needs and employee autonomy. Employees benefited from structured support, meaningful work adjustments, and psychological safety in RTW discussions, facilitated by a third party neutral role.

Conclusions

Findings highlight the need for integrated, workplace-directed RTW interventions that go beyond individual recovery. Organizations should implement clear RTW policies, provide training for workplace-actors, and integrate neutral RTW coordinators to facilitate safe and structured workplace dialogues. Future research should explore longitudinal effects of stakeholder involvement and psychological safety in RTW interventions.

TALK 2

Strengthening Evaluative Conditioning Effect by Targeting Inferential Processes

Author(s): Zhefei Mao, Pieter Van Dessel, Marine Rougier, Jan De Houwer

Abstract: Evaluative conditioning (EC) refers to the change in evaluation of a conditioned stimulus (CS) following its co-occurrence with an unconditioned stimulus (US). While associative theories attribute EC effects to the formation of CS-US associations based on US valence, our inferential account suggests that EC arises from the inference of propositional relationships

between the CS and US. In this study, we conducted four pre-registered experiments (total N = 725) to compare EC effects under conditions that either promoted or did not promote specific inferences. We manipulated pairing content and diagnostic information while controlling for US valence. Results showed stronger EC effects when specific inferences were encouraged, supporting the inferential account of EC. These findings refine EC theory and offer a potential explanation for the frequent failure of real-life EC interventions, which typically rely on US valence rather than targeting inferential processes. Our results suggest that EC can still serve as an effective intervention tool for behavior change if inferential processes are actively facilitated.

TALK 3

A simulated comparison of three univariate outlier detection methods—Standard Deviation (SD), Median Absolute Deviation (MAD), and Interquartile Range (IQR)—across various distributions, data points, and outlier scenarios: Introducing of a new method, the MAD, IQR, and SD Simultaneously (MISS method).

Author(s): Guillaume Pech, Emilie Caspar, Uri Maoz, Axel Cleeremans, Christophe Ley

Abstract: Modeling data for hypothesis testing and empirical evidence collection is a core scientific task that often encounters challenges posed by outliers—data points that significantly bias the estimation of a phenomenon. Although numerous studies address outlier detection, understanding the selection of appropriate methods and their parameters remains limited. Traditional outlier methods in psychology, such as Standard Deviation (SD), Interquartile Range (IQR), and Median Absolute Deviation (MAD), each require parameter settings that influence their conservativeness, yet comparative analyses of these settings are scarce. This study aims to systematically compare these three methods across various parameter settings to enhance their interpretability and ascertain the optimal method for specific situations. This is crucial for minimizing type I and type II errors, which respectively indicate false positives and negatives. Furthermore, each method has been critiqued for potentially increasing these errors, suggesting varying strengths and weaknesses. To address these limitations, we propose a novel integrated method, the Median Absolute Deviation, Interquartile Range, and Standard Deviation Simultaneously (MISS), which combines the strengths of SD, IQR, and MAD through a weighted formula. Employing a genetic algorithm, we tested 2,000 combinations of this formula over ten generations, refining the weights and constants to optimize performance. Our results indicate that MISS consistently outperforms traditional methods, with only marginal underperformance in rare scenarios. This innovative approach promises to refine outlier handling, thereby enhancing the robustness of scientific inferences.

TALK 4

Co-Creating Integrity: Development of a Moral Intervention for Fraud Prevention among Young Athletes

Author(s): Tassilo Tissot, Alain Van Hiel, Cleo Schyvinck, Bram Constandt, Annick Willem, Leen Haerens

Abstract: Addressing fraudulent behaviors–such as doping and match-fixing–early is vital for safeguarding sport integrity and its impacts on educational outcomes such as positive youth development. This multi-informant study describes the iterative development and evaluation of a co-created moral intervention (in the form of an educational module) designed to foster ethical decision-making and fraud aversion among elite sport school students and other young athletes.

The intervention was developed in close collaboration with partners from the Flemish sport sector by applying a participatory co-creation approach, comprising a series of overlapping phases (conceptualization, material development, prototyping, and effect testing). The novel intervention is informed by diverse methodologies, including co-creation sessions and interviews with diverse stakeholders, in addition to an extensive literature review on the subjects of sport integrity and moral psychology. Consequently, the intervention comprises four interactive components pertaining to the (im)morality of athletes, factual information regarding multiple types of fraud in sport, and dilemma training based on authentic fraud scenarios. The intervention was met with high levels of appreciation by end-users, as evidenced by high ratings on measures of satisfaction, ease of participation, and self-assessed effects. Effect tests conducted with an intervention group and a delayed-treatment control group demonstrated a significant increase in fraud aversion for the intervention group between pre-and post-test, whereas the control group exhibited no such change. In conclusion, the intervention provides a feasible and effective solution for cultivating ethical awareness and decision-making abilities within sport and beyond.

13. Oral Presentations 13: HEALTH AND WELL-BEING HEALTH AND WELL-BEING

TALK 1

The role of alexithymia in self-esteem modulation among patients in a weight-loss intervention: a longitudinal analysis

Author(s): Martina Camelio (chair), Martina Di Perna, Piero Porcelli, Olivier Luminet, Marine Mas, Chiara Conti

Abstract: Having a higher Body Mass Index (BMI) is associated with significant psychological challenges, including reduced self-esteem and emotional regulation difficulties. Research has shown that self-esteem decreases as BMI increases and is strongly negatively correlated with difficulties in finding effective emotion regulation strategies. Alexithymia, characterized by difficulties in identifying and describing emotions, has been closely linked to low self-esteem but remains underexplored among individuals with obesity. While higher self-esteem levels are generally associated with better outcomes in standard weight-loss (WL) treatments, the interplay between alexithymia, self-esteem, and weight-related factors requires further investigation. This longitudinal study examined the relationship between alexithymia and self-esteem in 120 patients with overweight or obesity undergoing a standard WL treatment. The sample was predominantly female (n=79, 65.8%), with a mean age of 48.92 years (SD=14.20). Treatment included weekly sessions focused on healthy habits, weight monitoring, and metabolic control. After six months (T1), patients showed significant reductions in BMI, binge eating, stress, and alexithymia, alongside an increase in self-esteem. However, the mediation analyses revealed that while weight loss had a partial mediating effect, baseline levels of difficulties in describing feelings fully mediated the relationship between baseline and post-treatment self-esteem. These findings suggest that beyond the typical effects of WL treatments, such as BMI reduction and improved well-being, alexithymia plays a crucial role in shaping self-esteem changes. This emphasizes the need to integrate psychological interventions targeting emotional awareness and expression to improve self-esteem in the context of WL treatments.

TALK 2

A cross-sectional study of advanced cancer patients' (un)willingness to discuss their life-sustaining treatment preferences with their primary caregiver while experiencing sentinel events for readdressing goals of care

Author(s): Caroline Langhendries, Yves Libert, Ahmad Awada, Lisa Choucroun, Paulus Kristanto, Gabriel Liberale, Aurore Liénard, Nathalie Meuleman, Darius Razavi, Dirk Van Gestel, Isabelle Merckaert

Abstract: Background: Sentinel events have been proposed as markers for readdressing goals of care. Despite the benefits of involving relatives in this process, cancer patients often hesitate to openly discuss their Life-Sustaining Treatment (LST) preferences with them. This study aims to assess the prevalence and associated factors of advanced cancer patients' (un)willingness to discuss their LST preferences with their primary caregiver while experiencing sentinel events for readdressing goals of care. Method: A cross-sectional study was conducted among consecutive cancer outpatients who experienced sentinel events for readdressing goals of care and who were scheduled for consultations in the medical oncology, hematology, surgery, or radiotherapy units in a comprehensive cancer center. Patients were comprehensively informed about LST options and were asked to report prior discussions and current (un)willingness to discuss their LST

preferences with their primary caregiver. Sociodemographic, medical, psychological, relational, and communication-related factors were evaluated through standardized questionnaires. Results: Among 520 recruited patients, 441 reported being supported by a primary caregiver, mainly their spouse (64%) or a child (20%). Among these patients, 287 (65%) reported never having discussed their LST preferences with their primary caregiver, and 284 (64%) reported a current unwillingness to engage in such discussions. Results regarding factors associated with patients' current (un)willingness will be presented. Conclusions: A substantial majority of cancer patients remain unwilling to discuss their LST preferences with their primary caregiver despite experiencing sentinel events for readdressing goals of care. Targeted interventions should be offered to patients and their primary caregiver to support their discussions about LST preferences.

TALK 3

Exploring the dynamic relationship between job demands, job resources, and burnout dimensions

Author(s): Femke Legroux, Aleksander Banasik, Tim Vantilborgh, Sara De Gieter

Abstract: Background

Burnout remains a prevalent workplace issue with considerable impact on employees, employers, and society. While research has shown that job demands and resources negatively affect employee well-being, there is limited understanding of how these demands, resources, and dimensions of burnout interact over time. Insight into these temporal interactions is essential for burnout prevention. In this study, we construct the first temporal dynamic network of job demands, job resources, and burnout dimensions. By examining how these elements operate together in a dynamic system, we aim to deepen our understanding of the complex processes that contribute to burnout, laying the groundwork for more effective prevention strategies.

Method

This study employs a longitudinal design, where participants complete weekly questionnaires over a period of five consecutive weeks. Each survey includes validated scales measuring the job demands, job resources, and burnout symptoms experienced during that week. Using temporal dynamic network modeling, we analyze how fluctuations in job demands and job resources affect burnout dimensions like emotional exhaustion. Through Gaussian Graphical Models (GGM) and Multilevel Vector Autoregression (mlVAR), we identify both immediate and delayed effects, revealing how shifts in job demands and resources influence burnout over time.

Expected results

A pilot test of the questionnaire and method has been performed, and 126 participants have already been recruited. The first wave of data collection started on November 15. We anticipate that this study will highlight specific interactions contributing significantly to burnout development. Results will be available for presentation at the conference.

Conclusion

This study adds to the understanding of burnout by examining the interactions between job demands, job resources, and burnout dimensions, and their role in burnout development. The longitudinal approach provides nuanced insights into how changes in job demands and resources relate to burnout progression, offering valuable implications for targeted prevention strategies.

TALK 4

Efficacy of a brief ecologically boosted emotion and self-regulation group in breast cancer survivors: Identifying who benefits most through latent profile analysis

Author(s): Sadio Righes, Waroquier Pauline, Paulus Kristanto, Isabelle Merckaert

Abstract: Background

An increasing number of interventions target psychological symptoms in breast cancer patients but results often show low-to-moderate effect sizes, likely due to limited screening and a lack of individualized approaches. Latent profile analysis (LPA) can identify patient profiles to guide personalized treatment. In a randomized controlled trial, a brief emotion and self-regulation group intervention showed efficacy to reduce some symptoms. Identifying symptom profiles could clarify which patients benefited most of this intervention. This study aimed to specify the baseline psychological profiles of patients participating in the intervention and examine the differences in psychological changes due to the intervention among the identified profiles.

Method:

LPA was performed in 99 breast cancer survivors who participated in the intervention. Worry, intrusive thoughts, fear of cancer recurrence (FCR), anxiety, and depression data were collected just before the intervention using questionnaires to identify the baseline psychological profiles of the patients. After profile determination, we aimed to observe the changes in psychological symptoms after the intervention.

Results:

Three distinct profiles were identified: (1) mild, (2) moderate, and (3) high symptom levels. The patients in the mild symptom profile did not change after the intervention. Patients in moderate and high symptom profiles exhibited similar changes except for depression and FCR.

Conclusions:

Understanding patients' psychological profiles is key to uncovering the mechanisms behind changes and improving the efficacy of psychological interventions. Future studies may help to better identify the process changes implied in psychological symptom changes and to consider the most appropriate screening for these different patients.

POSTERS

1. Poster Session 1

1. Predictors and outcomes of a one-month alcohol abstinence campaign in Belgium

Author(s): Charlotte Paulis, Etienne Quertemont

Abstract: This research aimed to identify factors predicting the successful completion of a one-month alcohol abstinence period (OMAAP) in Belgium and to evaluate the potential rebound effect in alcohol consumption following the campaign. Additionally, it explored whether participants' expectations regarding the benefits of OMAAP were met. A short longitudinal study was conducted with participants of the Belgian OMAAP in 2023 and 2024. Participants completed questionnaires assessing alcohol consumption, drinking refusal self-efficacy (DRSE), positive alcohol expectancies, and expectations about OMAAP benefits at three intervals: before, immediately after, and one month post-campaign. Positive alcohol expectancies were significant predictors of the likelihood of successfully completing OMAAP. Participants with higher positive alcohol expectancies were less likely to complete the abstinence period. Alcohol consumption significantly decreased one month after OMAAP for all participants, with no evidence of a rebound effect. DRSE did not significantly change over time. Participants' expectations regarding benefits such as sleep improvement and weight loss were generally unmet, while expectations for alcohol dependency reduction and money savings were exceeded. Positive alcohol expectancies are key predictors of OMAAP success. The campaign effectively reduced alcohol consumption without a rebound effect, underscoring its potential as a public health strategy. However, managing participants' expectations about the benefits of abstinence could enhance their experience and outcomes.

2. Childhood exposure to intimate partner violence: exploring professionnals' practice and perceptions

Author(s): Fabienne Glowacz, Nell Oger

Abstract: Context: Recently, multiple studies have demonstrated the severity of the consequences of exposure to intimate partner violence as a child, leading to consider it as a form of child maltreatment. However, studies focusing on interventions for children exposed to intimate partner violence remain scarce. Until now, in Belgium, there has been no data or information on these types of interventions. The current study aims to understand, through the lens of professionals, how children exposed to intimate partner violence can be supported in the French-speaking community in Belgium. Method: A sequential mixed-method approach was used. First, several practitioners from different sectors (child protection services, school counselors, medical staff, etc.) were recruited to answer an online questionnaire (n=130) which addressed various subjects: perceptions of the difficulties and the needs of children exposed to intimate partner violence, interventions, challenges practitioners face, training and tools they can use... Then, semi-structured interviews (n=13) were conducted to deepen the knowledge of these themes. Findings: The statistical analyses reveal that practitioners whether they specifically provide care for children exposed to domestic violence or not are well aware of the consequences of the exposure. However, none of them had specialized in children exposed to domestic violence.

They underline a lack of training, structures and places in the child protection services. The qualitative part of the study confirms these findings. Practitioners further explained that the child safety is often not guaranteed, which makes it impossible to address the trauma.

3. Minds in Conflict: Exploring Cognitive Impacts and Trauma Transmission in the Colombian Internal Armed Conflict

Author(s): Sofia Diaz Villamil, Emilie Caspar, Alison Mary

Abstract: There is a gap in the literature regarding the cognitive impact of conflict on war-affected populations (victims and perpetrators). The Colombian Internal Armed Conflict (CIAC) provides a distinct context for such research. Findings indicate a high prevalence of Post-Traumatic Stress Disorder (PTSD) among victims and ex-combatants (perpetrators) of the CIAC. Studies using electroencephalography (EEG) have shown that trauma and PTSD result in heightened bottom-up processing, impaired inhibition, and reduced top-down control. However, these findings have not been replicated in individuals affected by the CIAC. Furthermore, research suggests parental trauma and PTSD lead to an increased sensitivity to PTSD, known as intergenerational trauma transmission (ITT). Although there is preliminary evidence indicating ITT for processing biases, more research is required. To address these gaps, the current project works with victims, ex-combatants, and their offspring to explore alterations in cognitive processes resulting from CIAC exposure and ITT. We will record brain activity with EEG across six tasks focusing on either emotional processing or non-emotional processing. We expect previously found biases in trauma-exposed and PTSD patient populations to be replicated as well as more severe impairments in victims compared to ex-combatants for emotional processing. We hypothesize similar but milder biases will be observed in offspring as in their CIAC-exposed parents.

4. Longitudinal Study: Exploring the Neurophysiological Development of Visual Statistical Learning and its Link to Language Development in Autistic Children

Author(s): Marine Petit, Axelle Calcus, BeLAS Consortium, Ellen Demurie, Mikhail Kissine, Lotte Van Esch, Marielle Weyland, Arnaud Destrebecqz

Abstract: Statistical learning plays a crucial role in language development. It is particularly interesting to study this ability in autism, since around 30% of individuals with autism do not acquire language. In the current literature, the question of whether statistical learning is impaired or preserved in autism remains unanswered. Some studies suggest it is preserved, while others report reduced neural responses. Furthermore, there is a lack of data for children aged 2 to 7, as existing studies primarily focus on older children and high functioning. This study aims to 1) investigate the link between statistical learning and language abilities in autistic children, and 2) explore whether performance on a statistical learning task can predict language development. The research is a national, multi-site longitudinal study involving 209 autistic children (72 French-speaking and 137 Dutch-speaking), aged 2 to 6 years, followed over 24 months. Using electroencephalography and standardized tests, we measure statistical learning to explore its predictive value for language development. A modified version of the visual statistical learning (VSL) paradigm by Jeste et al. (2015) was used. Children viewed sequences of alien figures, with 10% of trials containing an "oddball" condition, where an expected alien was replaced by a

different one. We hypothesize that performance on the VSL task will correlate with language abilities in autistic children. Preliminary results will be presented at the conference.

5. The Challenges of High-Conflict Coparenting: Clarifying to Better Support?

Author(s): Mélissa Florian, Jennifer Denis, Justine Gaugue

Abstract: This research aims to (1) construct a refined conceptual framework for high-conflict coparenting, integrating theoretical and empirical perspectives; (2) develop assessment tools to assist professionals in identifying and addressing high-conflict dynamics; and (3) explore children's lived experiences within high-conflict family dynamics to assess their role in interventions. High-conflict coparenting refers to persistent and intense disputes between separated parents, marked by emotional escalation, hostile communication, prolonged conflicts, and frequent legal proceedings. Despite affecting only 10-20% of separated couples, these cases represent nearly 90% of court interventions, underscoring their significant impact on families and professionals. This study employs a three-phase approach:

Phase 1: An inductive research based on Grounded Theory Methodology (study 1) and a systematic review (study 2) to clarify theoretical definitions and conceptual boundaries.

Phase 2: Development of an assessment tool, informed by qualitative findings, to provide professionals with a structured method for identifying and addressing high-conflict dynamics (study 3).

Phase 3: An Interpretative Phenomenological Analysis to explore children's perspectives on high conflict coparenting and their perceived role in parental disputes (study 4).

By combining theoretical insights, professional expertise, and children's experiences, this research aims to enhance the conceptual clarity of high-conflict coparenting and support the development of evidence-based intervention models. The findings will contribute to refining assessment and therapeutic strategies to mitigate the long-term psychological impact on families and children.

6. Validation of a Virtual Reality Tool for the Assessment of Prospective Memory

Author(s): Charlotte Auger, Maïté Camara Lopez

Abstract: Objective: The current study sought to examine whether our newly developed virtual reality prospective memory task could be considered as a valid and sensitive tool to measure prospective memory. Method: By using a VR task reproducing daily prospective memory situations, the present study aimed to overcome the methodological limitations of traditional naturalistic and laboratory settings. Immersed inside a virtual house, 47 participants, including 22 with memory difficulties and 25 controls, were tested using this tool. Content, convergent, discriminant and ecological validities were investigated. Several additional analyses were also carried out to verify the cognitive load allocated to using the interface, the impact of familiarity with the technologies and the subjects' sense of immersion. To simulate daily life, we proposed a contextualized and spaced encoding, relevant cues, active exploration, and interactive environment. Results: The results show that content validity, convergent validity and discriminant validity were verified. It also emerged that the level of familiarity with the technologies had no

impact on the subjects' performance. Finally, the patients did not differ significantly from the controls in terms of their sense of immersion. However, ecological validity could not be confirmed, and the cognitive load associated with using the interface remains significant. Conclusions: Our results are encouraging, highlighting the usefulness of virtual reality in assessing prospective memory. However, certain modifications to our tool are necessary before it can be integrated into a clinical context.

7. Psychological Assessment and Consultations with Children from different cultural backgrounds

Author(s): Léa Lacourt, Dimitri Cauchie, Marielle Bruyninckx

Abstract: The cultural diversity of the Belgian population has brought new challenges to mental healthcare practices. Focussing on care practices to improve sensitivity to cultural specificities has become crucial, especially for psychologists working with children. Assessment tools were designed and standardized for individuals living in a Western, monocultural, and monolinguistic context. Employing such tools with patients from different cultures can lead to misdiagnosis or inappropriate treatment (Daure & Reveyrand-Coulon, 2019; Mouchenik & Moro, 2021). Our research aims to investigate how psychologists consider cultural specificities in their practices. The sample consists of 111 psychologists working with children (0-18 years) from different cultural backgrounds in the French-speaking part of Belgium. We collected data using an online questionnaire based on the literature. The results show that according to most psychologists (99/111, 89.19%), taking culture (beliefs, representations, etc.) into account in the practice with patients is essential. They report difficulties in sharing the conclusions of an assessment (69/111, 62.16%) or discussing possible treatment approaches (80/111, 72.07%), as well as in communication (76/111, 68.47%) and understanding different cultural representations of mental health (58/111, 52.25%). Among psychologists who conduct assessment-focused consultations (56/111, 50.45%), 31 psychologists out of 56 (55.35%) believe that using all the assessment tools with patients from different cultural backgrounds isn’t possible. Cultural issues play a significant role in interactions between psychologists and their patients, especially when using assessment tools.

8. The Spatial Coding of Touch revealed by Spontaneous Gaze Behavior

Author(s): Sylvain Gerin, Michael Andres

Abstract: An unexpected touch on the shoulder immediately triggers an orienting response towards the touched location. Although this reaction seems automatic, localizing a touch in space is more complex than we might think. In the somatosensory cortex, tactile stimuli are initially coded independently of body posture. They are further reported on a cognitive map used to match tactile coordinates with postural information, under the control of the posterior parietal cortex. However, the mechanism underlying such tactile remapping remains unclear. To uncover this mechanism, we recorded the gaze behavior of participants receiving tactile stimuli on the fingers of their right hand in a palm-down or palm-up posture. Tactile stimuli induced horizontal gaze shifts whose direction was determined by the external position of the stimulated finger relative to the middle finger rather than by the external position of the stimulated hand. Comparison of the palm-up and palm down conditions showed that hand rotation reversed the

direction of gaze shifts induced by each finger, except for the middle finger for which gaze remained central in both conditions, despite the rightward location of the hand. Eyetracking data thus indicate that spatial attention moves on either side of the axis extending along the middle finger to match the tactile coordinates of fingers with the current hand posture. We conclude that tactile remapping proceeds by shifting attention around a reference defined by the main axis of body parts, and that these shifts occur in an internal representation of the body that keeps track of postural information.

9. Computational Models and Preliminary Findings on the Causal Influence of Empathy for Pain on Prosocial Disobedience Investigated with Transcranial Direct Current Stimulation

Author(s): Evelyne Fraats, Michael Nitsche, Emilie Caspar

Abstract: The tragedies of World War II demonstrate that many of the most horrendous acts are committed in the name of obedience. While the phenomenon of resisting immoral commands despite pressure to comply is recognized, the cognitive mechanisms driving such prosocial disobedience remain poorly understood. Prior research suggests that empathy for pain is a key neurobiological factor, which, for example, is downregulated under coercive conditions. This study aims to causally manipulate empathy for pain using non-invasive neurostimulation and examine its direct influence on prosocial disobedience. Simultaneous EEG recordings and transcranial direct current stimulation (tDCS) will be applied over the somatosensory cortex as participants engage in a moral decision-making task. Computational modeling and a pilot experiment were conducted to determine the optimal tDCS setup for targeting the somatosensory cortex and modulating empathy for pain. Here, the computational models and preliminary behavioral and EEG findings will be presented for the first time. We hypothesize that anodal stimulation will increase prosocial disobedience and empathy for pain, as measured through subjective ratings and late ERP amplitudes, while cathodal stimulation will have the opposite effect. Upon completion of the experiment, this study will provide the most robust causal evidence regarding the role of empathy for pain in resisting immoral orders. The insights gained could ultimately contribute to the development of targeted interventions designed to reduce blind obedience to authority.

10. How do future projections influence pro-environmental attitudes, behaviours and related eco-emotions? A systematic review of experimental evidence.

Author(s): Nathalie Castaigne, Alexandre Heeren

Abstract: In response to the ecological crisis's urgency and severity, how we envision our environmental future – both on an individual and collective level – is a relevant approach to influence our willingness to take pro-environmental action. While current literature often focuses broadly on future-oriented thinking in contrast to present- or past-oriented thinking, we propose to delve deeper by investigating the manner in which the content and characteristics of these future projections (e.g. positive versus negative future scenarios; pragmatic versus utopian narratives) influence climate action. At BAPS, we will present the results from an ongoing systematic review that aims to clarify how different types of ecological future projections affect the adoption of pro-environmental attitudes and behaviours. As an additional research question, we also explore how these varying future projections influence eco-emotions, understood here

as emotional positive response or distress subsequent to global warming (e.g. hope and fear). It is widely acknowledged that a considerable proportion of the population experiences significant emotional distress in relation to environmental concerns, and therefore, a secondary focus of our work is to understand how different visions of the future might mitigate or exacerbate this distress. This review is pre-registered and follows PRISMA statements. By undertaking a qualitative analysis of the experimental studies included, we aim to provide a comprehensive overview of the current research landscape in this domain, including recent knowledge and methodologies. The results presented will also suggest promising directions for forthcoming research.

11. The Role of Future-Oriented Thinking in Self-Representation: Determinants of Accessibility Across Temporal Orientations and Levels of Abstraction

Author(s): Marianthi Terpini, Arnaud D'Argembeau

Abstract: Personal identity is shaped by an internalized life narrative, encompassing both past experiences and future expectations. However, the role of future-oriented thinking in self-representation is less well understood than that of memory. Self-representations vary in abstraction—ranging from abstract personal characteristics to specific events—but little is known about how these representations are retrieved or what factors influence their accessibility, which is crucial for understanding identity dynamics over time. This study aimed to identify the factors determining the accessibility of self-representations varying in abstraction levels, according to their temporal orientations (future vs. past). Three experiments focused on self-concepts, autobiographical periods, and specific events. Participants generated self-representations for the past and future as fast as possible (fluency task), and then rated them on four dimensions: importance, representational format, frequency of prior thought, and connection to other self-aspects. Data were analyzed using ordinal mixed effects models, with rank of self-representation as the outcome and ratings as predictors. Results showed that the accessibility of future self-concepts increased with importance and frequency of prior thought, whereas past self-concepts showed no such effect. The accessibility of autobiographical periods was mainly determined by importance, with a stronger effect for future periods. For specific events, all characteristics significantly influenced accessibility, regardless of temporal orientation. These findings demonstrate that the determinants of self-representation accessibility differ depending on abstraction level, suggesting that different types of future self-representations follow distinct organizational and retrieval processes.

12. Study of the functional impacts of specific learning disabilities on the school participation of children enrolled in mainstream primary education.

Author(s): Sarah Dupont, Laurence Rousselle, Romina Rinaldi

Abstract: Theory: The ICF model developed by WHO (2007) allows for the consideration of the impact of a disorder as difficulties or limitations in performing activities and in an individual's participation in daily life situations. In the educational field, this can be referred to as school participation. According to Maciver et al. (2019), school participation may be influenced by the consequences of specific learning disabilities (SLD) as well as contextual and individual factors. In the Fédération Wallonie-Bruxelles, children with SLD have been transferred from special to regular education with reasonable accommodations. Nevertheless, these children continue to

encounter difficulties, as these adjustments are exclusively based on their disorder. It seems imperative to assess how these disabilities affect school participation and quality of life to understand each child's challenges. Aim: developing a tool based on empirical referents and the definition of functional impact, to assess how SLD affects the school participation of children in mainstream primary education. Method: A concept analysis will be conducted with the objective of establishing a fundamental understanding of the functional impacts, the empirical referents and the defining attributes associated with this concept to create a tool. This analysis will adhere to the protocol outlined by Walker and Avant (2018), which demonstrated its rigor in developing definitions for concepts that lack a consensus. It also facilitates the differentiation of adjacent concepts that may overlap with the target concept. Conclusion: This study has the potential to provide novel insights into the functional impact of SLD on school participation.

13. How is intercultural mediation used by healthcare professionals when working with elderly patients in the French-speaking part of Belgium?

Author(s): Lisa Santoro, Dimitri Cauchie, Marielle Bruyninckx

Abstract: Belgium's cultural diversity makes considering patients' culture essential for healthcare professionals. Cultural perceptions of aging and neurodegenerative diseases differ and lead to inequalities in healthcare. To enhance the quality of care in an intercultural context, professionals could request an intercultural mediator (IM). This study explores the views and practices of two groups of healthcare professionals (62 physicians and 77 psychologists) on intercultural mediation. The 139 participants completed an online survey with open-ended and closed-ended questions. The results reveal that 137/139 (97.8%) healthcare professionals regularly see patients who do not speak French, but only 61 had ever brought in an IM (43.88%). The practitioners are more likely to request IMs than psychologists (61.29% and 29.87%). Our participants have an overall positive opinion of IMs (83.74%). Of the 61 who had already used intercultural mediation, 55 reported positive feedback (90.16%). However, only 22.76% (28/139) declared they were easily accessible. Even when they are, it is through videoconference, which is not optimal for elderly patients, particularly those with cognitive impairments. In addition, the many different dialects can make translation difficult for the interpreters. Therefore, professionals develop strategies, such as requesting someone close to the patient (55.88%) or managing on their own (using gestures or an online translator) (42.65%). To meet patients' needs, healthcare professionals who work in culturally diverse contexts must be supported. This support can take the form of better access to IMs or specific training to enable healthcare professionals to develop their cultural skills.

14. Who do People Prefer to be in Charge? An In-Depth Analysis of Citizens' Preferences for Politicians, Citizens, Experts, and/or Artificial Intelligence in Policymaking

Author(s): Tessa Haesevoets, Bram Verschuere, Kim Dierckx, Alain Van Hiel, Arne Roets

Abstract: For a long time, research on democratic governance has primarily focused on preferences for singular decision-makers: either elected politicians, citizens, or experts. Recently, however, there has been a shift towards considering preferences for multiple decision-makers, but the specifics of these 'multi-actor' models remain unclear. This study addresses this gap by exploring how people prefer decisional authority to be balanced among elected politicians,

citizens, (human) experts, and AI-based technologies. Analyzing data from over 1500 UK citizens, we identified eight distinct clusters. Four of these clusters (30.8% of the sample) prefer one actor to be dominant in policy decisions ('dominant-actor' clusters), while the other four clusters (69.2% of the sample) prefer co-decision by a two or more actors ('multiple-actor' clusters). Overall, the present findings highlight the complexity of decision-making preferences in democratic governance, revealing a strong tendency among citizens toward more 'hybrid' decision-making models.

15. Cerebellar anodal transcranial direct current stimulation (tDCS) improves implicit mentalizing sequence learning: A double-blind sham-controlled study

Author(s): Min Qiu, Kris Baetens, Frank Van Overwalle

Abstract: An increasing number of studies have revealed that the posterior cerebellum plays a vital role in mentalizing by identifying and learning social action sequences which render social interaction more fluent, coordinated and predictable. In a previous study, an implicit social sequencing task, the Belief serial response time (SRT) task, was administered after targeting the cerebellum with anodal transcranial direct current stimulation (tDCS). Anodal tDCS did not show significant improvement, except for a non-social control version. We hypothesized that the familiar and overlearned nature of attributing social beliefs left very little margin for improvement. Therefore, the current study developed a more complex and difficult version of the Belief SRT task, and again examined the effect of anodal cerebellar tDCS. Using a double-blind sham-controlled protocol, participants received either anodal tDCS (i.e., 2 mA for 20 min) or sham tDCS. Results showed that participants receiving anodal tDCS responded faster when the sequence of actions was repeated as opposed to randomized, while those receiving sham tDCS did not show a significant improvement. These findings suggest a positive effect of anodal cerebellar tDCS on implicit mentalizing sequence learning, supporting a causal role of the cerebellum in this learning process. This holds promise for treating clinical populations with limited social capacities (e.g., autism) with anodal tDCS.

16. Examining the Link Between Suppression-Induced Forgetting (SIF) and Rumination: Investigating the Potential Rebound Effect Over Short Intervals

Author(s): Honglei Ou

Abstract: Background: Rumination, commonly characterized by a repetitive and persistent focus on past experiences, encompasses both adaptive (reflection) and maladaptive (brooding) components. Extensive research has shown that rumination is characterized by deficits in inhibitory control. However, its relationship with suppression-induced forgetting (SIF) remains controversial. SIF refers to the phenomenon whereby intentional suppression of unwanted memories leads to impaired subsequent retrieval. Some theories propose that memory suppression may even inadvertently result in a rebound effect, where suppressed memories resurface even more strongly. At present, studies on SIF and the rebound effect in rumination have led to mixed results. The present study employed the Think/No-Think (TNT) task to investigate how individuals with rumination regulate unwanted memories over time. Method: Sixty-seven participants completed the self-reported rumination questionnaire and the TNT task, followed by an immediate memory assessment. After a five-minute delay, a second memory test was

administered to determine the rebound effect. Results: Results revealed that only individuals with low brooding scores exhibited a significant SIF effect. Additionally, recall of the suppression condition at the 5-minute delay point was significantly higher than the immediate test, suggesting a rebound effect. No significant associations were found between SIF, general rumination, or reflection. Conclusion: These findings suggest a cognitive style of low brooding is associated with superior memory suppressing capacity. However, the emergence of a rebound effect after five minutes challenges the durability of TNT-based memory suppression. Future research should further investigate the temporal dynamics of SIF and rebound effects and their implications for rumination interventions.

17. Nightmare frequency and the Big Five personality traits: A three-level meta-analysis

Author(s): Aurore Roland, Zosia Goossens

Abstract: Our aim was to conduct a meta-analysis to deepen our understanding of the Big Five personality traits linked to nightmare frequency, which could serve as potential risk factors for frequent nightmares. Studies were included if they assessed the Big Five personality traits using a validated questionnaire and measured nightmare frequency in an adult population. We systematically searched PubMed, Embase, Scopus, and Web of Science for relevant studies. The risk of bias was evaluated using the Joanna Briggs Institute Critical Appraisal Tool for analytical cross-sectional studies. Three-level meta-analyses were conducted. Ten studies, all with a low risk of bias, met the inclusion criteria. Due to the limited number of studies, meta-analyses could only be performed for nightmare frequency in relation to openness and neuroticism. The pooled Fisher's z for nightmare frequency and openness was 0.06 (95% confidence interval [CI] [0.02, 0.10], $p < .01$), indicating a negligible to small association. The pooled Fisher's z for nightmare frequency and neuroticism was 0.30 (95% CI [0.23, 0.38], $p < .001$), reflecting a small to moderate association. These findings suggest that neuroticism is a stronger predisposing factor for nightmare frequency than openness.

18. The influence of personal narratives on emotions and attitudes regarding a collective past: A Belgian case.

Author(s): Ségolène Cardon

Abstract: In an era marked by an infodemic and polarisation, understanding the influence of the narratives we consume in books, (social) media or museums is essential, especially when dealing with controversial past episodes. For example, in Belgium, the colonisation of Congo and WWII collaboration are both controversial episodes that remain at the heart of public debates, triggering vivid reactions and emotions. Personal memories add significant depth and nuance to the collective understanding of the past. These narratives, often framed as entertainment rather than plainly presenting the beliefs they stand for, can lower psychological reactance in audiences. Personal and emotional stories, seemingly anecdotal and often shared in echo-chambers, can shape attitudes amidst a flood of (mis)information. The objective of my research project is to better understand the power of narratives on attitudes by delving into the underlying psychological processes (emotions, transportation into the narrative world, identification with the character) and evaluating narrative transmission methods (format and frame) through the investigation of:

- the link between emotions and attitudes toward Belgium's colonial past and WWII collaboration across age groups and social identities (Study 1-Exploratory study)

- the influence of the personal narrative format (text – audio – video) on attitudes mediated by emotional and cognitive processes (Study 2-Experimental study)

- the influence of a personal or official narrative framing on attitudes mediated by emotional and cognitive processes (Study 3-Field study)

In this poster I will further develop the methods and analyses planned for this research project as well as the preliminary results of the first study.

19. What do teachers think about parental involvement in schools? An interview-based study among Belgian teachers

Author(s): Oriane Meeus de Kemmeter, Clara Raucy Torres, Annalisa Soncini, Stijn Van Petegem

Abstract: Parental involvement in schools is seen as an essential pillar in promoting children's success and well-being. Teachers are also affected by parents' school involvement as they need to collaborate with parents to ensure a successful educational pathway for children. However, there is a lack of research on how teachers perceive parental involvement and the impact it can have on their professional well-being. To address this gap, we are conducting a qualitative study based on semi-structured interviews involving 10 primary and 10 secondary school teachers in the Wallonia-Brussels federation. The interview protocol, piloted with one primary school teacher, focuses on teachers' definitions of positive and negative aspects of the parent-teacher relationship and the impact this relationship may have on their professional well-being. The interviews are recorded, transcribed and analysed using content analysis. Data collection began at the beginning of February. To date, we have already conducted five interviews, which gives us an initial idea of the expected results. The main points already addressed by the teachers during the interviews are: the role of teaching experience and age as protective factors for well-being; the increased use of technology as a communication tool with parents and its negative and positive consequences; and the different challenges associated with parental involvement. A more detailed overview of the results will be presented at the conference. Our findings will provide the basis for future quantitative studies and could represent a valuable starting point for discussing ways to improve parent-teacher relationships.

20. Learning through Exposure: The Emotional Acculturation of Belgian Students with Minority Peers in Class and in School

Author(s): Alessandro Valsecchi, Anouck Cochez, Yeasle Lee, Batja Mesquita

Abstract: Emotional fit between individuals in dyads, groups and cultures has been associated with positive psychological and relationship outcomes. There has been increasing evidence that, within multicultural societies, emotional fit between the members of different cultures may increase over time, and upon contact. However, most of that research has focused on the conditions under which immigrant-origin minority individuals come to fit the emotional norm of the majority. Little is known about the reverse of whether majority individuals fit to the minority emotion norm increases over time and upon exposure. In this study, we examined whether exposure to minority peers (i.e., proportion of minority peers in class) predicts the minority

emotional fit of Belgian students. 174 majority and 201 minority students from 3 Belgian high schools participated in the study. Daily diaries were used to obtain individuals' emotion patterns for positive and negative school situations. For both, majority students' emotional fit was obtained by correlating their self-reported emotional pattern, first with the averaged emotional pattern of the total minority sample (distal emotional fit), then the averaged emotional pattern of the minorities in class (proximal emotional fit). An additional emotion fit score, "weekly emotional fit", was obtained for both distal and proximal emotional fit by averaging participants' respective emotional fit across the positive and negative situations. Significant results were found only regarding the positive and weekly proximal emotional fit. These findings suggest that through exposure to more minority peers, majority's emotional experience starts resembling the emotional patterns of their close(r) minority peers.

21. Are faces too salient to benefit from attentional facilitation in infancy?

Author(s): Laura Bourgaux, Genevieve Quek, Adélaïde de Heering

Abstract: Faces hold a unique status in human perception, capturing attention from infancy (Gliga et al., 2009; Reynolds & Roth, 2018). Recent work also demonstrated distinct attentional modulations for faces and non-face categories in adults using a frequency-tagging paradigm combined with electroencephalography (Quek & de Heering, 2024). The present study adapts this paradigm to 6- to 9-month-old infants to investigate whether similar patterns of face-selective attention exist early in life. To this end, infants will view rapid streams of images flickering at the frequency of 6 Hz, with faces and birds interlaced at 1.2 Hz (1 out of 5 images) and 1.5 Hz (1 out of 4 images), respectively. Crucially, either human voices or bird vocalizations will be presented non-periodically throughout each trial to test how different auditory cues modulate infants' attentional dynamics toward distinct visual categories including highly salient stimuli such as faces. Given that infants' face categorization is less robust than in adults (de Heering & Rossion, 2015), we hypothesize that the face-selective response will be facilitated by human voices. Alternatively, this response may remain unaffected, reflecting a ceiling effect due to the natural saliency of faces, as observed in adults. Overall, this work will shed light on the role of attentional dynamics early in life and provide broader insights into the visual processing of faces and of less salient categories such as birds.

22. Inertia as a stress resilience parameter

Author(s): Eva Mertens, Tim Vantilborgh, Sara De Gieter

Abstract: Background

Recent literature agrees that resilience is a dynamic construct rather than a fixed personality trait. However, there is still a need for an updated operationalization of this new perspective. Our goal is to fill this gap by examining resilience in two ways: stress resilience, which looks at short-term reactions to daily stressors, and general resilience, which focuses on long-term coping with major stressors. Additionally, we will explore the relationship between resilience and burnout symptoms, considering the influence of contextual factors such as job demands, job resources, and personal resources. Our project begins with a study on short-term effects. We will validate inertia as a temporal stress-response characteristic and a measure of stress resilience.

Methods

We will conduct an Experience Sampling Study with 130 participants, who will report their stress resilience levels and contextual factors. Burnout symptoms will be assessed through pretest and post-test evaluations. The Connor-Davidson Resilience Scale, a gold standard for measuring resilience, will be used for convergent validity.

Results & Conclusions

Data collection is scheduled until March 2025. We will analyze the results and draw conclusions from this study in April 2025.

23. Cognitive Control in Media Users

Author(s): Mengjiao Ge, Gethin Hughes, Eva Van den Bussche

Abstract: Our digital society is characterized by continuous streams of information that reach us via different media. Checking our phones, listening to music while running and playing a game on a tablet are all examples of media use. In recent years, social media, AI assistants, and other digital tools have led more people to use multiple media simultaneously or quickly switch between them. This behavior is called media multitasking (Ophir et al., 2009). Empirical evidence suggests that excessive media use and multitasking may impact cognitive control. Cognitive control is a set of higher-order processes critical for goal-directed behavior. It enables us to switch between tasks, inhibit irrelevant information or unwanted responses and update information stored in working memory. In this study, we will use self-report questionnaires and computer-based behavioral tasks to broadly explore the relationship between media use, media multitasking, and cognitive control as well as multitasking ability. The online nature of the study will enable us to recruit a large and diverse sample. We will use an adapted version of the media use questionnaire to assess media use and multitasking, by incorporating an updated list of daily media activities most commonly engaged in by healthy adults. Cognitive control will be assessed using a Go-No Go (response inhibition), N-back (updating), number Stroop (interference control), Plus-Minus (shifting) and dual task. Additionally, we will study the role that individual differences may play in the relationship between media use/multitasking and cognitive control ability, such as demographic variables and ADHD symptomatology.

24. The Role of Visual Dimensions in the Emergence of Food Selectivity in the Ventral Pathway

Author(s): Lotte Van Campenhout, Davide Cortinovis, Giulia Orlandi, Stefania Bracci

Abstract: The recognition of objects that surround us is one of the daily challenges of our visual system. The ventral pathway, crucial for object recognition, shows selectivity for certain evolutionary relevant categories like faces, bodies, and tools. More recently, evidence has been reported for a new category-selective area responding to food. The role of visual features in explaining the emergence of this newly reported selectivity is still underexplored. This study aims to investigate food areas in the ventral and lateral occipitotemporal cortex (OTC) and examine the underlying visual dimensions contributing to its selectivity, specifically colour and texture complexity. Fifteen participants underwent an fMRI study in which they viewed stimuli varying in category (food vs. inanimate objects), colour (colour vs. grayscale images) and texture complexity

(single objects vs. ensembles). We confirmed the presence of food-selective clusters in both ventral and lateral OTC, with ventral clusters only partially overlapping with colour clusters. In lateral OTC, univariate analyses showed stronger activation for single food stimuli than food ensembles, while the ventral OTC cluster was equally activated by all food images, independent of texture complexity, with a secondary higher sensitivity to coloured images. Multivariate analyses show an influence of texture complexity in the lateral OTC and effects of colour and texture complexity in the ventral OTC, with colour being more pronounced in the right hemisphere. These results confirm distinct food-selective areas in ventral and lateral OTC and highlight differential effects of visual dimensions such as colour and texture complexity in shaping their selectivity for food.

25. Post-stroke cognitive control: A multiple case study

Author(s): Marte Vandeweyer, Elise Palmans, Lies Welkenhuyzen, Karla Michiels, Nele Potloot, Eva Van den Bussche, Céline Gillebert

Abstract: Stroke is a major cause of cognitive control impairments, affecting everyday functioning. Cognitive control involves proactive control, which anticipates demands, and reactive control, which responds to stimulus-driven changes. While previous research has largely focused on group-level deficits in proactive control after stroke, individual differences remain understudied. To understand whether stroke patients differ in their reliance on proactive versus reactive control, this study examined their performance differences between proactive and reactive control trials compared to healthy controls. Using the Dot Pattern Expectancy (DPX) task, a stroke-friendly version of the AX-CPT, we assessed accuracy and reaction time in 27 stroke patients (19 left-hemispheric and 8 right-hemispheric) and 73 healthy controls. The Revised Standardized Difference Test (RSDT) was used to compare individual performance discrepancies between proactive and reactive control and determine whether they exceeded those in healthy controls ($p<.05$). When significant differences emerged, we identified whether they resulted from disproportionate deficits in proactive or reactive control. Results revealed distinct subgroups of patients: (1) One patient showed a significantly greater impairment in proactive than reactive control for accuracy. (2) Eight patients showed significantly greater deficits in reactive than in proactive control for reaction times. (3) The remaining 18 patients showed no significant difference in reaction time or accuracy, suggesting a more balanced cognitive control profile. These findings indicate that post-stroke cognitive control impairments are not uniform. To better understand this variability, we will explore how lesion size, location, and brain health (Fazekas & global cortical atrophy score) relate to individual post-stroke cognitive control performance.

26. DIversity SCreening in educatiOn (DISCO): a quantitative analysis of teachers' competences in diversity sensitive education.

Author(s): Aurélie Dewaele, Wendelien Vantieghem

Abstract: A quantitative analysis of the relationship between teachers' attitude toward diversity and self-efficacy for inclusive practices is essential to support teachers' competences in diversity sensitive education. This study explores how teachers' self-efficacy beliefs for five inclusion related tasks (i.e., noticing student diversity, creating stimulating learning environments for all students, enabling high-quality student-interactions, collaborating with colleagues, and

collaborating with diverse parents) are associated with their beliefs about different forms of diversity and their vision on the role of education in terms of diversity. Survey data was collected in a sample of Flemish teachers (N = 4101) and schools (N = 142). Multilevel analyses indicate that high self-efficacy for noticing diversity, creating stimulating learning environments, collaborating with colleagues and parents are associated with a positive attitude toward diversity. Enabling high-quality student-interactions does not seem to be a direct predictor of teachers' attitude. Furthermore, our results suggest that different school cultures regarding diversity might exist in Flemish (pre-)primary and secondary schools.

27. Bridging psychology and semiotics in the assessment of links between inner speech and insight (MSCA project)

Author(s): Aleksandr Fadeev, Stuyck Hans, Eva Van den Bussche

Abstract: Inner speech is "the subjective experience of language in the absence of overt and audible articulation" (Alderson-Day, Fernyhough 2015: 931), a semiotic mechanism of communication with oneself (Fadeev 2022), i.e. autocommunication (Lotman 1990). While as a cognitive process inner speech is linked to a variety of cognitive functions (thinking, memory, planning, etc.), it is also driven by various cultural phenomena including natural language (Fadeev 2023). The roots in both culture and cognition require the proper interdisciplinary interventions in research methodologies of inner speech. My MSCA research project addresses this methodological gap by exploring inner speech in everyday situations through integrating empirical procedures of cognitive psychology with semiotics of culture. The study explores links between inner speech and human's problem solving (Baldo et al. 2005), which is released in two different cognitive procedures, an analytical problem solving or a sudden insight, i.e. "Ahha!" effect (Stuyck, Van den Bussche 2022). The poster will present the project, including theoretical framework, methodology and expected outcomes, of my MSCA research that will study how different dimensions of inner speech (inner speaking and inner hearing) are involved in the insight and/or analytical problem solving, and which specific phenomenological properties of inner speech (dialogic, condensed, etc.) are associated with both problem solving procedures. The research will include a 3-stage experiment with a compound remote associates (CRA) test, an articulatory/auditory suppression task via a dual-task paradigm and a self-reflection procedure based on a unified theoretical framework of semiotics and psychology in studying inner speech.

28. The Stress-Eating Paradox: exploring individual variation in stress-related eating behaviours

Author(s): Merel Van Loon, Emma De Schuyteneer, Elske Vrieze

Abstract: Background: Stress influences food consumption, but responses vary: some eat more, others eat less, and some show no change. This variability highlights individual differences in stress-related eating. In addition, stress is a key factor in the development and maintenance of eating disorders, affecting both restrictive and binge-eating behaviours. Most research focuses on isolated behaviours (e.g., snacking) and relies on cross-sectional self-reports or lab studies, limiting ecological validity. This study applies the experience sampling method (ESM) to identify distinct stress-related eating profiles in daily life. Methods: Fifty healthy women and fifty individuals with Anorexia Nervosa (AN) participated. Baseline assessments included BMI and

validated questionnaires on mental health (anxiety, depression, stress, eating disorders, and food cravings). Over two weeks, participants received eight daily ESM prompts via smartphone, capturing real-time data on stress levels, stressful events, and eating behaviours (food intake, portion sizes, meal skipping). Additionally, participants wore the Empatica Embrace Plus wearable, continuously tracking physiological measures (heart rate, skin conductance, skin temperature). Results: Data analysis is ongoing and will be presented at the conference. Mixed-effects logistic regression will analyze stress-related eating patterns, and clustering techniques will identify subgroups, including stress over-eaters, stress under-eaters, and stress-resistant individuals. Further analyses will examine group differences in demographics, mental health symptoms, food cravings, and physiological responses. Conclusions: This study aims to refine our understanding of the stress-eating paradox by identifying key characteristics of stress-related eating profiles. Findings could enhance our understanding of individual differences in stress responses and inform targeted interventions for the treatment of AN.

29. Variability in near-death experience prototypical features across different precipitating factors: a large-scale retrospective analysis

Author(s): Charlotte Boveroux, Anne-Françoise Rousseau, Charlotte Martial

Abstract: Background: Near-death experiences (NDEs) are episodes of disconnected consciousness that typically arise in situations involving an actual or perceived physical threat. They are distinguished by vivid content including prototypical mystical features such as encountering a bright light or out-of-body experience; however, no single feature is present in all NDEs. It is now established that humans can experience them in a large variety of contexts; yet no large-scale empirical study has systematically examined whether –and how– these features vary based on the precipitating factors. Methods: Using the Greyson NDE scale, this retrospective investigation assessed the content of self-reported NDEs, focusing on the most frequently recounted features across different precipitating categories. Results: Among the 997 reports meeting the criteria for an NDE (i.e., Greyson NDE scale total score≥7/32), the distribution of precipitating categories was as follows: cardiac-related illness (n=93), other illness (n=278), near-drowning (n=53), head injury/trauma (n=228), anesthesia/drug-related events (n=203), and no known illness/injury (n=135). Analysis of the 16 prototypical features assessed by the Greyson NDE scale revealed significant variations across precipitating categories for these features: altered time perception (p=.025), speeded thoughts (p=.003), life review (p=<.001), the feeling of peacefulness (p=.035), seeing a bright light (p=.018) and extrasensory perceptions (p=.016). Conclusions: These findings suggest that while NDEs share prototypical features, their occurrence may be influenced by the nature of the precipitating event. By examining how these features vary across different contexts associated with specific acute physiological crisis, we may ultimately gain deeper insights into the neurophysiological mechanisms underlying different types of hallucinatory NDEs.

30. French Validation of the Dimensional Anhedonia Rating Scale (DARS): Psychometric Properties Across Digital and Paper Formats

Author(s): Léa Henriette, Sonia Sistiaga, Audrey Uyttersprot, Federico Cassioli, Mandy Rossignol, Nellia Bellaert

Abstract: Anhedonia, the diminished capacity to experience pleasure, is a multifaceted transdiagnostic symptom in several psychiatric disorders. The Dimensional Anhedonia Rating Scale (DARS) assesses the dimensions of interest, motivation, effort, and consummatory pleasure across four major reward types (hobbies, food/drinks, social activities, and sensory experiences). Using three independent samples, we aimed to validate the French version of the DARS and evaluate its psychometric properties across digital (Samples 1 and 2) and paper-based (Sample 3) formats. A total of 1,437 French-speaking participants from the general population completed the DARS alongside other validated measures of anhedonia and depressive symptoms. Exploratory and confirmatory factor analyses confirmed the four-factor structure of the DARS mapping onto the four reward types across both formats, with excellent model fit indices (CFI≥0.962, RMSEA≤0.036). Internal consistency was strong, with Cronbach's alpha values ranging from 0.74 to 0.93. The DARS demonstrated good convergent validity, with significant moderate correlations to other anhedonia measures. Divergent validity was supported by weak correlations with depressive symptoms. Gender differences were found; DARS scores were higher for women than males, except for the hobbies subscale in which males scored higher. These findings confirm the French DARS as a reliable and valid tool for assessing anhedonia across both digital and paper formats

31. Trial-by-Trial Adaptations of Cognitive Control in Ageing

Author(s): Lotte Albert, Eva Van den Bussche, Sarah De Pue

Abstract: As the population continues to gray, people are expected to remain in the work force for longer. However, this might prove to be challenging, as cognitive functions decline with age. One such cognitive function is cognitive control, which is used constantly in daily life. Cognitive control encompasses maintaining and updating goal-relevant information or inhibiting inappropriate responses. The Dual Mechanism of Control framework distinguishes proactive and reactive control. Proactive control is a top-down type of cognitive control that aims to anticipate conflict through goal maintenance, whilst reactive control is a bottom-up process that reacts to conflict as it happens. However, young adults seem better at switching between these types of cognitive control than older adults, who seem to rely mostly on reactive control. To investigate proactive control decline in older adults, we examined the Congruency Sequence Effect (CSE) in a Numerical Stroop task, comparing young and older adults (60+ years). The CSE is a measure of adaptive control, which captures how the performance on the current trial is influenced by the congruency of the previous trial. If proactive control is impaired, there should be little to no carryover from the previous to the current trial, thus the CSE should be small or nonexistent. However, if our experience of the previous trial does carry over to the current trial, a CSE should emerge. Therefore, we expect that older adults will show a smaller CSE than young adults. As testing is still ongoing, preliminary results will be discussed.

2. Poster Session 2

32. Professional relationships in hybrid work: the role of group and organizational factors

Author(s): Abdel Bensallam El Yahyaoui, Nathan Pudles, Sabine Pohl, Catherine Hellemans

Abstract: The widespread adoption of telework since the COVID-19 crisis has profoundly transformed professional life, generating ambivalent effects: increased autonomy, but also greater control and uncertainty; a better work-life balance, but a gendered segmentation of domestic tasks; enhanced comfort, but deteriorating professional relationships (Vayre, 2019; Wöhrmann & Ebner, 2021). However, few studies have analyzed the conditions explaining these contrasting perceptions. This research examines perceived changes in telework experience based on its intensity (1 to 5 days per week) and organizational variables influencing these perceptions. A 2024 survey of 1,603 regular teleworkers in the Brussels-Capital Region has been used to analyze professional relationships. The results show that while most changes are considered positive, opinions on relationships with colleagues and superiors are more mixed. Logistic regression indicates that autonomy and empowering leadership tend to weaken relationships among colleagues, whereas team cohesion and clear organizational segmentation rules strengthen them. Conversely, these same rules, combined with good empowering leadership, foster a better relationship with superiors. These findings highlight the need for structured organizational support to optimize hybrid work, striking a balance between autonomy and the coordination of professional interactions to preserve both efficiency and the quality of workplace relationships.

33. When belief shapes narrative: Exploring discursive differences between believed and nonbelieved memories.

Author(s): Lyse Gathoye, Christophe Lejeune, Valentine Vanootighem

Abstract: A “nonbelieved memory” (NBM) refers to an autobiographical memory that is no longer believed to represent an event that actually took place, despite a vivid recollection of the event. NBM can be categorised into three distinct subtypes – "classic", "weak" and "grain of doubt" – depending on the level of recollection and autobiographical belief. While previous studies have focused on the characteristics of NBMs and those of the people who have them, this study breaks new ground by examining how these memories are reported in comparison to classic autobiographical memories (i.e., BMs, for believed memories). Specifically, we wanted to investigate potential differences between the two types of memory while taking into account the three categories of NBM that can be reported. To this end, we re-analysed data from participants who had described both an NBM and a BM from approximately the same period in their lives. The content of the narratives was analysed using the LIWC software, which extracts standard linguistic markers and discursive markers related to psychological processes. In this study, we focused on self-referential, perceptual, contextual and cognitive features in the narratives. The results showed that, regardless of the type of NBM reported by the participants, NBM and BM narratives differ in terms of length, tenses used, self-referential and cognitive features, but not in terms of perceptual and contextual features. This suggests that changes in autobiographical beliefs shape narrative content.

34. Mozart effect: A meta-research study on statistical power, effect size, and false discovery rate

Author(s): Marie Meunier, Ezio Tirelli, Nancy Durieux, François Léonard

Abstract: The Mozart effect, originally reported by Rauscher et al. (1993), refers to the claim that listening to Mozart's Sonata for Two Pianos in D Major (K. 448) enhances spatial and spatial-temporal abilities. However, replication studies have produced inconsistent results. Previous meta-analyses have reported conflicting findings, with effect sizes ranging from small to moderate. One meta-analysis also identified a publication bias that substantially reduced the estimated effect size (Pietschnig et al., 2010). These inconsistencies cast serious doubt on the existence of the Mozart effect. They could be partially explained by low statistical power resulting in overestimated effect sizes, and high false discovery rates. We conduct a meta-research analysis focusing on four key aspects: plausible effect sizes, effect size overestimation, statistical power, and the false discovery rate (FDR). Standard and multilevel meta-analyses are used to estimate effect sizes while accounting for publication bias. A multilevel model with sample size as a moderator examines effect size inflation. Statistical power is estimated for each study based on various meta-analytical effect size estimates, and FDR is evaluated under different assumptions about the prior probability that the effect is genuine, following Ioannidis (2005). We anticipate that reported effect sizes will range from very small to moderate, with smaller studies likely overestimating effects. Median statistical power is expected to fall well below the recommended 80%, leading to an elevated FDR. These findings will provide insight into the robustness of the Mozart effect and may have broader implications for research reproducibility.

35. Rethinking the Role of Motivation in Empathic Accuracy within Romantic Relationships: A Systematic Review

Author(s): Cloé Rose Cetko, Lesley Verhofstadt, Sarah Galdiolo

Abstract: Empathic accuracy, defined as "the extent to which partners can accurately infer one another's unspoken thoughts and feelings as they spontaneously occur during the course of natural interactions" (Ickes, 1993, p. 588), seems to be an important domain within romantic relationships. It has been associated with better support provision (Verhofstadt et al., 2016), improved conflict resolution (Gordon & Chen, 2015), and the promotion of adaptive relational behaviors (Kilpatrick et al., 2002). The scientific literature suggests that empathic accuracy may be better understood as a motivational process rather than a stable ability (Hodges et al., 2015). This perspective is based on evidence indicating that no stable perceiver characteristic reliably predicts empathic accuracy within romantic relationships (Ickes et al., 2000). Instead, motives - the goals or reasons driving individuals to be empathically (in)accurate - may shape how partners infer each other's thoughts and feelings (Ickes, 2011). However, these motives remain underexplored and often lack empirical validation (Berlamont et al., 2023). This systematic review aims to (1) examine how the notion of empathic accuracy as a motivational process has been conceptualized and assessed in the literature, and (2) identify the motives that drive individuals to be empathically (in)accurate in romantic relationships. Following PRISMA guidelines, six databases will be searched. Findings are expected to clarify conceptual and methodological challenges, specify motives underlying empathic (in)accuracy, and offer implications for theory and couple interventions.

36. Are dynamic transitions within serial-order verbal working memory reflected in ERP components of spatial attention?

Author(s): Jonathan Adams, Muhammet Ikbal Sahan

Abstract: Previous studies have used electroencephalography (eeg) to show that absolute sequence position is linked to spatial position markers. However, these studies did not capture the dynamics of exploring the working memory within a sequence. We investigated how serial order positions are continuously accessed through successive shifts from one position to the other. Our design allowed relative measurements of space by successively cueing items, allowing us to manipulate whether an item is accessed via a left- or a rightward shift, independently of the absolute position of that item. To implement this, we did a memory task where a working memory sequence was accessed in a continuous stream of retro cues, dynamically shifting attention from one position to the other. We analyzed whether the relative shifts in attention between items in the sequence elicited early directing attention negativity (EDAN) and anterior directing negativity (ADAN). This study found that relative shifts did indeed elicit activity that is in line with EDAN, suggesting involvement of visuospatial attention in dynamic shifts of attention. However, ADAN measures did not reflect the relative shifts, possibly due to methodological constraints placed on the task excluding eye-movements, which are near the frontal electrodes. Our findings extend past work, suggesting that spatial shifts of attention in WM do not only follow the absolute sequence locations, but also reflect the relative shifts in sequence location. These results reinforce the notion that similar mechanics involved in visuospatial working memory are recruited when processing verbal working memory sequences that are nonspatial in nature.

37. Breaking emotional barriers: exploring facial and vocal emotion processing in mother-child dyads and associations with symptoms of depression and anxiety.

Author(s): Farah Som Nath, Rowena Van den Broeck, Lisa Gistelinck, Bieke Bollen, Gunnar Naulaers, Els Ortibus, Bart Boets

Abstract: Processing emotional socio-communicative cues supports and enriches social connections between people. Depression and anxiety are associated with alterations in emotion processing, which in turn can negatively impact social relations. In depression, these alterations include a negative attentional bias and a negative processing bias, in particular heightened attention and memory for negative stimuli, and more negative interpretation of happy and neutral stimuli. Anxiety is also associated with an attentional bias, the so-called threat bias. The aim of this research is to investigate whether (subclinical) symptoms of depression and anxiety influence implicit neural emotion discrimination in mother-child dyads. This effect is explored in adult females (n=83), as well as in their 5-year-old children (n=102), to study potential intergenerational transmission of altered emotion processing. To assess these effects, we employ an oddball frequency-tagging EEG paradigm, with visual and auditory stimuli (neutral vs. expressive). Neural responses at oddball frequency will only occur in case of implicit emotion discrimination, enabling an objective measurement of emotional sensitivity. Prior research showed impaired discrimination between neutral and angry facial expressions in youngsters exposed to adverse childhood experiences, suggesting that past traumatic experiences can significantly affect emotion processing in the child. Likewise, maternal depression/anxiety can also increase vulnerability for corresponding child symptoms and alterations in emotion processing. This study aims to clarify whether maternal depression and anxiety may contribute to intergenerational

transmission of altered emotion processing. Data analysis is ongoing, and results will be presented at the BAPS-conference.

38. Metacognitive insight into cautiousness: an investigation in the boundary parameter of the drift diffusion model

Author(s): Hanne Daenen, Yvonne Visser, Kobe Desender

Abstract: Humans can reflect on their own thinking, an ability referred to as metacognition. So far, research has mostly focused on metacognition about the outcomes of the decision process (e.g. confidence, error awareness, reaction time of the decision). What remains unclear is whether humans can introspect about latent parameters underlying the decision process. Critically, insight in the underlying processes of the decision process is highly beneficial since it allows to determine the origins of errors. The drift diffusion model (DDM) describes speeded decisions in a two-choice scenario by various latent parameters, including non-decision time, drift rate, boundary and starting point. We tested if people have insight in the trial-level state of the boundary of the DDM. Participants decided on the direction of a random dot motion stimulus and indicated afterwards how cautious they felt they made the decision, a proxy for the boundary parameter. In each block, participants had to achieve a specific caution level. Results showed higher reaction times (RT), accuracy and subjective boundary ratings in the cautious condition compared to the impulsive condition. In line with model simulations, boundary ratings were sensitive to both accuracy and RT, suggesting they were genuine reports of boundary states. Most importantly, model-based analysis showed an association between the subjective boundary ratings and the estimated boundaries. Thus, the results suggest that participants can accurately introspect and report the state of their decision boundaries.

39. Learning behaviors through verbal versus nonverbal instructions – The power of language in overcoming conflict.

Author(s): Francois Foerster, Salvatore Lo Bue, Nicolas Bourguignon

Abstract: Beyond its role in communication, language is known to play a key role in learning new behaviors with minimal needs for practice. Experimental observations such as the instruction-based congruency (IBC) effect demonstrate how verbally instructed task rules can automatically influence how participants perform a task by showing how congruency versus conflict between these rules can immediately increase versus decrease performance accuracy and latency even when these rules have never been practiced before. Several models account for this phenomenon by positing that language is crucial for mapping abstract task rules onto motor programs for their task performance. However, language is by no means the only driver of instructed behaviors. Many everyday behaviors rely on pictograms, traffic signs, safety symbols, or graphical assembly instructions. A question of importance is whether these nonverbal forms of instructed behaviors achieve similar or different levels of performance compared to verbally instructed behaviors. We set out to explore this question by comparing IBC effects in two groups of participants instructed to implement congruent versus conflicting task rules conveyed in a pictorial versus verbal format, respectively. Our results show that while conflicting task-rules decrease performance accuracy in both the verbal and pictorial format, performance latencies in successfully performed trials are still affected by conflict in the pictorial but not the verbal version, indicating that conflict is never

fully resolved when behaviors are instructed nonverbally. These findings underpin important specificities in the way language influences learning and behavior, notably its superior utility in integrating and managing conflicting task rules.

40. The Effect of Hallucination Proneness on Auditory Processing of Self- and Externally Generated Stimuli: an EEG study

Author(s): Alice Gilmet, Suvarnalata Xanthate Duggirala, Sonja A. Kotz

Abstract: Background: Auditory verbal hallucinations (AVH) are a common positive symptom of psychosis but also occur in individuals without a diagnosed psychological disorder. According to the internal forward model, healthy individuals suppress auditory neural activity when hearing their self-generated voice compared to passive listening. Deficiencies in this mechanism may underlie AVH, but it is unclear whether this is present in individuals high with hallucination proneness (HP). Methods: This study investigated the effect of HP on auditory feedback processing using self- and externally generated stimuli. Forty participants with varying levels of HP, assessed by the Launay-Slade Hallucination Scale, completed a button-press task during electroencephalography recordings. Participants listened to their own pre-recorded voice and a tone, self-generated by button-press in condition 1 and externally presented in condition 2. Results: Event-related potentials (ERPs) N1 and N2 were not suppressed for self-generated compared to externally generated stimuli. Neither stimulus type nor HP significantly affected N1 and N2. Low-HP individuals showed no difference in P2 between self- and externally generated stimuli. However, with increasing HP, P2 was suppressed for self-generated stimuli. Conversely, P50 was attenuated for externally generated stimuli compared to self-generated ones, and P50 increased with increasing HP. Conclusions: Contrary to previous findings and the internal forward model, N1 and P2 showed no suppression effect in low-HP individuals. HP showed the opposite of the expected effect on P2. Further studies on auditory feedback mechanisms in HP are needed to determine underlying neurobiological processes of AVH.

41. Identifying Hemispheric Lateralization of Verbal and Spatial Working Memory Using Functional Transcranial Doppler Sonography

Author(s): Jingya Huang, Robin Gerrits, Wim Fias

Abstract: Brain asymmetries play a fundamental role in structure, function, and behavior across species. Early studies suggest that verbal working memory (VWM) is primarily associated with the left hemisphere, while visuospatial working memory (SWM) is linked to the right hemisphere. However, evidence for a strict left-right dissociation of brain activation based on material type remains inconsistent. Methodological challenges, such as the reliance on arbitrary statistical thresholds in fMRI, may contribute to inconsistencies in laterality findings. Functional transcranial Doppler sonography (fTCD) provides a cost-effective, portable alternative to fMRI for assessing functional lateralization at a whole-brain level by measuring cerebral blood flow velocity. This study investigated how material type influences hemispheric lateralization in WM. Thirty-seven healthy, right-handed volunteers (17–28 years, M = 19.16; 6 male, 31 female) completed two item-recognition WM tasks, during which fTCD measured blood flow velocity in their bilateral middle cerebral arteries. In the VWM task, participants memorized four pseudowords and judged whether a probe word matched one of them. In the SWM task, participants memorized the

locations of four black dots and judged whether a probe dot matched a prior location. The VWM task showed significant left-hemisphere lateralization, whereas the SWM task exhibited a more bilateral pattern with notable individual differences, ranging from left to right dominance. These findings reinforce left-hemisphere dominance for verbal WM and underscore significant individual differences in visuospatial WM lateralization, emphasizing the need to incorporate individual variability in future studies on brain lateralization.

42. The effect of different environmental temperatures on cognitive control

Author(s): Boyang Sun, Eva Van den Bussche

Abstract: The rise of global warming has led to an increase in the frequency of extreme weather events. Thermal comfort, cognitive abilities, and work performance are all closely related to environmental quality. The sustained nature of extreme weather poses a serious threat not only to human physiological health, but can also lead to mental health issues such as cognitive impairment, anxiety and depression. Environmental quality comprises several aspects, with temperature being one of them. Temperature can have a direct influence on cognitive functions, but it may also indirectly influence cognitive performance through its effects on physiological and psychological states. Some research has already explored the correlation between single physiological parameters and cognitive performance, such as skin temperature, core temperature, heart rate, heart rate variability and blood pressure. But changes in cognitive performance under different temperatures may be associated with changes in multiple physiological parameters. The effect of various environmental temperatures on cognitive performance and multiple physiological indicators therefore requires further exploration. To examine this, we manipulate environmental temperature (neutral and high temperature conditions) and study the effect of this manipulation on cognitive performance, and more specifically on cognitive control performance by assessing functions such as inhibition, shifting and updating. A behavioral within-subjects design is used, and physiological responses are also recorded throughout the temperature exposure period. Preliminary results will be presented.

43. From Words to Actions: The Interaction of Government Trust and Communication Styles in Health Crises on Compliance in Behavioral Attitudes

Author(s): Paulina Gluth, Magali Beylat, Olivier Klein

Abstract: Effective communication is a critical factor in managing health crises, particularly when encouraging compliance with protective behaviors, e.g. vaccination and other health recommendations, such as social distancing or mask-wearing. Previous research highlighted the central role of different communication styles in shaping behavioral intentions during pandemics. However, less is known about the interplay of different communication styles - specifically autonomy-supportive versus controlling approaches - and trust to influence public responses. This study aims to explore the relationship between governmental communication styles during health crises, individuals' trust in the government, and health-related behavioral intentions. In a study (Nplanned = 550), we will measure participants' trust in government. Then, using an experimental vignette design, we will present participants with health scenarios using either a controlling or an autonomy-motivating communication style. Finally, we will measure their perceptions of the communication and their intentions to follow health recommendations. Data

collection is planned for March and April of 2025. Based on existing literature, we expect that the autonomy-supportive communication style will foster higher vaccination intentions, particularly among individuals with high trust in the government, while the use of controlling communication may reduce intentions, especially when trust is low. The findings could offer valuable insights into designing effective crisis communication strategies by highlighting the importance of adapting communication styles to the public's trust levels. Insights gained may inform public health policies and communication practices to enhance compliance and minimize resistance during ongoing and future health emergencies.

44. The Associations Between Perceived Organizational Support and Teacher Work Engagement: A Cross-Lagged Panel Network Analysis

Author(s): Feng Zhu, Tim Vantilborgh, Weilong Xiao, Jie Gu

Abstract: Teacher work engagement (WE) is of critical importance to teachers, organizations, and students. Perceived organizational support (POS) is a crucial predictor of workplace engagement (WE). However, previous research has yielded conflicting findings regarding the relationship between POS and WE. Notably, empirical evidence does not align with theoretical predictions, posing challenges for effectively enhancing WE and implementing targeted interventions. Network analysis offers a novel approach for examining this relationship on a more fine-grained level. This study employed cross-lagged panel network analysis (CLPN) with a sample of 1,224 teachers from various educational institutions in China to explore the directional network structure between POSs and WEs. The results indicated that POS-1(“Organization values and supports”) exhibited the highest out-expected influence (out-EI), POS-2(“Ignore complaints”) showed the highest in-expected influence (in-EI). From the perspective of cross-cluster edges, more edges originated from WE to POS than vice versa. Moreover, the strongest cross-cluster edges originate from WE-2 (Dedication). Overall, this study sheds light on the underlying mechanisms of the reciprocal influence between teachers’ POS and WE, providing valuable insights for targeted interventions aimed at enhancing teachers' work engagement and perceived organizational support.

45. Socio-demographic characteristics of teleworkers in the post-Covid era: A latent class analysis

Author(s): Nathan Pudles, Marine Willeput, Catherine Hellemans, Abdel Bensallam El Yahyaoui, Magali Verdonck, Jean-Michel Decroly, Mathieu Strale, Martin Rodriguez Conde, Sabine Pohl

Abstract: The practice of telework was scarce prior to the pandemic, and the profile of teleworkers was predominantly a worker with a higher educational degree and a high occupational level (López-Igual & Rodríguez-Modroño, 2020). Now, telework has become a new norm in the service sector in the post-pandemic world of work (Duchêne et al., 2024). However, it is still unknown whether the access to telework has been broadened to a greater diversity of workers or if its practice has only intensified among the same category of workers than before the 2020 lockdown. 1603 teleworkers completed a survey relating to their education, housing, transportation habits, relational and parental status, and the changes they experienced with telework. A latent class analysis was conducted with the Python package StepMix (Morin et al., 2024). The best fitting solution was comprised of four class. Class separation and homogeneity

were mainly determined by the type of housing, and the housing size and location. Whether it was an appartement or a house, respondents' housing tended to be fairly large, have a separated space to telework and an outdoor living space, and the four classes were mainly comprised of workers with a master's degree, indicating a low diversity of socio-economic status. Our results seem to indicate that while the four classes had experience positive changes associated with telework in their work and private life, the class that beneficiated the most from the changes associated with telework was the one comprised of individuals that lived in houses outside of Brussels.

46. Validation of the french version of the Oxford Cognitive Screen (OCS): normative data

Author(s): Louis Guesny, Florence Vanhoof, Batoul Bachir, Magda Mustile, Thierry Lejeune, Martin Gareth Edwards

Abstract: Immediately post-stroke, approximately 40% of individuals have cognitive deficits. It is essential to identify the range of cognitive deficits as early as possible to provide areas of more detailed cognitive assessment. While the Montreal Cognitive Assessment (MoCA) and the Mini Mental State Exam (MMSE) provide cognitive screening, neither are ideal for individuals following Stroke. The Oxford Cognitive Screen (OCS) is a stroke-specific screening tool that assesses cognitive deficits in language, attention, memory, praxis and number processing. We aim to assess around 90 French speaking participants on both the OCS and MoCA (French versions). The aim of the study is to contrast a French translated version of the OCS, contrasting data to the original OCS EN version, and correlating OCS FR with MoCA FR versions. Current analyses based on 50 participants show similar results between the OCS EN and FR versions for the cut-off analyses, and significant correlations between the OCS FR with MoCA FR versions. In the poster, we will present detailed analyses on a larger cohort of participants, with more detailed analyses of various subtests of the OCS. These preliminary results indicate that the French version of the OCS will be a promising tool to identify cognitive deficits poststroke.

47. Examining CoMBI as a Personalized Intervention for Persons with Dementia

Author(s): Jessica Vandezande, Bas van Alphen, Eva Dierckx, Gina Rossi

Abstract: Dementia often co-occurs with neuropsychiatric symptoms (aggressiveness, depression, hallucinations etc.), commonly known as behavioral and psychological symptoms of dementia (BPSD). BPSD are associated with faster progression of dementia, lower quality of life of patients and increased caregiver burden. Currently BPSD are treated with psychotropic drugs, yet with modest effect and high risk of side-effects. There is a clear need in dementia care to be able to manage BPSD with a non-pharmacological intervention. With the Cognitive Model for Behavioral Interventions (CoMBI) we will provide caregivers with a person-centered care perspective. CoMBI identifies core needs based on the premorbid personality of the person with dementia and analyses how caregivers can fulfill core needs by use of practical behavioral interventions, since it is assumed that BPSD arise and/or worsen because of unfulfilled core needs. We will study CoMBI's efficacy in nursing homes where BPSD are highly prevalent. The current poster aims to present the study design. We will apply a stepped-wedge cluster-randomized trial in nursing homes to compare the effect of CoMBI to that of care as usual. Primary outcome result is a decrease of BPSD severity. Secondary outcome results are a decrease of

caregiver's distress and an increase in the quality of life of the person with dementia. Further, using a random autoregressive model, we will examine if specific personal factors (i.e., gender, personality dysfunctioning, cognitive decline and dementia stage) predict CoMBI outcome. By establishing evidence for CoMBI's efficacy, this study aims to contribute to improving dementia care in Belgium.

48. Investigating the restructuration processes in "Aha! moments"

Author(s): Luna Leonardy, Axel Cleeremans, Emilie Caspar

Abstract: An "Aha! moment" corresponds to the moment the solution to a problem suddenly pops into consciousness. The phenomenological experience of the "Aha! moment" is characterized by a feeling of suddenness and pleasure and by an increased confidence in the solution. These "Aha!", also called insights, are defined as the result of restructuration – a representational change of information. With a new paradigm, we asked participants to find 5-letter solution words in six guesses. After each guess, participants were asked to rate their feeling of insight before receiving feedback on which letters of their guess were in the solution word. This feedback provided them with the necessary information to find the solution. To illustrate, the feedback could indicate that the solution contains the letters "I", "T" and "H" with the position of two letters: _ I _ T_. For some solutions, a representational change of the given feedback was needed to find the word (e.g. separating "T" and "H" in "HINTS"). For other words, there was no need to alter the information representation (e.g. "BIRTH"). We expected the words that needed restructuration to result in more "Aha! moments" but, surprisingly, preliminary data showed the opposite. Participants had fewer "Aha! moments" in the condition for which a change of representation was needed compared to the condition where it was not needed. In contrast to what the definition of an insight suggests, our results indicate that restructuration may not be a prerequisite for the "Aha!" phenomenological experience.

49. Development of a novel method to assess spontaneous thought dynamics

Author(s): Martin David, David Stawarczyk

Abstract: Background: A defining feature of human cognition is its ability to spontaneously generate thoughts that continuously shift from one topic to another. When decoupled from the present moment, these thoughts constitute mind-wandering episodes, accounting for approximately 30% of daily cognitive activity. The most common method for assessing such thoughts is the probe technique, in which participants are randomly asked to report the content of their thoughts at intervals ranging from seconds to minutes. However, this approach is poorly suited for capturing thought dynamics. More recently, researchers have used the Think-Aloud Procedure to track changes in thought content over time. However, the unstructured nature of this task often requires extensive and subjective coding to segment participants' reports into individual thoughts, limiting its practicality. Method: Inspired by associative and autobiographical fluency tasks, we developed a method in which participants generate chains of successive thoughts. This structured approach allows for the investigation of thought dynamics while reducing the time and resources needed for analysis. To validate this method, we then examined key thought features to determine whether we could replicate well-documented findings from the literature. Results: Our analysis revealed the expected prospective bias and link to personal goals

in reported thoughts. We also replicated the finding that participants tend to generate several related thoughts before transitioning to a new topic. Conclusion: These preliminary results suggest that this method is a promising alternative to thought-probes and unstructured Think-Aloud procedures for investigating the features and dynamics of spontaneous thought and mind-wandering.

50. Validation of a cognitive state fatigue induction and measurement protocol using the N-back task

Author(s): Raphaël Legrand, Sami El Kaddouri, Fabienne Collette

Abstract:

INTRODUCTION

State cognitive fatigue is characterized by a temporary decline in mental faculties, typically resulting from sustained cognitive effort (Karim et al., 2020). It is commonly assessed by inducing fatigue in participants through prolonged behavioral tasks, where performance decline serves as an objective indicator. This decline can be measured within the induction task itself (time-on-task paradigm) or in a subsequent task (probe task paradigm). Despite recent efforts (Dickens et al., 2024), significant debate remains regarding the optimal fatigue induction task, measurement paradigm, and most fatigue-sensitive metric.

METHOD

We developed a fatigue induction protocol consisting of 36 blocks of a three-level N-back task (Kirchner, 1958). One hundred healthy participants will be evaluated to identify the most fatigue-sensitive variable and characterize fatigue build-up across cognitive loads.

Repeated-measures ANOVAs ($p<0.05$) were conducted to compare performance metrics (e.g., d', hit rate, RT) across four task sections and three cognitive loads (1-back, 2-back, 3-back). Subjective measures of fatigue, motivation, and sleepiness were assessed before and after fatigue induction.

RESULTS

Preliminary results (N=28) showed that performance declined with additional cognitive load but improved from the first to the last blocks of the task. However, despite motivation remaining stable, subjective fatigue reports increased following fatigue induction.

DISCUSSION

In line with Gergelyfi et al. (2015)'s suggestions, this pattern may indicate that subjective fatigue serves as an early warning signal preceding objective performance decline. To better capture this transition, our protocol should be refined, by extending the induction period, incorporating a probe task or adding physiological measurements of fatigue.

51. Intergenerational memory transmission

Author(s): Melissa Hasanbelli, David Baudet, Christine Bastin, Olivier Luminet, Aline Cordonnier

Abstract: Intergenerational memory transmission within families is a natural process that begins early in life. This study explores how personal and public events are transmitted and perceived across generations: parents and children. It examines whether memory phenomenology and functions (reasons for sharing and roles of memories) vary based on memory type (personal or public) and generational distance. The study included familial duos— (parents-children)—where participants recalled four events: two personal and two public. Children narrated events experienced by their parents, while parents shared their own. Participants then completed questionnaires assessing the phenomenology and functions of these memories (directive, social, and self). Results show a decline in memory richness across generations, with younger generations perceiving memories as less vivid and meaningful. Personal memories retained greater phenomenological significance than public ones but declined more sharply across generations, likely due to their context-specific nature. The younger generation (children) assigned lower scores to directive functions, reflecting generational differences in memory use. While older generations may use memories for practical guidance, younger generations engage with them more for identity and social connections. Personal events maintain a stable social function, preserving familial bonds, whereas directive functions are less effectively transmitted, particularly for public events. Overall, the findings highlight a nuanced intergenerational evolution of memory, both in terms of phenomenological richness and functional roles for personal and public events.

52. The Children Apperception Test (CAT) as an Assessment Tool for Attachment Types in Children with Early Neglect

Author(s): Eloïse Esquiber, Lisa De Noose

Abstract: Background:

Research in the field of attachment theories has often and traditionally evolved in parallel with psychoanalytically oriented work, without however sufficiently bridging these two models. However, integrating an understanding of a children’s attachment modalities with a broader comprehension of their intrapsychic functioning allows for a more precise intervention, thereby enhancing the effectiveness of therapeutic indications. The Children Apperception Test (CAT) (Bellak & Bellak, 1950) is a projective tool frequently used in clinical psychology to explore children's psychic processes. This research aims to examine its relevance in assessing attachment types in children who have experienced early neglect. As attachment is a key determinant of psycho-affective development, this study falls within the fields of developmental psychology, psychoanalysis, and attachment disorders. The study is based on an extensive literature and integrative review and a theoretical analysis of fundamental attachment concepts as initially defined by Bowlby (1958; 1969) and Ainsworth (1978), as well as their conceptualization in contemporary research (Barone et al., 2015; Gloger-Tippelt & Kappler, 2016; Schröder et al., 2019; Genet & Wallon, 2022). This study seeks to examine the relationships between different attachment types, intrapsychic and psycho-affective development, and their expressions through CAT narratives, analyzed using a new scoring system developed by Simon and Claudon (2018; 2020).

Study Objectives:

The objective is to determine whether the Children Apperception Test, analyzed using a validated and updated method (Simon & Claudon, 2020), can identify specific indicators of insecure

attachment types (avoidant, anxious-resistant) or disorganized attachment in the context of early childhood neglect and to understand how these attachment patterns integrate into the overall psychic functioning of these children. This understanding could facilitate more targeted therapeutic interventions.

Methods:

This research employs a qualitative approach through case studies. The targeted participants are children placed in foster care due to neglect before the age of three, currently aged between six and ten years old. The study utilizes two validated tools for children: the Attachment Story Completion Task (ASCT) by Bretherton et al. (1990) and the Children Apperception Test (CAT) by Bellak and Bellak (1950). The CAT narratives will be analyzed and scored using the rating scale developed and validâtes by Simon and Claudon (2018; 2020).

Results and Implications:

Although the research is still ongoing, preliminary insights suggest potential implications: a better understanding of projective responses in the CAT, through the establishment of a typical response pattern, could facilitate the detection of attachment types and, more importantly, enable their articulation with children's relational dynamics, leading to a more comprehensive understanding of their functioning. This study thus contributes to the improvement of clinical practices in children’s psychology and child protection services.

53. Connected from the start: Unraveling mother child dyadic physiological synchrony in prematurely born preschoolers.

Author(s): Lenne Stessens, Lisa Gistelinck, Rowena Van den Broeck, Georgios Rousis, Maarten De Vos, Bieke Bollen, Els Ortibus, Gunnar Naulaers, Sam Wass, Bart Boets

Abstract: Premature newborns, despite decreased mortality rates, remain at high risk for health complications and developmental challenges. These challenges often manifest as a 'preterm behavioural phenotype,' characterised by physical, cognitive, and social difficulties, ultimately impacting their quality of life and the mother-child bond. The autonomic nervous system is often underdeveloped in preterm infants, particularly the parasympathetic nervous system. This immaturity leads to reduced heart rate variability (HRV), a key indicator of well-being, resilience, and development, largely driven by respiratory sinus arrhythmia (RSA). Physiological synchrony between mother and infant is crucial for supporting secure attachment and co-regulation, which in turn fosters the development of self-regulation. This project investigates how prematurity affects dyadic physiological synchrony (RSA and heart rate) in preschool-aged children, and its association with self-regulation. We compare 70 prematurely born preschoolers (5.5 years old) with 32 full-term peers. Physiological synchrony is assessed during various interactions with their biological mother (non-verbal eye contact, emotional conversations, and a triadic interaction) and a stranger (non-verbal eye contact and a semi-structured conversation). Three research questions guide the study: (i) To what extent do dyadic physiological synchrony patterns differ between preterm and full-term groups across interaction conditions and partners (mother vs. stranger)? (ii) Is dyadic physiological synchrony associated with child self-regulation? (iii) Is it associated with maternal self-regulation? Data analysis is ongoing and expected to be completed by May, with results presented at the BAPS annual meeting. This study aims to improve understanding of dyadic physiological synchrony and self-regulation in prematurity.

54. Ultrasonic vocalization playback as a behavioral modulator in a semi-natural environment

Author(s): Aida Azatian, Fábio J Sousa, Fabrice de Chaumont, Elodie Ey, Markus Wöhr

Abstract: Rats exhibit diverse social behaviors and rely on a rich acoustic communication system (Homberg et al., 2017). A key component is the emission of ultrasonic vocalizations (USVs), with juveniles and adults producing two primary types: alarm 22-kHz USVs and pro-social 50-kHz USVs (Willuhn et al., 2014). This pilot study investigates rat behavior in a semi-natural environment using the Live Rat Tracker (LRT) with a Visible Burrow System (VBS) extension. The LRT enables long-term tracking through a depth-sensing infrared camera, machine learning (random-forest algorithm) for animal and posture identification, and radio-frequency identification (RFID) (de Chaumont et al., 2019). Thus, the aim of this study is to examine the effects of USV playback on group behavior, using playback as a behavioral modulator. Our experiment included 3 days of playback conditions following a light/dark cycle. During playback, rats were exposed to 13 50-kHz calls and 29 22-kHz calls for 1 minute each, as validated in a previous study (Wöhr & Schwarting, 2007). Controls included background noise and no playback. Results from our study showed that playback of 50-kHz USVs on Day 1 elicited the highest number of crossings, while on Day 3, the opposite was observed and 22-kHz USVs elicited the highest number of crossings. Previous research has shown that USV production often changes as a function of repeated exposure to the same stimulus or situation (Knutson et al., 2002) and our findings suggest that behavioral responses to USVs may also be dynamic and change over time.

55. The mental health of adolescents placed in out-of-home care: their point of view and identification of barriers and resources to their mental health

Author(s): Anouk Dekeuleneer, Carole Fantini-Hauwel

Abstract: In 2023, 3,025 young people were placed in out-of-home care in Fédération Wallonie-Bruxelles, their family being considered unable to provide a suitable environment for their development and well-being. Many international studies have highlighted the high prevalence of mental health issues in this population (Burns et al., 2004; Dozier et al., 2012; Even & Sutter-Dallay, 2019; Li et al., 2019). This research aims to explore how adolescents in out-of-home care perceive their mental health condition and what they identify as barriers and resources in this regard within their care path, the institution, and their daily lives. An initial qualitative study will be conducted using semi-structured interviews with adolescents aged between 14 and 18. A thematic analysis of the collected data will enable the development of a questionnaire to identify the most reported barriers and resources to the psychological well-being within this population. This questionnaire will be used in the second (quantitative) study in conjunction with scientifically validated mental health questionnaires to evaluate their mental health condition. The results of these previous studies will aim to develop a peer-help medium, created in collaboration with adolescents in out-of-home care, as a collection of experiences and advice for their peers.

56. Pinpointing implicit neural facial expression discrimination in neurofibromatosis type 1 using FPVS-EEG

Author(s): Kaat Vrints, Edward Debbaut, Rowena Van den Broeck, Stephanie Van der Donck, Matthijs Moerkerke, Bart Boets, Kaat Alaerts

Abstract: Efficient facial expression processing is crucial for social interactions. Neurofibromatosis type 1 (NF1) is a monogenic syndrome with a complex neurodevelopmental phenotype, including difficulties in socio-affective functioning and an increased prevalence of autism (symptomatology). Individuals with NF1 often exhibit atypical facial expression processing, particularly for negative emotions like anger and fear. These difficulties may contribute to social communication and interaction challenges. However, findings on expression processing in NF1 remain inconsistent, possibly due to methodological differences and reliance on explicit behavioral tasks that allow compensatory strategies. This study employs fast periodic visual stimulation with EEG (FPVS-EEG) to objectively assess implicit emotional expression discrimination. Neutral faces were presented at a 6Hz base rate, interleaved with expressive faces (happy or fearful), shown at 1.2Hz oddball rate. Oddball responses will be analyzed in 22 children with NF1, 22 autistic children, and 22 typically developing controls. Given elevated autistic traits in NF1, we hypothesize reduced oddball responses in NF1 children, intermediate between the autistic and typically developing groups. Data analysis is ongoing, with findings to be presented at the BAPS conference.

57. A linguistic analysis of autistic and non-autistic adult women's productions: written narratives of emotional autobiographical memories

Author(s): Florence Merken, Philippine Geelhand

Abstract: Background. Research on narrative skills of autistic people has shown that they tell shorter, less cohesive stories with less internal language than their non-autistic counterparts. However, most studies include predominantly male sample, despite growing evidence that autistic women may exhibit distinct linguistic patterns. Additionally, prior research has focused on oral tasks, while autistic individuals often prefer written communication - an area that remains underexplored and where gender imbalance is even more pronounced. Methods. This study examines the linguistic characteristics of autistic women's productions compared to non-autistic women's in a written task. Participants (15 autistic and 15 non-autistic women, pairwise matched on age) wrote four episodic memories based on emotion words (happiness, anger, pride and sadness). Narratives were coded for the presence (or absence) of different elements of microstructure, macrostructure and internal language. Results. Significant group differences were found in all levels of narrative analysis. Autistic women's narratives differed from those of their non-autistic counterparts in microstructure (length, number of unique and infrequent words, productivity), macrostructure (number of causal connectors), and internal language (particularly in the number of cognitive and perceptual state terms). Conclusions. Findings suggest that the linguistic profile of autistic women differ from both non-autistic women and autistic men, placing them in an intermediate position. Although the atypical features of autistic women's communication may be more subtle than those of autistic men's they remain distinct from non-autistic women and still experience challenges that may be harder to detect. Altogether, these exploratory results underscore the need for future research into gender-specific linguistic patterns in autism.

58. A dual eye tracking study on gaze behavior in children with autism

Author(s): Amber Gabriëls, Laura Tibermont, Ruth Op de Beeck, Kaat Alaerts, Bart Boets, Stephanie Van der Donck

Abstract: Social gaze behavior, particularly eye contact, is fundamental to human social interaction, as it facilitates non-verbal communication and strengthens social connections. Atypical gaze behavior is one of the earliest observable signs of autism. It is often characterized by reduced attention to faces, reduced eye contact, and a preference for non-social stimuli. Such atypical gaze behavior in early life can impact the development of social and communication skills in children with autism. Most studies have quantified gaze behavior in response to static images or video clips. While these methods allow for robust replication, they fail to capture the dynamic and reciprocal nature of gaze behavior in social interactions. To address this gap, there is a need for studies that simultaneously measure gaze behavior of interacting individuals during real life social exchanges. This project examines gaze behavior in children with autism and neurotypical peers (aged 8 to 12 years) interacting with an unfamiliar adult using dual eye tracking technology with a two-way video setup. Two paradigms are included: (1) a non-verbal looking task to measure the spontaneous gaze behavior of both individuals, and (2) a semi-structured conversation to capture gaze dynamics in a natural interaction. Based on previous research, we hypothesize that children with autism will look significantly less at the eyes of their interaction partner compared to their neurotypical peers across both tasks. Preliminary findings will be presented at the BAPS conference and may contribute to a better understanding of how gaze behavior supports social interaction.

59. A computerized Brief Evaluation of Receptive Aphasia tool using an eye-tracking device to assess language skills: a study on control participants before application in patients with severe brain injury

Author(s): Jade Miceli, Damien Lesenfants, Olivia Gosseries, Charlène Aubinet, Steve Majerus

Abstract: Background: Patients with disorders of consciousness following severe brain injury often exhibit motor or language deficits that complicate clinical assessments of their level of consciousness. The Brief Evaluation of Receptive Aphasia (BERA) was specifically designed to assess language comprehension skills by requiring patients to look at a target picture presented alongside a distractor. The BERA tool therefore relies on the clinician's subjective assessment of the patient's visual fixations. To provide a more objective assessment, a computerized version of the BERA tool incorporating an eye-tracking device (BERAwET) has been developed. However, calibration is particularly challenging in this population, as most patients cannot follow verbal commands. This study aims to evaluate the reliability of eye-tracking responses using BERAwET based on an alternative calibration process performed by the clinician. Method: Twenty-five healthy control participants underwent a single-session evaluation with the BERAwET tool, involving the presentation of 60 pairs of images. Following a calibration process performed by the clinician using their own gaze, participants were asked to provide both verbal ("left" or "right") and eye-tracking responses. Results: Visual responses recorded by the eye-tracking device closely matched the verbal responses provided by participants. This strong agreement between verbal and visual response modalities supports the reliability of visual responses using BERAwET with clinician-performed calibration. Conclusion: The computerized version of the BERA tool appears

to provide objective and reliable measurements of visual fixations for assessing language comprehension skills, with potential applications for patients who are unable to complete the calibration steps.

60. Metacognitive insight into decision bias

Author(s): Yvonne Visser, Peter Murphy, Kobe Desender

Abstract: Perceptual decisions are accompanied by metacognitive experiences, such as the sense of confidence, which closely follow their speed and accuracy. Confidence can shape subsequent decisions by prompting strategic adaptation of the decision-making process to improve performance. However, experimental assessments of confidence have typically probed the decision-maker's general sense of their own performance (i.e. confidence related to decision accuracy) rather than their sense of the underlying reason for (in)accurate decision-making. Metacognitive insight into the setting of latent decision process parameters could improve strategic adaptation of decision-making compared to adaptation based on confidence alone, because such insight would allow decision-makers to pinpoint the source of an error and adapt accordingly. Here, we aim to assess insight into one key parameter: the starting point of the evidence accumulation process driving decision-making, which determines the bias of a decision-maker toward a choice alternative. Participants decided on the direction of a random-dot-motion stimulus under two conditions: one in which rightwards motion was more likely (80/20 division) and another in which leftwards motion was more likely (20/80). After each decision, participants were asked to rate the a priori bias underlying their decision on a continuous scale. We expect these subjective bias ratings to be sensitive to the manipulation of stimulus probabilities. Using hierarchical drift diffusion modelling, we plan to compute single-trial estimates of the starting point parameter, and correlate these to the subjective ratings. If we show a relationship between these, we can conclude that participants have insight into their own bias, even following implicit manipulations.

61. Cognitive Overload: Age-Dependent Shifts in Insight Problem-Solving

Author(s): Febe Demeyer, Céline Gillebert, Hans Stuyck, Eva Van den Bussche

Abstract: As we age, analytical step-by-step problem-solving strategies that rely on executive functions decline. Alternatively, problems can also be solved using insight, which is characterized by a sudden realization of the solution (i.e., "Aha!" experience). Because insight is thought to be less dependent on executive functions, it may remain intact or even improve with age. We compared insight and analytical problem-solving between older adults and intelligence-matched young adults using the Compound Remote Associates test. In this task, participants receive word puzzles that can be solved analytically or with insight. Preliminary results show that older adults solved more problems with insight but fewer analytically compared to young adults. Next, we introduced an additional working memory load to study its impact on participants' problem-solving performance. Both age groups solved fewer problems with insight in this dual-task condition compared to the single-task condition, but the decrease was larger for older adults. These results suggest that the advantage older adults have over young adults in insight problem-solving disappears when executive functions are additionally taxed.

62. Does a single session of mindful slow-breathing foster habituation to orofacial sounds in persons with mild to moderate symptoms of misophonia?

Author(s): Gargi Goyal, Nicky Sleeckx, Yesim Ozuer, Ketan Jaltare, Rilana Cima, Ilse Van Diest

Abstract: Misophonia is characterised by intense negative emotions (mainly anger and disgust) to mundane orofacial sounds produced by others (e.g., chewing, eating, slurping, throat clearing). Previous research has confirmed an increased neural (event-related potentials), autonomic (electrodermal activity, heart rate), and self-reported emotional reactivity to specifically orofacial sounds in persons with compared to without misophonia. The present study aims to investigate whether a single-session mindfulness slow-breathing session can reduce this overall responsiveness and foster habituation to a prototypical trigger sound in misophonia sufferers. To this end, participants (N = 50) with mild to moderate symptoms of misophonia will be assigned to either the experimental manipulation – mindful slow breathing task, or an active control condition – a video-watching filler task. Both groups will be exposed prior to and following the task, to three blocks in which the same slurping sound (8 sec) is presented 12 times. Electroencephalography (EEG), electrocardiogram (ECG), respiration and electrodermal activity (EDA) will be recorded continuously, while participants rate their emotions associated with the sounds after each block. We hypothesise that a single-session slow-breathing mindfulness manipulation will reduce self-reported anger in response to trigger sounds, both as overall responsiveness and through habituation over repeated exposures. We further hypothesize that physiological measures, including heart rate (HR) and galvanic skin response (GSR), will also show decreased autonomic reactivity post-manipulation. Additionally, changes in EEG event-related potentials (N1 and P2) are expected, reflecting alterations in sensory and attentional processing. Findings may contribute to the development of targeted interventions for individuals experiencing misophonia.

63. A Failure to Replicate the Ranschburg Effect

Author(s): Robin Remouchamps, Steve Majerus, Benjamin Kowialiewski

Abstract: The Ranschburg effect is a classic effect of working memory research, characterized by difficulty recalling two occurrences of the same item. This phenomenon is typically explained by response suppression, a mechanism by which an item is removed from memory once recalled. If the Ranschburg effect is explained by the response suppression mechanism, it should depend on the way items are recalled, rather than encoded. To test this prediction, we manipulated the direction of recall relative to encoding across three experiments. When recalling a sequence in reverse order, the first occurrence of a repeated item should show impaired performance. All three experiments failed to replicate the Ranschburg effect. The results call into question the importance of the Ranschburg effect as a benchmark for working memory models, its role in the response suppression mechanism, and consequently the very existence of this mechanism.

3. Poster Session 3

63. Perception of sustainable mobility: understanding the adoption of shared micromobility in Brussels

Author(s): Abdel Bensallam El Yahyaoui, Sabine Pohl

Abstract: Given the environmental and urban challenges, the transition to more sustainable mobility is essential. The rise of information technology contributes to this by facilitating the spread of new solutions, particularly shared micromobility, which commonly relies on the collective use of bicycles and electric scooters. This alternative can reduce carbon emissions and urban traffic while improving accessibility (Abduljabbar et al., 2021; Zou, 2023). However, despite available alternatives, car traffic remains significant, posing a major challenge to Brussels' sustainable development (Lebeau & Macharis, 2014; Debrie et al., 2020). This is often linked to a limited understanding of the psychological processes influencing mobility choices, and the individual perception of this emerging mode of transport (Paulssen et al., 2013; Bylieva et al., 2022). This research examines the perception of shared micromobility in Brussels and its influence on the intention to use it for future urban travel. An online survey with 188 participants assessed perceptions of this emerging mode of transport in Brussels. Descriptive analysis reveals that shared micromobility is perceived as useful, enjoyable, and eco-friendly but considered difficult to use in Brussels. Furthermore, linear regression analyses show that utilitarian and hedonic aspects, as well as perceived control, are positively associated with the intention to use shared micromobility in the future. These results suggest that shared micromobility services could enhance their attractiveness by emphasizing the utilitarian and hedonic aspects of these modes. It also highlights the importance of improving urban infrastructure to promote sustainable transport and reduce car use in Brussels.

64. Does entrepreneurial experience enhance cognitive flexibility?

Author(s): Marion Balla, Marine Le Petit, Harry Antony, Frédéric Ooms, Fabienne Collette

Abstract: Background: Cognitive flexibility is defined as ‘the mental ability to switch between thinking about two different concepts according to the context of the situation’. It is essential in entrepreneurship, as it allows entrepreneurs to adapt their decision-making to various situations with high level of uncertainty. Research suggest that entrepreneurs tend to demonstrate higher cognitive flexibility than managers. However, it is still unknown if these differences are a result of acquired entrepreneurial experience, or whether entrepreneurs are individuals with inherently higher cognitive flexibility. We hypothesize that entrepreneurial experience enhances cognitive flexibility. Method: Entrepreneurs with varied degrees of experience (from nascent (N = 35) to first time (N = 69) and habitual (N = 50)) and employees (N = 53) completed an online survey providing us with self-report measures of entrepreneurial experience, cognitive flexibility and perceived uncertainty. Differences in cognitive flexibility according to the group was assessed with an ANOVA ($p<0.05$). Results: Preliminary results showed higher self-report levels of cognitive flexibility in first time and habitual entrepreneurs in comparison with employees. We also observed a significant difference between employees with and without entrepreneurial experience. Conclusions: Our preliminary results replicate the difference in cognitive flexibility between entrepreneurs and non-entrepreneurs, highlighting the enriching experience of embarking on an entrepreneurial journey. Moreover, consistent with the hypothesis that entrepreneurial experience enhances cognitive flexibility, these differences are not present when

comparing less experienced entrepreneurs (nascent) with employees. Perceived uncertainty could be investigated to better understand the link between cognitive flexibility and entrepreneurial experience.

65. Design of an Observational Study on the Contextual Determinants of Parental Overprotection

Author(s): Léa Noirfalise, Sinem Yüksel, Cindy Eira Nunes, Stijn Van Petegem

Abstract: The current socio-economic context, marked by increasing uncertainty, potentially leads to growing concerns among parents. Indeed, providing a good education and ensuring a successful future for their children are daily concerns for most parents. As a result, some parents may adopt overprotective behaviors in an attempt to shield their children from the perceived dangers of the world and future uncertainty. Parental overprotection is a level of protection that is excessive considering the developmental level and needs of the child (Thomasgard et al., 1995). Despite its importance, the role of the current socio-economic context and of parents' perceptions of this context remains less explored. However, recent analyses that focus on parent-teenager's relationship indicated that higher levels of perceived income inequality were associated with more autonomy-supportive school involvement (Van Petegem et al., 2024). In this context, this study aims to investigate how broader contextual factors such as societal and economic factors contribute to parental overprotection, particularly when observing parent-adolescent interactions. This observational study will include 100 dyads of one parent and their adolescent (16-18 years old). Dyads will complete self-reported questionnaires assessing contextual factors such as perceived threats, job insecurity, and social pressure. There will be two video-recorded tasks: a conflict discussion task and a speech task. After each task, participants will complete questionnaires about their experience of the tasks measuring, among others, stress and anxiety. A team of researchers will afterwards code the video-recorded interactions to assess overprotective behaviors.

66. REMIND-Contrast: a hybridization of psychology methods to characterise the personal experience of users, following a phenomenological approach

Author(s): Marine Lagasse

Abstract: REMIND-Contrast was born from my doctoral research to characterise the personal experience of unguided visitors in museum visits. It is the heritage of stimulated recall methodology integrated in a state-of-the-art method called REMIND (Schmitt & Aubert, 2017). REMIND brought together the methodological assets of recent decades to limit the biases associated with researcher observation and participant memory. Its interview protocol is a merge of explicitation interview (Vermersch, 1990), self-confrontation (Theureau, 1992) and stimulated recall techniques (Bloom, 1953). The REMIND survey protocol operates in two main steps. First, the participant performs their activity, equipped with eye tracker glasses that record their field of view. This first-person video is then used during the semi-directed interview. At this point, it serves as a visual stimulation, showing the participant what they saw and did throughout their activity. The participant can then precisely share with the researcher the cognitive pathways they constructed in the dynamics of their activity. They can describe, sequence by sequence, what they thought, felt, sensed and did during their experience. REMIND-Contrast feeds off the

Personal Construct Theory (Kelly, 1955) to add a new layer to REMIND. At the end of the stimulated recall phase, the participant formulated constructs that emerged from the description process and that characterise significant aspects of their experience. During the analysis, these personal constructs, considered as “condensed quantitative data”, help researchers to compare several individual experiences. This analysis process allows at the end to identify recurrent and significant characteristics of a specific kind of experience.

67. Offline and Online Interpersonal Emotion Regulation in Adolescence: Bidirectional Associations or Not?

Author(s): Karen De Raeymaecker, Margot Bastin, Imke Baetens, Patricia Bijttebier, Martijn Van Heel

Abstract: Background. Regardless of the communication channel used, intimate conversations foster interpersonal emotion regulation (IER). Although private chatting with friends is important for adolescents, research concerning online IER remains limited. Methods. Cross-lagged panel models were used to study the directionality of offline and online co-rumination, co-dampening, and co-enhancing in 449 adolescents across a one-year period (53% boys; Mage = 15.25 at T1). Additionally, depressive symptoms, friendship quality and the frequency of online interactions were taken into account. Results. A unidirectional association from offline to online co-rumination was established, with adolescents’ tendency to co-ruminate in-person transferring to later private chat conversations. Bidirectional associations were found for co-dampening and co-enhancing. Adolescents who were inclined to use online co-dampening respectively co-enhancing during online conversations also showed an increased tendency for offline co-dampening respectively co-enhancing and vice versa. Regarding the interrelation with depression, more severely depressed adolescents used more offline co-rumination one year later. Advantageously, offline co-enhancing created a buffer against these symptoms. Lastly, both a “dose-response” and a “response-dose” relationship were discovered for co-rumination. Accordingly, the more online private interactions adolescents had, the more they used this communication style during chat conversations with their momentary best friend one year later. Relatedly, the more offline co-rumination adolescents used, the less they turned to the online modality to interact with others. No prospective relationships were identified for friendship quality. Conclusion. The study sheds light on which IER-modality should be primarily addressed during mental health support.

68. Interactions Between Cognitive and Metacognitive Conflict: Behavioral Dynamics and Adaptive Control

Author(s): Jintao Xing, Kobe Desender

Abstract: Cognitive conflict has been widely used to investigate cognitive control mechanisms. Recent work extended this to the metacognitive level by defining metacognitive conflict as the inconsistency between external feedback and a confidence report. Mirroring cognitive conflict effects, metacognitive conflict functions as a higher-order prediction-error signal, subsequently leading to adaptative adjustment by moderating decision-making parameter. However, how these two types of conflict interact remains unknown. To address this gap, we designed a hybrid task combining a modified flanker paradigm with trial-level confidence reports and feedback.

Participants first respond to a flanker stimulus, then rate confidence in their decision, and finally receive feedback about choice accuracy. This design allows simultaneous behavioral tracking of how cognitive conflict (response competition) and metacognitive conflict (confidence-feedback mismatches) compete or synergize to influence cognitive and metacognitive performance. Together, this study advances theoretical frameworks for conflict processing and offers methodological innovations for bridging cognitive and metacognitive research.

69. Can theta rhythm be considered as a direct neural marker of learning or does it primarily reflect attentional processes in infants?

Author(s): Romane Boulanger, Louise Goupil, Adélaïde de Heering

Abstract: Theta rhythm is related to learning in adults (Olvera-Cortés et al., 2002). In infants, theta is considered as a neural marker of sustained (Xie et al., 2018) and internally controlled (Orekhova et al., 1999) attention. The evidence regarding the theta and early learning relationship is however still debated (Begus et al., 2015; Goupil et al., 2023). In this study we thus propose to examine whether theta serves as a direct marker of early learning, or whether this relationship is mediated by attention. To disentangle these two possibilities, 6- to 12-month-old infants will be taught a novel object category during a video-based intervention. Throughout this phase, infants' cardiac activity (ECG), a well-established physiological marker of attention (Courage et al., 2006), and their theta rhythm, a potential direct neural marker of early learning, will be recorded. In addition, infants will be exposed to streams of images flickering at 6 Hz incorporating the novel object category at 1.2 Hz (1 out of 5 items) during a pre- and a post-intervention and their SSVEP peaks (EEG) at this specific frequency will be used to index their ability to learn this category. Given that attention plays an important role in active learning during infancy (Raz et al., 2020), we hypothesize that the relationship between theta oscillations and learning will be indirect and completely mediated by attention. Preliminary data in infants and adults will be presented.

70. Does your body belong to you? Development and Validation of the Body Ownership Scale

Author(s): Marie Brisbois, Olivier Klein, Philippe Bernard

Abstract: Women experience violations and injunctions towards their body that may affect their body ownership, the feeling that one's own body belongs to oneself, and that one can freely make decisions about one's own body. However, to date, very few studies have examined body ownership as a psychological construct per se. The present research aims to develop and validate the Body Ownership Scale (BOS) in cisgender women. The pool of items was constructed based on literature review, expert feedback and evaluation by the target population. Three studies validated the psychometric properties of the scale. In study 1 (N = 306), we ran an exploratory factor analysis that revealed a five-factor structure: general body ownership, reproductive and sexual autonomy, phenotype extension (i.e. hair, dress, make-up), peer pressure and unwanted gazes and comments. Study 2 (N = 453) confirmed the structure of the scale through confirmatory factor analysis and showed internal consistency. In study 3 (N = 386), bivariate regressions demonstrated convergent validity with physical freedom, reproductive autonomy, sense of agency, body dissociation, interpersonal sexual objectification, self-objectification, body image, eating disorders and depression. Evidence for discriminant validity and additional construct validity were also found, along with test-retest reliability on a subsample from study 3 (N = 148)

over a four-week interval. The validated 16-item BOS provides a measure to study body ownership, offering new insights for gender studies, feminist psychology and Objectification theory. Social implications and applications of the scale to specific populations and contexts, such as abortion, are discussed.

71. Cognitive impairments associated with meningiomas

Author(s): Sara Goffinet, Florence Lefranc, Hichem Slama, Patrick Fery, Vincent Wens, Antonin Rovai, Nicola Trotta, Gil Leurquin-Sterk, Niloufar Sadeghi-Meibodi, Xavier De Tiège, Julie Bertels

Abstract: Background: Cognitive impairments are associated with primary brain tumors in 30-100% of patients, and most often consist of alterations in attentional and executive functions. Meningiomas, a specific type of primary brain tumor, are often overlooked as a cause of cognitive impairments due to their usually benign nature, extra-axial localization and slow-growing pattern. They are therefore neglected in clinical practice. This study aims at characterizing cognitive disorders induced by meningiomas in adults, before any treatment. Method: Patients diagnosed with a meningioma and healthy controls underwent a preoperative comprehensive neuropsychological assessment, that evaluated attentional and executive functions, long-/short-term verbal and visuospatial memory, working memory, language, visuospatial abilities, and reasoning. Results: Sixty-three patients (55 women, mean age: 54.8±10.2) and 21 healthy controls matched for age and educational level (15 women, mean age: 54.52±11.29) have been included so far. In comparison with controls, patients had a decreased processing speed and performed worse on tasks assessing verbal short-term memory, load in working memory, working memory updating, retrieval in verbal and visuo-spatial episodic memory, phonemic verbal fluency, inhibition, visual selective attention and reasoning (all $p<.05$). No significant differences between patients and controls were found for language, visuo-spatial short-term memory, temporal processes in episodic memory, visuospatial abilities, auditory selective and divided attention, flexibility or planning. Conclusion: This study demonstrates significant differences between patients with meningioma and healthy controls in a range of cognitive functions. Findings highlight the need to include neuropsychological management in clinical care to maximize quality of life and socio-economic integration of these patients.

72. Do Eye Movements Reveal the Architecture of a Virtual Reality-Based Museum Visit?

Author(s): Julia Perik, Willem Jacob Louter, Muhammet Ikbal Sahan

Abstract: The ability to form and retain a mental or cognitive map of our surroundings is an important function for humans to find their way in the world. Research on both animals and humans show that we are indeed able to create such spatial representations in our mind, using brain regions responsible for memory and navigation. Furthermore, eye movements have been suggested to reflect the internal structure of our mental space, making eye-tracking a valuable tool for studying these representations. In the current study, we therefore try to access cognitive spatial maps in working memory with eye-tracking. Participants are given the task to explore a simple museum in virtual reality (VR) several times, focusing on the association between the exhibited objects and the colors of the walls, while the objects in each museum visit vary. After each visit, participants are asked to perform a verbal fluency task, where they name the objects corresponding to the colors from the VR environment that are randomly cued through speakers.

By manipulating the spatial distance between the objects, we measure participants' eye movements to test if their gaze trajectory follows the spatial organization of the environment, thereby implicitly reconstructing cognitive map geometry. Our preliminary data suggests that these cognitive maps become more structured as the environment gets more familiar throughout the blocks.

73. The Role of Touch in Parent-Infant Co-Regulation of Autonomic Nervous System Activity

Author(s): Sara Blommaert, Ward Deferm, Binu Singh, Maarten De Vos, Bea van den Bergh, Koen Ponnet, Bart Boets

Abstract: Self-regulation is essential for homeostasis and depends on the balance between the sympathetic (SNS) and parasympathetic (PNS) branches of the autonomic nervous system (ANS). Infants gradually develop physiological self-regulation, with parents facilitating this process through co-regulation. Research shows that affect and arousal can be transmitted from mother to infant, particularly through social touch. While parental touch typically regulates infant arousal, it may become disruptive if the parent is emotionally dysregulated. Persistent regulation problems (RP) in infants—such as excessive crying, feeding, and sleep difficulties—may stem from impaired co-regulation, possibly due to heightened parental stress and stress contagion. This study examines the effects of touch on parent-infant ANS self-regulation and co-fluctuation of ANS patterns. We compare 6-to-12-month-old infants with RP and their parents, enrolled in an intensive intervention program, to matched typically developing control families. Dyads watch a neutral movie in two conditions: non-touch (seated separately) and touch (infant on parent's lap). Skin conductance and inter-beat intervals assess SNS activity, while heart rate variability indexes PNS function. We hypothesize that RP dyads will exhibit higher SNS and lower PNS activity, with greater SNS co-fluctuation in the touch condition. Findings will provide insights into the role of parental touch in early co-regulation, informing interventions to support parental regulation skills. Data collection is ongoing, with preliminary results to be presented at the conference.

74. Where do we draw the line between discrimination and not discrimination? The influence of who the perpetrator is on Definitional Boundaries of Discrimination, applied to the Russo-Ukrainian war.

Author(s): Nina Le Compte, Colette van Laar, Katy Greenland, Keon West, Alice Saraiva Angra de Oliveira, Irem Nur Keskin, Sandrijn Van Den Noortgate

Abstract: Definitional Boundaries of Discrimination (DBDs) reflect the cultural tools people deploy when demarcating the boundary between discrimination and not discrimination. When someone applies narrow DBDs, they label few instances of potential discrimination as discrimination. The opposite holds for broad DBDs. While people often think their definition of discrimination is stable, the current set of studies aims to show that these definitions are dynamic and vary depending on who the perpetrator is. In the current climate, where discrimination is far from resolved, investigation of context dynamics and individual characteristics influencing DBDs is highly needed. The current project has two goals. First, we further validate the DBDs concept, now tested in an experimental setting. Second, we examine how the image of the perpetrating group influences what is perceived as discrimination and what is not. We use the example of the Russo-Ukrainian war, where group image of the respective parties can affect how the same

instance of discrimination is perceived. In three experiments, we investigated differences in DBDs as a function of perpetrator characteristics in the context of potential discrimination: Russia versus Ukraine as the perpetrator (Study 1), Ukraine as the perpetrator being positively versus negatively described (Study 2), and Ukraine as the perpetrator being described as not racist, deniably racist, or undeniably racist (Study 3).The analyses examine effects of perpetrator description on how the discriminatory act is perceived, including various mediators and moderators of the results.

75. Challenging the Maximum Confidence Heuristic: Humans Sum Confidence Levels during Collaboration

Author(s): Helena Lecluyse, Stef Herregods, Kobe Desender

Abstract: When making decisions, humans are able to provide statements of confidence, which are often an accurate reflection of decision accuracy. This ability plays a key role in human collaboration: humans are able to improve group performance by sharing the level of confidence in their decision. Prior studies have shown that in tasks with two response alternatives humans take the option with the highest individual confidence as the group decision (i.e., the max rule). Here, we show that in tasks with more than two alternatives the optimal strategy is instead to choose the option with the highest sum of confidence ratings (i.e., the sum rule). Note that the max and sum rule are identical in two-choice tasks, and therefore prior studies were unable to unravel the true rule used for human collaboration. In this pre-registered study, participants collaborated with a virtual partner in a three-alternative forced choice task. Our results show that participants indeed use the sum rule over the max rule during human collaboration. In line with our simulations, usage of this rule was also the optimal strategy for those decisions. Taken together, our results demonstrate that the previously described confidence heuristic does not accurately describe human collaborative behavior, but that instead humans use a sum rule during collaboration.

76. Creative thinking in children with attention deficit hyperactivity disorder (ADHD)

Author(s): Alexandra Russarollo, Baptiste Barbot, Xavier De Tiège, Hichem Slama

Abstract: BACKGROUND: Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by cognitive deficits primarily affecting attentional and executive functions. While research has historically focused on its disabling aspects, a growing number of studies also highlight certain positive aspects, particularly in creativity. Indeed, children with ADHD are thought to have an increased creative potential, especially in divergent thinking (DT) (Gonzalez-Carpio & al., 2017; Kimball & Prabhu, 2024). However, most studies rely on traditional DT tasks, which primarily assess the quantity of ideas produced without capturing the underlying dynamics of the creative process. In this context, this study aims to evaluate creativity in children with ADHD using a new assessment framework referred to as "Multi-Trial Creative Ideation" (MTCI, Barbot, 2018). Unlike traditional approaches, MTCI allows for a better understanding of the ideation process. To our knowledge, no study has yet investigated creative ideation in children with ADHD using the MTCI, emphasizing the importance of this research. METHOD: Creativity was studied using three tablet-based tasks, developed according to the MTCI framework: incomplete figures, object transformation, and image association. These

tasks were administered to 15 children aged 7 to 12 years, diagnosed with ADHD. RESULTS: Analyses are currently underway. Results will be presented and discussed at the conference. CONCLUSION AND CONTRIBUTION: This study will contribute to understand overlooked dynamic aspects of creative cognition in children with ADHD. Going beyond the limits of traditional DT tasks, it wil provide a better understanding of the specificities of ADHD in terms of creative thinking.

77. Egocentric Reference Frame Rotations and Spatial Attention in Virtual Reality

Author(s): Indigo Vanderwaeren, Magdalena Korczyc, Joyce Bosmans, Hanne Huygelier, Céline Gillebert

Abstract: Background

In a world where stimuli appear across space, spatial attention selectively processes task-relevant spatial elements while suppressing irrelevant information. This process can be structured by egocentric reference frames defined by the eyes, head and trunk. Although rotating these reference frames affects attention allocation, its precise impact on spatial attention biases remains unclear. Using immersive virtual reality to create a naturalistic setting and have more control over the stimuli and reference frames, this study aims to clarify the impact of egocentric rotations on spatial attention, hypothesizing that rotation towards a stimulus will improve accuracy by aligning the accuracy distribution with the rotated reference frame.

Methodology

Healthy participants performed a forced-choice visual discrimination task, identifying targets at various eccentricities. In addition to a neutral block without rotation, the reference frames (eye, head or trunk) were respectively rotated to -15° or 15° in world space coordinates, while the others remained neutral.

Results

Preliminary data (n=10) indicated a significant interaction between stimulus eccentricity and rotations of the eye-reference frame. At extreme eccentricities, aligning the eyes towards the stimulus reduced accuracy loss compared to the neutral condition, whereas head and trunk rotations showed no significant effects.

Conclusion

These early findings suggest that spatial attention is dynamically anchored to the eyes, with eye-reference frame rotations minimizing accuracy decline for peripheral targets on the same side. In contrast, the absence of significant effects for head and trunk rotation indicates that these frames may not play such a direct role in modulating spatial attention as initially proposed.

78. Association between nutritional intake, aggressive/impulsive behavior and inhibition: studies among Belgian adolescents aged 12 to 18 years

Author(s): Fatma Uslu, Audrey Vicenzutto, Aurore Colomar

Abstract: Nowadays, our eating habits are changing, and the Western diet is increasingly unbalanced. Adolescents are highly vulnerable to this change: despite their increased nutritional

needs, they are prone to adopt unhealthy eating habits. Furthermore, they are subject to nutritional deficiencies (notably in omega-3 fatty acids). They can also present aggressive and impulsive behaviors which can sometimes persist and become worse as they grow. Thus, malnutrition and violence among adolescents are both considered serious societal challenges. We can therefore ask ourselves if there is a link between nutritional intake and aggressive/impulsive behavior. This study aims to establish the nutritional status of adolescents as well as determine the type of aggressivity and its neuropsychological underpinnings that is most likely to be linked to an omega-3 fatty acids consumption. Our study will include 120 neurotypical and French speaking adolescents (12-18 years) according to a G-Power analysis. In an initial phase, we're going to use self-report questionnaires including the Buss-Perry Aggression Questionnaire to assess aggressive behavior, the UPPS impulsive behavior scale to assess impulsivity, the BRIEF for measuring inhibition and the omega-3 fatty acids questionnaire (Herter-Aeberli et al., 2019) which will enable us to quantify the omega-3 fatty acids intake.

As the study is in its early stages, no results are available yet. The poster will detail the theoretical framework and methodology of the study.

79. Neural hypervigilance in OCD: an oddball frequency-tagging EEG approach

Author(s): Berru Benan Orhan, Xena Serifova, Stephanie Van der Donck, Chris Bervoets, Laura Luyten, Bart Boets

Abstract: Obsessive-Compulsive Disorder (OCD) is a psychiatric disorder affecting 2-2.5% of the population, characterized by obsessions (i.e. intrusive thoughts) and compulsions (i.e. behavioral or mental acts) aimed at alleviating distress. These obsession-compulsion cycles can significantly impair daily functioning. Despite available treatments such as psychotropic medication, cognitive behavioral therapy, and neuromodulation, an objective biomarker to pinpoint (change in) OCD symptom severity remains lacking. Previous studies suggest that OCD patients exhibit heightened neural sensitivity towards symptom-related stimuli. This study investigates this hypothesis using symptom-provoking images in combination with Fast Periodic Visual Stimulation and Frequency Tagging Electroencephalography (FPVS FT-EEG). An oddball paradigm was used, where neutral images were presented at a periodic base rate of 5 Hz, with provocative oddball images appearing every fourth image at 1.25 Hz (F/4). FPVS FT-EEG allowed for the extraction of neural responses at this frequency and its harmonics. This approach enables us to examine not only the neural response of OCD patients towards symptom provocative images, but also whether they implicitly differentiate between symptom-provoking and neutral stimuli. We hypothesized that OCD patients would show heightened neural responses to provoking images compared to controls, and a more pronounced implicit differentiation between symptom-provoking and neutral images. This project is a part of the Pinpointing Obsessive-compulsive Symptom Severity Study (POSSS) of which data analysis is ongoing. At the conference we will present data of 15 patients and 19 controls. This study aims to enhance our understanding of OCD-related neural selectivity and contribute to the search for objective biomarkers for the disorder.

80. Future thinking beliefs and abilities across adulthood in individualistic and collectivistic cultures.

Author(s): Anne-Lise Florkin, Zeinab Khazem, Elena Cavallini

Abstract: Future thinking, or prospection, is a flexible cognitive function that enables individuals to mentally project themselves across time. This ability depends on the availability of choices, self-projection, and cultural influences. Prospection is particularly relevant for older adults, who often experience greater difficulty with mental time travel compared to younger individuals. Previous research suggests that cultural differences in future thinking are shaped by the degree of collectivism and the generativity associated with aging. However, a gap remains in understanding how cultural values and age interact to shape time perception and prospection practices. This study examines how age and cultural frameworks—specifically, collectivism—affect engagement in future thinking. Participants are recruited from Lebanon (collectivistic culture), Belgium (individualistic culture), and Italy (hybrid culture). The study employs a mental time travel task alongside questionnaires assessing the influence of future thinking on behavior, its cognitive functions, and the role of cultural orientations in shaping attitudes. Data collection is ongoing and is expected to conclude by April 2025.

81. Unraveling differences in attachment to mother and father in middle childhood: evaluation of depression and anxiety.

Author(s): Sofiane Janeczek, Mélanie De Leener, Mandy Rossignol, Sarah Galdiolo, Michel Sfeir

Abstract: Attachment refers to the emotional bond formed between a child and their caregivers, which plays an important role in child's development. In some instance, high dimensions of anxious attachment have been linked to unpredictable parental availability while avoidant attachment have been linked to child repression of their emotional needs, which can lead to anxious and depressive symptoms. Literature has mainly focused on dyadic attachment with the mother, but no studies thus far have evaluated triadic relationships between parents and child. To complete this gap, this study aims to understand the differences in children's insecure attachment to both their parents and how they relate to anxiety and depressive symptoms. In total 330 children aged 10 to 12 years completed three questionnaires evaluating attachment (ECR-RC), anxiety and depression symptoms (RCADS). The results suggest that anxious attachment to one parent do is not systematically associated with the same attachment style toward the other parent ($r = 0.182$, $p = 0.072$). Conversely, avoidant attachment tends to be more consistent with both parents ($r = 0.447$, $p < 0.001$). Furthermore, anxious attachment to both parents appears to be unassociated with anxiety ($r = 0.05$), while avoidant attachment shows a stronger association with depressive symptoms ($r = 0.407$, $p < 0.001$). In conclusion, these results show the need to take both parents into account when studying attachment, as the different dimensions of attachment may play different parts in children's emotional health.

82. The Stress-Reducing Effects of Slow Breathing and Mindful Movement: Investigating the Role of Mindfulness

Author(s): Kalina Vecovska, Anouk Teugels, Ilse Van Diest

Abstract: Slow-paced breathing interventions have been widely documented for their stress-reducing effects. These benefits are commonly attributed to strong cardio-respiratory oscillations, yet empirical support remains limited. Nonetheless, findings suggest that slow breathing could still be more effective than mindfulness-based practices that emphasize attentional focus on breathing or movement without deliberately altering breathing patterns. The present study will determine whether mindful slow breathing at 5.45 breaths/minute (Group 1) induces greater stress reduction and increases in state mindfulness than mindful arm movement with the same pace (Group 2). Both exercises are expected to be more effective in reducing stress than a control task (watching a video, Group 3). Additionally, it will be examined whether stress reduction in Groups 1 and 2 is mediated by increased state mindfulness. Participants (N=75) with elevated stress and bodily symptoms will complete their randomly assigned task and then undergo a standardized stress induction (Montreal Imaging Stress Task, MIST) followed by a recovery period. State mindfulness will be measured pre- and post-task, while self-reported stress will be assessed at regular intervals. Beat-to-beat blood pressure, electrocardiogram (ECG), and respiration will be continuously recorded. Apart from its stress-reducing effects, slow breathing is expected to lead to greater increases in heart rate variability (HRV) and baroreflex sensitivity (BRS). It will also be investigated whether this trend extends to subjective and cardiovascular (heart rate, blood pressure) stress reactivity and recovery, and whether mindfulness mediates these effects. Findings will offer insights into slow breathing's mechanisms and inform novel stress reduction strategies that foster mindfulness.

83. From Arousal to Regulation: The impact of vocalization on emotional recovery in preterm and full-term children

Author(s): Lauren Vanbiervliet, Gio Esposito, Lisa Gistelinck, Rowena Van den Broeck, Bieke Bollen, Els Ortibus, Gunnar Naulaers, Sam Wass, Bart Boets

Abstract: Each year, approximately 15 million infants are born prematurely. While advancements in neonatal care have improved survival rates, preterm birth remains associated with increased neurodevelopmental risks. Preterm infants experience significant environmental stressors in the neonatal intensive care unit, including invasive medical procedures and heightened sensory stimulation. Their immature autonomic nervous system further compromises stress regulation, impacting self-regulation, caregiver co-regulation, and emotion recognition. These disruptions can persist into childhood, increasing the risk of socio-emotional challenges and disorders. Additionally, preterm children frequently exhibit delays in language development, with shorter gestational age linked to poorer language skills. Heightened stress levels, immaturity of the autonomic nervous system, and language difficulties may contribute to atypical vocal expressions during high-arousal states, potentially impacting mother-child interactions. While research has established a strong link between arousal and vocalization in infancy, its trajectory in children, particularly preterms, remains unclear. This study examines how 5-year-old preterm and full-term children vocalize during high-arousal moments and their impact on maternal responsiveness. By analyzing naturalistic daylong home recordings with physiological markers such as heart rate, we aim to better understand these interactions in real-life contexts. Data analysis is ongoing and will be completed by May, with findings presented at the BAPS annual meeting.

84. Does love for a romantic partner enhances well-being? A pilot study

Author(s): Marine Saint-Mard, Michel Hansenne

Abstract: Background.

Although well-being is related to many positive outcomes and love is a central preoccupation in human lives, scientific literature has not provided clear evidence on whether love for a romantic partner has consequences for well-being. Love for a romantic partner has been conceived by three main current theories but there is a lack of evidence of the link their respective concepts share with well-being. This pilot study aims to report first complete evidence on their association and to allow power computing for future investigation on the topic.

Methods.

150 participants involved in romantic relationships (Mage= 27.63; SDage= 5.84; 84.67% women) completed an online survey assessing the principal measures of love for a romantic partner (Love Attitudes Scale; Passionate Love Scale; Triangular Love Scale) and of well-being (Satisfaction with Life Scale; Positive and Negative Affect Scale; Subjective Happiness Scale; Ryff's Psychological Well-Being Scale).

Results.

Multiple multivariate regression analysis revealed significant impact of love measures on well-being scales. Love measures explained 23.3% of the variance in SWLS, 9.87% in positive affect, 8.03% in negative affect, 14.3% in SHS and 12.5% in PWB. TLS, but not PLS, was a positive predictor for each well-being measure ($0.292 < \beta < 0.53$), except negative affect. Agape (selfless love) and mania (obsessive love) also predicted, but to a lesser extent, SWLS and SHS (for agape) and negative affect (for mania).

Conclusions.

Overall, love for a romantic partner appears to be a significant, though relatively weak, predictor of well-being and TLS might partially explain this relationship.

85. Investigation Of The Relationship Between Childhood Trauma and Chronic Pain In Adulthood : A Scoping Review

Author(s): Camille Dieu, Giovanni Briganti

Abstract: While the relationship between post-traumatic stress disorder (PTSD) and chronic pain is increasingly highlighted, the link between childhood trauma (CT) and chronic pain in adulthood remains underexplored. Yet, it is well established that early adverse experiences (ACES) are more damaging than those experienced later in life due to ongoing neurological and psychological development. Furthermore, survivors of childhood trauma may develop more complex and multifaceted reactions than those observed in PTSD, leading to Complex PTSD (CPTSD). A scoping review was conducted to explore the association between childhood trauma and chronic pain in adulthood, with a focus on identifying the psychological and biological mechanisms involved. Following PRISMA-ScR guidelines, 25 peer-reviewed articles were selected and thematically analyzed. Inclusion criteria covered empirical studies and reviews involving adult populations, published between 2005 and 2025. A strong association was found between cumulative ACEs and chronic pain, which supports the additional impacts of CPTSD compared to PTSD in chronic pain.

Only two studies focused on the specific impact of each CT and showed that emotional neglect and emotional abuse have the most persistent impact. Key mechanisms included dysregulation of the hypothalamic–pituitary–adrenal (HPA) axis, emotional dysregulation, and psychological distress. Further studies are needed to investigate the differential impact of each childhood trauma type. These findings support the hypothesis of a specific emotional pathway from early adversity to pain chronification.

86. Colorisme, femmes et stéréotypes ethniques: le poids des nuances colorées des traits

Author(s): Orchidée Doudy-Michez, Sabine Pohl

Abstract: Le colorisme est un type de discrimination peu étudié (Fall, 2022) en France (Ndiaye, 2008) comme en Belgique. C'est un biais de jugement positif vis-à-vis des personnes à la peau plus claire, qui se manifeste au niveau intra- et/ou interethnique (Doudy-Michez, Pohl et Moerenhout 2024). Plus la couleur de peau est foncée, plus la discrimination est marquée (Hall, 2017). La couleur de peau est le premier indicateur d'identification (Bourgeois, 2013) et de différenciation (Dixon & Telles, 2017). Il existe une hiérarchisation sociale selon la couleur de peau de l'individu et la couleur de peau noire est porteuse de stéréotypes et de discriminations spécifiques (Sealy-Harrington & Hamilton, 2017). Les stéréotypes ethniques sont prégnants (Leyens, 2012) et ceux attribués aux Noir.e.s, sont perçus comme relevant de faits et consensuels (Williams, 2014). Les stéréotypes ethniques liés au genre démontrent que les femmes noires sont évaluées de façon plus négative que les blanches (Cooley et al., 2018).

Dans cette expérience basée sur la méthode de l'association libre de traits stéréotypiques, chaque répondant·e (n = 150) via un questionnaire LimeSurvey génère 6 traits de personnalité négatifs et 6 positifs attribués à chacune de ces 3 catégories de femmes: blanches, noires métisses et noires. Les résultats confirment l'impact du colorisme sur l'attribution de stéréotypes ethniques. Il y a une valence différentielle des traits entre les femmes blanches et noires et au sein des femmes noires. De futures recherches sur le colorisme devraient aider à mieux cerner les stéréotypes ethniques touchant spécifiquement ces catégories de femmes.

87. The spectral exponent influences the synchrony measured via ITPC in gamma ASSRs

Author(s): Daniel Borek, Daniele Marinazzo

Abstract: Neural oscillations, particularly gamma synchronization, play a crucial role in brain function. Recent research suggests that the brain's ability to synchronise is closely related to the excitation-inhibition balance, which may also be related to the 1/f slope of power spectrum (the "aperiodic" component) of neural signals. This study investigates the relationship between Inter-Trial Phase Coherence (ITPC) and the spectral slope (aperiodic component) in Auditory Steady-State Response (ASSR), specifically in the gamma band. We re-analysed MEG data from 15 healthy subjects during 40 Hz auditory stimulation. Bayesian Multilevel Modeling was employed to examine the influence of stimulation on spectral slope and synchrony, measured via ITPC (at baseline and during the 300-700 ms of stimulation window), as well as the influence of spectral slope on ITPC across brain regions. We observed a strong effect of auditory stimulus on ITPC in auditory and related regions. However, there was no evidence that the sound stimulation directly affected the spectral exponent. We also examined how the spectral exponent influenced ITPC. Through the bayesian hierarchical modeling we found that the slope impacts the retrieved

estimates of synchrony. The differences observed when varying the spectral slope might simply reflect increased “noise” in the time-domain signal, potentially diminishing SNR and synchrony as measured by this method. Alternatively, from a biological perspective, this effect might be linked with excitation-inhibition balance, which influence both synchrony measures and spectral slope.

88. Reactivity to confidence ratings in belief updating

Author(s): Noé De Rijck, Wim Gevers

Abstract: Confidence is a key predictor of belief updates, in belief updating research it has thus become common practice to ask participants to estimate their own confidence before each update. However recent evidence suggests that the simple fact of eliciting confidence ratings can impact participant’s behavior. We investigated the effect of confidence ratings and difficulty on belief updating. We hypothesized that confidence ratings would amplify updating in difficult trials (Low confidence) and reduce it in easy trials (High confidence). We employed a within-subjects design, where participants completed a belief updating task with two conditions: Confidence and Color. The trials were presented in a mixed order. In each trial, participants first performed a numerosity-estimation-task, followed by either a confidence rating or a color-estimation-task, in which participants were asked to estimate the color of a stimuli. Finally, participants received a peer’s estimate and were allowed to update their initial estimation. Our analysis did not show interaction between the difficulty of the task and the Confidence/Color condition, however further exploration revealed a significant effect of time, with participants updating their minds to a lesser extent as the task went on. Repeating the analysis on the first half of the task, revealed a significant interaction of the Confidence/Color condition, as we hypothesized, confidence ratings amplified updating in difficult trials, and reduced it in easy trials, while updating was unaffected by the difficulty in Color estimation trials. Although preliminary, the findings show, that estimating one’s confidence alters the belief updating process.

89. French Version of the Negative Self-Portrayal Scale: Validation in the General Population

Author(s): Dany Lallement, Sabrina Julien-Sweerts, Mandy Rossignol, Chrystel Besche-Richard

Abstract:

Background: The Negative Self-Portrayal Scale (NSPS, Moscovitch & Huyder, 2011) is a questionnaire designed to assess concerns about appearing socially incompetent, physically unattractive, and/or visibly anxious to evaluative others. This study aims to translate and validate the NSPS in French general population.

Method: The sample included 583 adults (449 female) aged 18 to 70 (Mage= 25.93, SD = 10.32). Participants responded to an online survey included the Social Anxiety Questionnaire, the Social Appearance Anxiety Scale, the Hospital Anxiety and Depression Scale, the Rosenberg Self-Esteem Scale and the Body Esteem Scale.

Results: Confirmatory factor analysis provided an adequate fit for a three-factor model of the NSPS (CFI= 0.99; TLI= 0.99; SRMR= 0.07; RMSEA= 0.08). Also the NSPS showed good internal consistency (α= 0.95) and satisfactory test-retest reliability (r= 0.67, p <.001). Regarding its convergent and discriminant validity, the NSPS was positively correlated to social anxiety (r= 0.60,

p <.001), social physique anxiety (r= 0.59, p <.001) and anxiety and depressive symptoms (r= 0.33, p <.001), and correlated negatively with self-esteem RSE (r= -0.42, p <.001) and body satisfaction (r= -0.46, p <.001).

Conclusion: The French version of the Negative Self-Portrayal Scale presented a satisfactory factorial structure and psychometric qualities. This tool can help to conceptualize self-related anxiety and develop more individualized interventions. Further studies will be necessary to examine its psychometric qualities in clinical populations, particularly in people suffering from social anxiety.

90. Perceptions of Sexism in Political Discourse: Experimental Insights and Measurement Approaches

Author(s): Sofía Ardaya Velarde, Alice Dain, Berfin Acar, Christophe Leys, Jasper Van Assche

Abstract: This research investigates the perception of sexism in political discourses, focusing on how different forms of sexism (i.e., hostile, benevolent, and modern) influence people's evaluations of political speeches. We developed a new scale to measure sexism in political discourses, based on theoretical definitions of sexism and prior empirical findings. A 2x4 experimental design (gender of the politician: male vs. female; type of sexism: control, benevolent sexism, hostile sexism, modern sexism) was used to assess the impact of these factors on perceptions of sexism in the speech. In the first study, we collected data from a Belgian sample (N = 72), while the second study involved a Chilean sample (N = 359). The findings indicate that the type of sexism conveyed significantly affects the perception of sexism, with a significant interaction between the gender of the speaker and the type of sexism. Future studies will include a third study, which aims to replicate the first with a larger sample size, and a fourth study which will test the scale in an American context with an English-language validation (the first two studies were conducted in French and Spanish).

91. What bothers you more: a politician’s immorality or their disrespect of your personal value?

Author(s): Gwenaëlle Tamenne, Luca Fehér, Judit Kende, Olivier Klein

Abstract: Several studies have established that hypocritical actions carried out by politicians and organisations create negative emotions and diminished trust. However, no studies so far have investigated how the presence of moral transgression (hypocritical act) and personal values play a role in people’s reaction to governmental actions. We are interested in knowing whether the transgression of morality created by perceived hypocrisy would matter more or less than the actual values people hold, in the context of environmental protection. We additionally examine whether and how hypocrisy affects people’s emotional reaction and willingness of collective action. In the aim of achieving this, we are collecting data online in the US. We will manipulate whether the government is perceived as hypocritical or not, and we will analyse the relationship between perceived hypocrisy, emotional reaction and collective action intention. We hypothesise that people’s reactions will differ depending on the presence of hypocritical actions and whether those align with their personal values; would participants still be affected similarly emotionally by the perceived hypocrisy if the hypocritical action aligned with their own values, and vice versa ?

The results have not been collected yet but will be collected in the next month. Our findings will advance our understanding of perceived hypocrisy and its effects on emotions and motivation.

92. Effect of Cognitive Load on Fatigue Induction in Stroke Survivors

Author(s): Martin David, Maëlle Charonitis, Pierre Maquet, Fabienne Collette

Abstract: Introduction: Stroke survivors show a high propensity to fatigue. This fatigue is known to impact negatively performance, as well as the ability of stroke survivors to return to their day-to-day life. Yet, few studies examined induction of cognitive fatigue in stroke beyond the acute phase (> 6 months), leaving its mechanisms poorly understood. Methods: 29 stroke patients and 25 healthy controls first underwent a fatigue inducing task in either a high cognitive load (HCL) or a low cognitive load condition (LCL) using the x-Time Load Dual Back task. Following the fatigue induction task, a working memory task (Sternberg, set size from 2 to 7) was administered, along with visual analog scales of fatigue pre- and post-task. GLMMs were applied on (1) behavioural performance (accuracy and response time) at the Sternberg task and (2) subjective measure of fatigue (VAS-f). GLMMs included group (stroke, control), fatigue induction condition (HCL, LCL), as well as set size (2 to 7) for behavioural performance and time (pre-, post-task) for VAS-f. Results: We observed slower reaction times ($p < .001$) and higher subjective fatigue ($p < .001$) in the HCL condition. We also observed an increase of subjective fatigue over time ($p < .001$), with no difference between groups (Stroke, controls) across all measures. Discussion: Stroke survivors did not exhibit greater fatigue vulnerability under high cognitive load compared to controls. This challenges the assumption of higher propensity to cognitive fatigue in post-acute stroke, suggesting that other factors may contribute to their experience.

93. Functional Organisation of Neural Substrates in Visual Object Recognition

Author(s): Roos Malpart, Laura Soen, Hans Op de Beeck

Abstract: Recent research in visual neuroscience has highlighted the complexity of neural substrates underlying visual categorisation. However, the precise organisation of these neural representations remains unclear. We hypothesised that neural representations of objects follow a structured organisation in the brain with both shared and distinct neural representations, with varying degrees of connectivity depending on specific object categories. This hypothesis was investigated with the newly developed Word, Object, and Face Categorization Test, examining the localisation and representational overlap of 10 visual categories within the occipitotemporal cortex (OTC). The goal is to provide new insights into how visual object categories are represented and functionally connected in the brain. Preliminary results reveal distinct activation patterns associated with different object categories. For instance, faces strongly activate the fusiform face area, houses elicit greater activation in the parahippocampal place area, and tools are predominantly processed in the left lateral OTC. Additionally, early analyses suggest some degree of neural overlap between categories. Representational similarity analysis is currently ongoing to quantify this overlap, with expectations that similarity between "faces" and "bodies" will be greater than between "faces" and "tools," indicating distinct neural processing pathways. These analyses will be finalized for 10 participants before the conference. These findings will also have important clinical implications, particularly for understanding how lesions in the OTC affect

object recognition. As a result, this research may aid in diagnosing and treating conditions such as prosopagnosia and other visual recognition deficits after brain damage.

94. Implicit stereotyping through language: How generic vs quantified statements shape the perceived prevalence of traits in different (social) groups

Author(s): Felix Hermans, Ghazaleh Shahbazimorad, Walter Schaeken, Susanne Bruckmüller

Abstract: Background. Language plays a crucial role in shaping social perceptions. Besides “what” is said, “how” something is said influences perceptions of social groups. For instance, generic statements (e.g., "Adolescents are lazy") imply a broad and unquantified generalization, whereas quantified statements (e.g., "Some adolescents are lazy") convey a more precise quantity of group members having the trait. We present a series of studies from an ongoing project on how different statement types affect group perceptions. A key research question is whether group perceptions based on generic statements uniquely depend on the nature of the trait. Method. We developed an experimental paradigm that enabled us to investigate how different statement types affect how people think about the traits of different groups. Participants read generic or quantified (“some” vs “many”) statements about dangerous, neutral, or beneficial traits and then estimated what percentage of the target group and an alternative group possess the described trait. Results. For age groups, generic statements provoked higher estimated percentages than quantified statements. There was greater variance in the estimated percentages of traits for generic statements compared to quantified statements. Unlike what some theories of generics state, generics were not uniquely sensitive to the consequentiality of traits. Instead, participants assigned lower percentages to any statement describing dangerous traits, compared to statements describing neutral or beneficial traits. Conclusion. Generics may play a particularly forceful role in group perceptions because of their inherent vagueness. Alongside our ongoing and future research, we discuss how generics can implicitly facilitate stereotype transmission and propagation.

95. How does minority stress affect Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ+) couples and which available couple functioning instrument is most sensitive to it?

Author(s): Christopher Cash, Salvatore D'Amore, Alan Carr

Abstract: Couple functioning is assessed with standardised measurement tools. As popular instruments have been developed and normed on heterosexual couples, and recent instruments developed have limited validation data, it is unclear which instrument is most valid to assess couple functioning among LGBTQ+ couples. In light of minority stress theory, individual partners or couples experience unique adversity, low social support, and mental health issues due to being in a minority relationship. It is unknown whether couple functioning instruments are sensitive to experiences of minority stress, among different members of the LGBTQ+ community in comparison to heterosexual individuals, or whether instruments are associated with other relational processes that affect experiences of minority stress, such as attachment styles. This interdisciplinary project comprises three studies. A systematic review is currently being conducted to identify the three most psychometrically sound couple functioning instruments for LGBTQ+ couples. For Study 2, interviews with heterosexual, lesbian, gay, bisexual, transgender, and queer (including other diverse sexual/gender identities) individuals in a relationship will explore relationship challenges, strengths, and experiences of minority stress. Study 3 will be a cross-sectional and longitudinal survey, to validate the three identified couple

functioning instruments in a community sample of LGBTQ+ individuals, and compare which instrument is most associated with minority stress and attachment styles. Results have the potential to yield significant implications for research, clinical practice and inclusion for LGBTQ+ couples.

96. Parental Risks and Resources in Times of Family Transformation: A Preliminary Mixed-Method Study of Separated Parents

Author(s): Eric Lehance, Maria-Elena Brianda

Abstract: Parental separation brings significant changes within the family system, which may increase the risk of stress accumulation and resource depletion for both parents and children. According to the Balance between Risks and Resources framework, parents facing heightened stress are more vulnerable to adverse mental health outcomes, such as parental burnout - a chronic stress syndrome experienced in the parental role. While previous studies have documented parental burnout across different family structures (e.g., two-parent, single-parent, and blended families), no study has explored specific risks and resources experienced by separated parents, despite evidence that separation can impose significant short- and long-term challenges to the parental role. This study presents a thematic analysis of the subjective parenting experiences of five separated parents, integrating qualitative data from semi-structured interviews with validated quantitative measures of parental well-being. Results reveal that while parents typically face an intensification of stressors shortly after separation, some persist long-term. Key themes include coparenting dynamics (e.g. cooperation challenges, conflicts), shifts in parental identity and responsibility (e.g., overinvestment, loss, contrast in parental role), and contextual factors (e.g., changes in social networks, family reorganization, repartnering). Resources, such as strong social support, emerged as key facilitators of parental adjustment. These results provide a nuanced understanding of the stressors and resources encountered by separated parents, highlighting essential areas for further research and informing interventions aimed at supporting parental well-being post-separation.

97. Curiosity in the face of the uncertain: a developmental and comparative approach between infants and non-human primates

Author(s): Romain di Stasi, Quentin Delhaye, Adélaïde De Heering

Abstract: Curiosity is a fundamental driver of learning (Oudeyer et al., 2016), yet its development and mechanisms remain poorly understood. Among the identified mechanisms, some studies indicate that curiosity is stimulated by information that is neither too certain nor too uncertain (Oudeyer et al., 2016). This optimal (un)certainty balance maximizes the reward-to-cost ratio of information-seeking by ensuring that information is challenging enough to be engaging yet comprehensible. This, in turn, triggers curiosity, which drives individuals to seek information (Oudeyer et al., 2016). Similarly, Kidd et al. (2012, 2014) showed that 8-month-old infants exhibit increased curiosity—measured by their attention to stimuli—toward information that is neither too certain nor too uncertain, a phenomenon they call the *Goldilocks effect*. However, this effect has never been studied across ages or in non-human primates. To bridge this gap, we will compare both groups in a task where an experimenter sequentially presses the top button of a demonstration cube eight times, triggering a specific sequence of sounds. The cube will then be handed back to the subject, now silent. This procedure will be repeated with four additional cubes, each emitting sounds with varying probabilities (0, 1, 4, or 8 out of 8 button presses) to manipulate uncertainty. Infants' and primates' exploration (e.g., pressing different buttons, manipulating objects) and exploitation behaviors (e.g., repeatedly pressing the same button) will

be assessed for each condition and compared across species. This study thus offers new insights into universality and mechanisms of curiosity, bridging developmental and comparative perspectives.

98. Transcutaneous vagal nerve stimulation to promote neuroplasticity and memory in aging: a multimodal approach

Author(s): Haniyeh Nematollahi, Alison Mary

Abstract: Background: The rising prevalence of cognitive decline with aging necessitates innovative interventions. Transcutaneous vagal nerve stimulation (tVNS) presents a promising non-invasive tool to potentially counteract aging-related memory deficits by modulating brain activity and autonomic function.

Methods: This project, divided into three studies (S1-3), employs a crossover design with tVNS during wakefulness or sleep in both young and older adults. S1 investigates tVNS's effects on wakefulness, measuring physiological markers such as pupil dilation via high-resolution eye-tracking. S2 applies tVNS during slow wave sleep, with polysomnography (PSG) recording EEG and ECG to assess how tVNS changes sleep architecture and cardiac-brain coupling. S3 explores tVNS effects on neural network dynamics during wakefulness using simultaneous fMRI-hdEEG and assesses the locus coeruleus (LC) integrity via neuromelanin-sensitive MRI. Each study includes behavioral memory tests to evaluate tVNS impact on memory consolidation after a full night of sleep.

Results (Predicted): We anticipate tVNS, applied during wakefulness, to enhance emotional memory consolidation, supported by increased pupil dilation (S1). During sleep, tVNS is expected to optimize sleep-dependent memory consolidation and improve cardiac-brain interactions (S2). Lastly, enhanced tVNS-induced neural network dynamics and higher LC integrity are expected to correlate with better memory outcomes (S3).

Conclusions (Predicted): If effective, tVNS could offer a comprehensive approach to cognitive enhancement across the lifespan by modulating brain activity during critical periods of memory consolidation in wakefulness and sleep. These findings could pave the way for tailored therapeutic strategies targeting sleep and memory, which are crucial for aging populations at risk of cognitive decline.

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May 26th & 27th

JUNIOR PROGRAM

TACKLING THE REPLICABILITY CRISIS
OPEN SCIENCE IN ACTION

Workshop

with
Irem Öz
(UCLouvain, Belgium)

Tuesday, May 27th
09h00-10h20

MILGRAM DE SAVOIRS
A SCIENCE OUTREACH AND DISSEMINATION PROJECT


Laurèline Fourdin


Dr. Julia Eberlen


Dr. Sarah Leveaux


Inès Mentec

Workshop

with

Monday, May 26th
15h00-16h20

WOMEN IN SCIENCE

Workshop

with

BeWiSe

Tuesday, May 27th
11h20-12h40

UNCERTAINTY IN THE ACADEMIC CAREER PATH

Panel Discussion

with


Inès Mentec


Dr. Emiel Cracco


Dr. Emma Sarter


Dr. Annabel Nijhof

Monday, May 26th
16h30-17h50

TURNING IMPOSTOR FEELINGS INTO A SUCCESS STORY

Workshop

with
Siglinde Van den Bossche
(VUB, Belgium)

Tuesday, May 27th
15h10-16h40

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