Poster 81

EBP in Belgian clinical psychology

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(1) ULiège

Application of EBP is recommended in health care in Belgium. Thus, psychologists, as well as other professionals, are encouraged to consider several types of relevant evidence (research, clinician's expertise, patient's preferences and environmental context) when making clinical decisions. Nevertheless, EBP use by practitioners can be questioned. The purpose of this study was to explore French-speaking Belgian psychologists' EBP awareness and information behaviors as well as the information sources they use in their clinical decision making. An online survey in French was designed to assess their knowledge and practice (50 multiple-choice questions). It was disseminated for twelve weeks via social network. The survey was fully completed by 110 Belgian psychologists (clinical psychologists: 34; psychotherapists: 56; neuropsychologists: 19; other: 5). Only 72% of the respondents had already heard about EBP and 45% correctly defined this concept. Also, 27% defined EBP as the simple use of scientific evidence, without mentioning other types of evidence. Only 65% considered patient treatment preferences as one component of EBP process. In terms of the sources of information they reported using in their clinical decision, patient difficulties (94%) and clinical experience (92%) are more cited than research data (40%). Several barriers to the integration of evidence from research have been highlighted such as lack of resources (64%), lack of knowledge (59%) or know-how (54%). The survey data indicate that there is a need for more training for clinicians to improve their understanding of the EBP.
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Poster 82

(eligible for poster prize)

SpeakInVR: validation of a virtual audience

Elodie Etienne (1), Anne-Lise Leclercq (1), Angélique Remacle (1) and Michaël Schyns (1)

(1) ULiège

Nowadays public speaking is a vital skill in many circumstances and in very different fields: sales representatives who present products to customers, managers who defend their project in front of stakeholders, candidates during a job interview, teachers in front of students, etc. However, social anxiety may impede oral presentation performances. Repeated training in front of an audience can help to better control the speaker's emotions and skills, and improve speaking performances (Wallach et al., 2009). Given that training in front of a real audience can be logistically difficult to organize, virtual reality (VR) represents an alternative. Nevertheless, the emotional impact of the virtual audience on the speaker will depend on the emotional valence and arousal they attribute to the audience's avatars. The goal of the present study is to assess the emotional valence and arousal attributed to the avatars of a new virtual audience, depending on the avatars' attitude. Based on the methods from Chollet & Scherer (2017), 125 adults participated in this study. They rated the emotional valence and arousal of 8 avatars depending on their body posture, face's expressions, or head movements using Likert scales. Results show that compared to body postures and facial expressions, head movements were more readily linked to the emotional valence attributed to the avatars by the participants. Furthermore, arousal seems to be directly linked with the avatar's head movements and facial expressions. Full results from each parameter will be discussed.

Poster 83

(eligible for poster prize)

**Evidence for preserved episodic-semantic verbal declarative learning abilities
in children with developmental language disorder**

Soléane Gander (1), Aurélie Van Maerck (1), Gaétane Deliens (1) and Charline Urbain (1)

(1) ULB

It has been suggested that declarative learning is preserved in developmental language disorder (DLD, Ullman & Pullman, 2015). Yet, this hypothesis has been challenged by studies reporting atypical lexico-semantic learning abilities in DLD (Bishop et Hsu, 2015; Lum et al., 2010). Here, we test the hypothesis that verbal declarative learning processes mainly relying on the hippocampal function (e.g. the acquisition of new episodic-semantic representations) will be spared in DLD. To test this hypothesis, we compared immediate retrieval performance associated with a hippocampo-dependent verbal declarative learning task (see Urbain et al., 2016 for details) between 12 DLD and 12 age-, sex- and non-verbal IQ-matched typically developing (TD) children (7-13 yo). During the learning task, children had to learn new episodic-semantic associations between 50 non-objects and their magical function (e.g. with this object you can "stop the rain"; "open any door"). As expected, a t-test for independent samples revealed similar retrieval performance between DLD and matched TD children (p= 0.13). Of notice, all children were able to learn at least 75% of the new associations (i.e. to-be-reached learning criterion) and the number of learning sessions needed to reach this criterion did not differ between groups (p= 0.58). Together, our results show typical episodic-semantic verbal declarative learning abilities in DLD, suggesting preserved hippocampo-dependent verbal declarative learning processes in this population. Future studies are needed to better characterize the neurophysiological processes underlying verbal declarative learning in DLD and the specific circumstances associated with a preservation or an alteration of this function in these patients.

Poster 84

(eligible for poster prize)

The sense of presence: Validation of a new presence questionnaire

Michelle Heck (1), Aurélie Wagener (1) and Jessica Simon (1)

(1) ULiège

Over the past few decades, virtual reality (VR) has become a valuable tool in research and clinical psychology (Riva et al., 2020). The sense of presence is defined as the user's feeling of being inside the virtual environment and is a key concept of immersion in VR (Diemer et al., 2015). Although several self-reported presence questionnaires already exist, very few of them are validated in French, and generally fail to integrate the assessment of the social aspects induced by the avatars present in the virtual environment. In order to address these issues, the present study aimed at validating a new questionnaire of presence based on Slater's model (2009) and on Biocca and colleagues' model (2003). In particular, we based our questionnaire on the assessment of four dimensions of presence: place presence, plausibility presence, social presence and copresence. We developed a 12-item questionnaire and validated it in a VR snowball fight game among 149 participants. Confirmatory factor analysis with four latent variables revealed a good fit of the data to the model ($X^2(48)=54.37$; $p=.25$; RMSE=.030 ; SRMR=0.36; CFI=0.99; TLI=0.99). Furthermore, we observed good internal consistency (Cronbach's alpha =.90) and good concurrent validity with the Gatineau Presence Questionnaire. In conclusion, it seems like this new questionnaire could accurately assess the sense of presence in French-speaking participants.

Poster 85

Identification of interaction profiles in kindergarten to support language development

Lauren Houben (1), Caroline Bouchard (2) and Christelle Maillart (1)

(1) ULB; (2) Université Laval, Québec, Canada

Optimal language development highly depends on language experiences of preschool children. In Belgium, 97% of children from 3 to 5 years old attend school most of the day. School has thus a key role in language development, especially for children who have insufficient language experiences at home. Current Belgian and International studies found that language skills are not enough stimulated at school, confirming the need to study variables which influence the language interactions. The quality level of language interaction is influenced by teachers' characteristics, teachers' knowledge of language development, self-evaluation of education practices and reported education practices. Considering these inter-individual differences, this research aims to evaluate how to improve language support in preschool classes. For this purpose, we will evaluate the current quality level of language interaction between teachers and children with CLASS PreK tool. From this general level of interaction quality, we will assess whether different interaction profiles emerge among the teachers. Different profiles would indicate different needs in terms of language support. Understanding these individualized needs is essential for the implementation of any professional development.

Poster 86

(eligible for poster prize)

Training executive functions and social cognition in the classrooms

Marine Houssa (1), Nastasya Honoré (1), Alexandra Volckaert (1),
Marie-Pascale Noël (1) and Nathalie Nader-Grosbois (1)

(1) UCLouvain

As executive functions and social cognition are closely related, we developed a training program that targets inhibition and social information processing and theory of mind abilities in order to improve emotion regulation and social behavior in children at school. Participants were 241 children. The study took place in schools (in kindergarten and lower primary school classes) for one academic year. In each grade of each school, one class was assigned to the experimental group (n = 121), which received the intervention program, and one class to the control group (n = 120), which engaged in usual classroom activities. The program consisted of eighteen 50-minute sessions implemented in the classroom in the presence of the teacher (one session a week). Direct and indirect measures (tests and questionnaires completed by parents and teachers) were administered before and after the intervention program (pre and post-test). The results showed that tackling executive functions and social cognition in the classroom at an early age improved visual attention, inhibition and flexibility as well as Theory of Mind abilities (affective and cognitive mental states understanding) and social information processing skills (judgment of appropriate and inappropriate behavior, justification).

Poster 87

(eligible for poster prize)

**Assessing emotion regulation ability: development and
validation of a situational judgement test**

Veerle Huyghe (1), Arpine Hovasapian (1) and Johnny Fontaine (1)

(1) UGent

A new situational judgement test was constructed to assess emotion regulation ability among young adults, which is a key component of the emotional intelligence construct. The 10 scenarios of the Components of Emotional Understanding Test (CEUT; Sekwena & Fontaine, 2018), which were developed on the basis of qualitative research with black and white students in South Africa, were taken as a basis. First, focus groups generated 159 possible regulation mechanisms. Clinical psychologists then evaluated these regulation mechanisms on their helpfulness for dealing with the respective scenarios. For each of the 10 CEUT scenarios, two helpful and two unhelpful regulation mechanisms were selected on the basis of these expert ratings. In total 165 participants rated each regulation mechanism on their helpfulness to deal with the respective scenarios. The expected internal structure emerged with one bipolar emotion regulation factor and one unipolar acquiescent responding factor. The new scale showed good internal consistency (Cronbach's alpha of .81). The expected nomological network was by and large confirmed. The new regulation scale was substantially correlated with emotion understanding ability and the Situational Test of Emotion Management- Brief (STEM-B; Allen et al., 2015). It showed small to moderate correlations with wellbeing (positively), psychopathology (negatively), and with quality of social relationships (positively). It showed incremental validity in predicting the quality of social relationships compared to the STEM-B. It mediated all relationships of emotion understanding ability with the outcome variables. These results show first clear validity evidence for the new emotion regulation ability scale.

Poster 88

Bayesian modeling of hysteresis and adaptation in visual perception

Tina Ivančir (1), Eline Van Geert (1) and Johan Wagemans (1)

(1) KU Leuven

Several studies of serial dependence in visual perception presented evidence for the existence of hysteresis and adaptation effects (e.g., Bosch, Fritsche, Ehinger, & de Lange, 2020). Hysteresis is the attractive effect of a previous percept on the current percept and is assumed to help stabilize the perceptual system. In contrast, adaptation is the repulsive effect of a previous stimulus on the current percept and might be involved in emphasizing relevant and characteristic changes in the stimuli (Snyder et al., 2015). To improve the understanding of hysteresis and adaptation and to look for latent individual differences in the two effects, we attempted to model them. We used the data from the experiment by Schwiedrzik and colleagues (2014), in which they observed hysteresis and adaptation in the perceived orientation of dot lattice stimuli. Additionally, we adapted the code from an efficient coding model (Wei & Stocker, 2015), which takes noisy mapping between stimulus and sensory space into account when computing the likelihood in Bayesian inference of orientation perception. To investigate whether the efficient coding model can predict the hysteresis and adaptation effects in orientation perception of dot lattices, we adjusted it to the experimental design by Schwiedrzik et al. We performed hierarchical Bayesian fitting and model simulations. We will present the results from the model fitting and simulations. This study will provide further insight into the individual differences and the mechanism behind hysteresis and adaptation and hopefully inspire future models of the two effects in various contexts and experimental designs.
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Poster 89

(eligible for poster prize)

Negotiating ethnic identity at work: The relation between identity motives and coping strategies of women with a migration background in the workplace

Catho Jacobs (1), Colette Van Laar (1), Dorien Van De Mieroop (1) and Jenny Veldman (1)

(1) KU Leuven

When individuals from stigmatized groups feel that their identity is threatened in the workplace (through e.g. discrimination or prejudice) they actively cope with this through self-regulation and coping mechanisms (Van Laar et al., 2019). This poster presentation looks at two specific coping mechanisms (i.e. self-group distancing and finding solace in strong group identities of the stigmatized group) and investigates how they are related to identity motives (such as belonging, self-esteem or self-efficacy; Vignoles et al., 2006). Although previous research has already indicated that motives such as belonging or achievement play a role in coping with identity threat (e.g. Barreto, 2014), a more comprehensive view is missing in the literature. This study investigates (1) which identity motives drive the coping strategies of self-group distancing and moving towards the stigmatized group, and (2) what the effect of these strategies is on the fulfilment of motives. Importantly, we aim to innovate the methodology that is used to study coping strategies by investigating how linguistic and self-reported measures of moving towards the majority and/or minority group relate to each other. In particular, this study will collect data from approximately 100 women with a migration background, through an experience sampling method with weekly questionnaires and audio recordings across 6 weeks.

Poster 90

The impact of reading acquisition on adults' eye movement behavior

Julia Justino (1) and Régine Kolinsky (1)

ULB (1)

Reading is a visual task that places a strong emphasis on visual components and their interaction with the linguistic system. Reading acquisition consists of a complex cognitive process that involves the development of a series of sophisticated skills including eye movements' control to extract printed information. Over the years, several studies using eye movements monitoring have been carried out to examine the psychological processes underlying reading, and various theoretical models have been proposed. However, mainly due to the constraints imposed by this method on the recording of eye movements, most of the studies have focused on adults who have already strong reading skills and very little research has been done with children or adults at the start of reading acquisition. Nevertheless, a few studies have examined eye movement behavior in beginning readers in order to understand how this process evolves over time. They found several differences compared to highly skilled readers. Yet, studies with adult beginning readers remain rare. Thus, the aim of our study is to observe the development of eye movement behavior during reading acquisition process in adult literacy students. To this purpose we set up two linguistic tests using eye movements recording, adapted to this population. Results will be discussed in order to understand adult literacy students' process of reading acquisition and when possible, we will also discuss our results taking into account previous findings in the relevant literature.

Poster 91

(eligible for poster prize)

The development of being moved by sad music

Mareike Kaemmerer (1), Naomi Marchant (2) and David Grüning (3)

(1) UCLouvain; (2) ULB; (3) Heidelberg University

Listening to sad music can well be a positively moving experience. But at what age do individuals feel moved by sad music? Which underlying processes modify the development of emotional experience associated with music? The aim of the present study is to draw a temporal trend of childrens' experience to be moved by sad music. That is, we attempt to show how children's age affects their emotional response to sad music. To enlighten the underlying processes of this trend we will, across the age span of 3 to 12 years, assess (1) children's ability to use the theory of mind (ToM), (2) their ability for empathy, and (3) their attachment with central figures in their life. We plan to recruit pupils of different ages from Belgian schools. In the first part of the study, we will assess childrens' ability of ToM, empathy, and their attachment. In the second part of the study, the children will individually listen to a piece of sad music. Afterwards, their emotional responses to the music will be assessed with age appropriate questionnaires. With the planned study we hope to enlighten the developmental stages of being moved by music and identify mechanisms associated with this process.

Poster 92

(eligible for poster prize)

Reading abilities in deaf: Crowding effect on letters and symbols

Veena Kamble (1), Margot Buyle (1), Valentina Vencato (1) and Virginie Crollen (1)

(1) UCLouvain

Reading is a complex process that involves low-level visual processing, phonological processing, and higher-level semantic processing. Reading difficulty can therefore emerge from impairments at any stage of this reading circuitry. Interestingly, as deaf children often receive less complete linguistic inputs than their normally hearing peers, they often present reading deficits. While it is widely assumed that these impoverished readings skills are the result of poor phonological processing abilities, the studies examining the role visual constraints play in deaf reading are particularly scarce. In this study, we will therefore examine a basic and general phenomenon of visual perception associated with reading difficulties, the so-called crowding effect which is defined as a difficulty to recognize letters when surrounded by other letters. A string of 1, 3 or 5 characters (letters or symbols) were presented to congenitally deaf, hearing signers and hearing control adults, during 300 ms and to the left or to the right of a fixation cross. Participants were then required to determine, among two alternatives, what was the character presented in the middle of the sequence. Our results demonstrated that the crowding effect was similarly observed in the 3 groups of participants. Performances were indeed better for letters than for symbols and decreased with the number of characters presented. Deaf participants therefore demonstrated the same expertise with letters than their hearing counterparts. This result suggests that the deaf reading difficulties may be rooted in higher processing levels.

Poster 93

Eye movement response to caloric vestibular irrigations reveal the contribution of voluntary processes to autonomic reflexes

Matthieu Koroma (1), Clément Delcamp (1), Sepehr Mortaheb (1), Federico Raimondo (2), Marie Detroz (1), Philippe Lefebvre (1) and Athena Demertzi (1)

(1) ULiège; (2) Heinrich-Heine-Universität of Düsseldorf, Germany

Can autonomic reflexes inform us about higher-order cognitive processes? To address this issue, we studied habituation (a form of non-associative learning) of the slow, uncontrolled eye movement response (nystagmus) following repetitive caloric (warm water) vestibular irrigation. After a 30s irrigation trial (total trials=6), participants (n=26) either kept their gaze fixated, or let their gaze move free, testing voluntary adaptations of the nystagmus response measured with electrooculography (EOG). Participants also reported the intensity of the vertigo that they experienced after each irrigation. We found that the amplitude of the nystagmus response decreased over repetitive irrigations, revealing a clear habituation of the nystagmus response (repeated measures ANOVA with participants as random factor, $F(5)=-18.8$, $p<0.001$). We further show that the amplitude of nystagmus is reduced after the gaze fixation condition compared to the freely moving gaze (interaction between irrigation and fixation, $F(5,1)=5.1$, $p=0.025$). Finally, by relying on a model comparison approach, we demonstrate that the oculomotor response holds partial information on the decrease of the vertigo experienced over successive irrigations, suggesting a bi-directional interaction between central and autonomic processes (Likelihood-ratio chi-squared test between mixed-models predicting vertigo response including or excluding nystagmus duration, $\chi2(12)=11.96$, $p=0.013$). These findings suggest that reflexes carry partial information about voluntary processes. From the interoceptive active inference framework, these results might be relevant for evidencing signs of sentience when this cannot be communicated overtly.

Poster 94

**The development of bilingual number transcoding
at different stages of language acquisition**

Rémy Lachelin (1), Amandine Van Rinsveld (2),
Alexandre Poncin (1) and Christine Schiltz (1)

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Number transcoding is the cognitive task of converting numbers between analogic, verbal and visual symbolic codes. Visual to verbal symbolic transcoding, i.e. number reading strongly relies on language proficiency. How do bilinguals transcode two-digit numbers? We evaluated four age groups: 5th, 8th, 11th graders and adults of German-French bilinguals from Luxembourg transcoding in German and French. In the Luxembourgish educational system, children learn mathematics in German (LL1math) until the 7th grade, and then the language of mathematic learning (LL2math) switches to French. German two-digit number words follow a unit-decade order while French has a decade-unit order. Moreover, French number words above 60 have a base 20, which is not the case in German. Transcoding was evaluated with a symbolic visual to verbal production task and a verbal to symbolic visual recognition task. The results for the production task show for all age groups a consistent cost for numbers above 60 in French and a cognitive cost in LL2math transcoding. Recognition also reveals a cognitive cost for numbers above 60 in French for all age groups, but the cognitive cost in LL2math only manifests for 5th and 8th class. In conclusion, we replicate a language-effect for numbers above 60 related to the French base 20 system. Moreover, transcoding is less generally well mastered in LL2math. This is particularly persistent over time during the production task, while performance in both languages become similar in the recognition task. This study supports the link between numbers and language, especially during number production.

Poster 95

(eligible for poster prize)

Mental health in youths and COVID-19: One year in crisis

Florine Laforgue (1), Justine Gaugue (1), Laurence Ris (1) and Mandy Rossignol (1)

(1) UMons

For almost a year, the COVID-19 pandemic has caused a health crisis and psychological distress in the population, complicated by difficulties in reaching mental health professionals. In an attempt to prevent the increase of anxiety and stress, we launched, in May 2020, a self-help designed website, targeting children, adolescents, and young adults up to the age of 25. This site is built in two parts allowing the users to estimate their levels of anxiety and depression using well-validated screening tools before giving them access to empirically validated anxiety management tools (psychoeducation, emotion management, and relaxation exercises). We analysed the website usage statistics during the past year, and we observed an increased activity in parallel with the three epidemic waves. Each participant only answered once to the psychological scales. Analyses of the user's responses show that adolescents (from 12 to 17 years old) and young adults (18 to 25-year-olds) reported a significantly increase in the level of anxiety, depression, stress, and perceived stress, especially between May-June and November-December. The most severe distress was found in girls aged 15-16 years. Children aged 7 to 11 reported increases in separation anxiety, obsessive-compulsive behaviours, and generalized anxiety. In contrast, younger children did not show psychological impairment, suggesting that they were more protected from the impact of the crisis. We propose to detail these findings and to discuss the evolution of the measures of psychological health among our target groups during the past year.

Poster 96

Translation and validation of the French version of the revised Green et al., Paranoid Thoughts Scale (R-GPTS) in a non-clinical sample

Alizée Latteur (1), Frank Larøi (1,2,3) and Catherine Bortolon (4,5)

(1) ULiège; (2) University of Bergen, Norway; (3) University of Oslo, Norway;
(4) University Grenoble Alpes, France; (5) Centre Hospitalier Alpes-Isère, France

Paranoia is a delusional state found among many psychological pathologies, but also in a minority of individuals of the general population (Freeman, 2007). It can be measured using several types of questionnaires. One recent questionnaire that measures paranoia in both clinical and non-clinical populations is the revised Green et al., Paranoid Thoughts Scale (R-GPTS) (Freeman et al., 2019). This questionnaire is an improved version of the Green et al., Paranoid Thoughts Scale (GPTS) (Green et al., 2008) and has excellent psychometric properties. In the present study, the R-GPTS was translated into French and the psychometric properties of the new French version were evaluated in a non-clinical sample (N= 600). The internal consistency and construct validity (convergent and discriminant validity) of the R-GPTS were evaluated. Moreover, the R-GPTS was administered again one month later in order to measure its test-retest reliability. Finally, the original two-factor structure of the R-GPTS was tested (confirmatory factor analysis). Results indicated that the internal consistency of the R-GPTS is excellent (alpha = 0.92 for the total score, 0.88 for the reference scale and 0.89 for the persecution scale). Evidence of good convergent and discriminant validity was found. Test-retest reliability showed significant positive correlations as expected ($r > 0.7$). Our two-factor model showed a good fit: CFI = 0.92, TLI = 0.91, SRMR = 0.049, RMSEA = 0.051, $\chi2(134)$ =359.598, $p<0.0001$, $\chi2/df$ = 2.68. In conclusion, the French version of the R-GPTS seems to be a valid and reliable tool to measure paranoia in the general population.

Poster 97

(eligible for poster prize)

"Hope for the Best" vs "Fear the Worst": The roles of possible selves, math anxiety and cultural background on the motivation for math

Yun Lee (1), Brenda Jansen (1) and Sheida Novin (2)

(1) University of Amsterdam; (2) Utrecht University

The current study investigated whether a relation between math anxiety (MA) and self-regulatory motivation would depend on the cultural background and priming of possible selves. A total of 89 undergraduates with Dutch, Korean or Chinese cultural background were primed with either hoped-for selves, or feared possible selves. Subsequently, their self-regulatory motivation for a math-related course and MA were measured. Given the theorized role of culture in the influence of math anxiety and possible selves on motivation, we expected that students with an East Asian background (Korean or Chinese) would be more motivated for self-regulatory behavior when they had higher MA, and even more motivated when they wrote about feared selves compared to when they wrote about hoped-for selves. In contrast, we expected that students with a Western European (Dutch) background would be less motivated when they had higher MA, and even less motivated when they wrote about feared selves compared to when they wrote about hoped-for selves. Contrary to hypotheses, an interplay between MA, possible selves, and cultural background did not have an influence on self-regulatory motivation. Follow-up analyses for each cultural group revealed that an interplay between possible selves and MA did not have an influence on self-regulatory motivation either. Further exploratory analyses indicated that perceived importance of academic achievement interplayed with MA to predict self-regulatory motivation.

Poster 98

(eligible for poster prize)

Perceived symbolic threat, attitudes and beliefs toward the Islamic veil

Gaëlle Leman (1), Pascaline Van Oost (1,2) and Vincent Yzerbyt (1)

(1) UCLouvain; (2) ULB

Several studies have shown that Muslims in Western Europe are perceived as symbolically threatening (e.g., Moss, Blodorn, Van Camp, & O'Brien, 2019; Velasco González, Verkuyten, Weesie, & Poppe, 2008). Following the prediction of the intergroup threat theory model (Stephan & Stephan, 2017), the present study will investigate the relationship between perception of symbolic threat (i.e., regarding religion, values and beliefs) from Muslim people and attitudes as well as beliefs towards the Islamic veil among Belgian non-Muslim citizens. We will manipulate perceived symbolic threat by asking participants to elaborate on their opinion regarding threatening (vs neutral) claims about Muslim people. Then, participants will have to rate their agreement with various statements about the Islamic veil. We hypothesise that participants in the perceived threat condition (i.e., compared to the control condition) will report more negative attitudes and beliefs about the Islamic veil. The results will inform us about how the perception of symbolic threat from Muslim people can impact attitudes and beliefs toward the Islamic veil.

Poster 99

(eligible for poster prize)

Preschoolers' ability to learn new information: The role of parental reminiscing

Christina Léonard (1), Marie Geurten (1) and Sylvie Willems (1)

(1) ULiège

After several years of research, it is now well-established that parental reminiscing style (i.e., the way parents discuss the past with their child) positively influences the accuracy of children's autobiographical memory (Wu & Jobson, 2019). Some results have additionally suggested that parental reminiscing could also promote children's ability to learn new information (Langley et al., 2017). The present longitudinal study examines among 53 parent-child dyads what specific elements of parental reminiscing could predict preschoolers' ability to learn new information. To capture parental reminiscing style, we analyzed parent-child reminiscing about a prior standardized event (a museum visit). To assess children's memory performance, story recall tasks were administered at baseline and, on average 9 months later, at follow-up. Cluster analyses conducted on our scores of parental reminiscing revealed the existence of 2 clusters of parents (labelled as "high-elaborative" or "less-elaborative") that differed mainly on the content addressed during reminiscing. Specifically, high-elaborative parents engaged in richer reminiscing (i.e., by expanding on information about the event per se as well as on related information) and adopted a more metacognitive speech as compared to less-elaborative parents. Our results indicated that children of high-elaborative parents had better memory performance at the time of the reminiscing evaluation and at follow-up, confirming that differences in parental reminiscing could influence preschoolers' ability to learn new information.

Poster 100

Reporting quality of the literature on the pharmacological and psychological treatments of the alcohol-deprivation effect

François Léonard (1), Christian Monseur (1) and Ezio Tirelli (1)

(1)ULiège

Adequate reporting practices are essential to transparent and reproducible research. A lack of adequate reporting could notably reflect methodological deficiencies, a rampant problem in experimental and biological psychology. We assessed the reporting quality in the literature on pharmacological and psychological treatments of alcohol-deprivation effect (ADE), a popular behavioral animal model of alcohol relapse. A literature search on PubMed yielded 154 titles among which we extracted 68 articles meeting the inclusion criteria. We evaluated these articles according the reporting guide ARRIVE 2.0 that comprises 54 items, each of which being coded as properly reported or not. On a 55-point scale (including 0), the median reporting score was 27 [IQR: 24; 29.25]. The articles reporting scores moderately increased from 1993 to 2020, as suggested by a LOWESS regression generated from 100 000 bootstraps, the R^2 being 0.158 [CI95%: 0.036; 0.316]. This trend was supported by the comparison, using a two-sided Mann-Whitney U test, of the scores derived from the articles published before 2010 (first publication of ARRIVE) and those published after 2012, which resulted in a 9.61% increase with a moderate effect size r of 0.34 [CI95: 0.11; 0.55]. Our results generalize the low quality of reporting practices found in several fields of experimental and biological psychology to the field of ADE. Although we found a measurable and encouraging increase in the quality of reporting, there is still much room for improvement.

Power and True Report Probability (TRP) in the literature on
mice nicotine conditioned place preference

François Léonard (1) and Ezio Tirelli (1)

(1) ULiège

A lack of prospective power and use of effect sizes in the literature of various fields have been revealed and characterized over the years, giving rise to serious doubts on the reproducibility of many scientific results (Button & al. 2013, Nat.Rev.Neurosci. 14:365-376; Cohen 1962, Abnorm.Psychol. 65:145-153). To our knowledge, no study has address this problem in the field of experimental psychopharmacology using animal models. The articles were identified in PubMed. The sample size, the type of statistical test, its result, degrees of freedom and p-value were recorded. We then computed the individual and the median prospective powers for 6 possible effect sizes (Cohen's d: 0.01, 0.2, 0.5, 0.8, 1.2, 2). The TRP was computed from the median power, type-I error rate and the plausibility (prior probability). Amongst 139 articles, only 47 met our inclusion criteria for 109 statistical tests. In this sample, 77.57% of tests were significant. The median powers for small (0.2), medium (0.5) and large (0.8) effect sizes in F test were 9.56% [IQR 7.96%-11.5%], 34.45% [IQR 24.61%-47.01%] and 70.46% [IQR 52.92%-85.91%]. None of these numbers reached the recommended minimal prospective power of 80%. A 50% hypothetical plausibility yielded TRPs of 48.9%, 77.5%, and 87.6% for small, medium and large effect sizes. For a plausibility of 10%, the TRP were 16.1%, 40.8% and 58.5%. These results generalize to a subfield of animal-model experimental psychopharmacoloy (nicotine CPP in mice) the lack of power reported in the litterature of several neurobehavioural and psychological disciplines.

Poster 102

Arabic digit processing in adults with mathematical learning disability

Samuel Lepoittevin (1) and Alice De Visscher (1,2)

(1) UCLouvain; (2) Aix-Marseille Université

A core characteristic of people suffering from mathematical learning disability (MLD) is that they exhibit difficulties in simple tasks involving Arabic numerals. The main propositions that have been defended to explain these difficulties share the assumption that they reflect a deficit that would occur during the semantic stages of number processing; however, recent data suggest that the hypothesis of a digit visual recognition deficit could also be considered. To assess whether the difficulties in processing Arabic symbols in MLD could be explained by a digit visual recognition deficit, we compared 19 adults with MLD to 19 matched controls, first in a digit comparison task (i.e., deciding which of two digits is the largest), and then in a digit decision task (i.e., deciding whether or not the sign displayed is an existing digit). Two basic choice reaction time tasks (matched with the experimental ones for response requirements) were used to control for general differences in response speed. The results showed that MLD participants exhibited a significant slowdown in the digit comparison task only. They showed no specific difficulties in recognizing Arabic digits, neither as a group, nor examining each individual pattern of results. We therefore concluded that adults with MLD may exhibit difficulties in processing Arabic digits, while being able to visually process and recognize them efficiently. These results suggest that people with MLD encounter a core semantic deficit in processing Arabic numerals, affecting either the representation of numerical magnitude, or its access from symbolic number.

Poster 103

**The effects of event structure and duration on the temporal compression
of daily life activities in episodic memory**

Nathan Leroy (1), David Stawarczyk (1) and Arnaud D'Argembeau (1)

(1) ULiège

Mentally replaying past events (e.g., having breakfast, doing the laundry) generally takes less time than the actual event duration, a phenomenon known as the temporal compression of events (TCE) in episodic memory. In this study, we evaluated the extent to which rates of TCE depend on the structure and duration of events by manipulating both dimensions orthogonally. Thirty-seven participants were presented with movie clips of everyday activities that lasted 30 or 60 s and that included few or many event boundaries (EBs; moments within activities corresponding to the transitions between sub-events). For each movie, participants had to mentally replay the unfolding of the event they just watched in as much detail as possible. TCE was computed as the ratio between the actual event duration to the duration of mental replay. Results showed that TCE was higher for long than short movies and for movies that contained few EBs. In addition, there was a significant interaction between event structure and duration, showing that the TCE difference between long and short movies was smaller when the number of event boundaries was high. These results are consistent with the view that the unfolding of events is represented in episodic memory as a succession of experience units that are formed by the perception of EBs. With increased temporal distance between EBs, the experience units encoded in episodic memory would fail to include the entire segment duration between EBs, leading to temporal discontinuities in the representation of the event's unfolding and consequently higher TCE.

Poster 104

**Connecting the dots: Exploring psychological network analysis
as a tool for analyzing organizational survey data**

Senne Letouche (1) and Bart Wille (1)

(1) UGent

Organizations put a lot of effort in assessing how employees perceive aspects of their job. These perceptions are often modeled as latent constructs (e.g., job satisfaction) measured by multiple indicators. Although useful, this approach has certain limitations such as a lower performance in exploratory contexts with large numbers of variables. In the current paper, we introduce psychological network analysis as a promising method to examine a broad range of employee attitudes. The network approach allows studying complex patterns of relationships by modelling the different elements that make up an organizational survey as an interconnected system. This study illustrates the use of psychological network analysis in an archival employee survey collected from 507 employees of a business advisory firm. First, we constructed the network and tested its stability and accuracy after which we examine the relative importance of these items in the structure of the network. Second, we compare structural properties of networks in two groups of employees who are on different hierarchical levels within the organization. Our results reveal that structural properties of psychological networks can be examined to get a better understanding of employee perceptions. It is discussed how modelling employee perceptions as complex systems in which these perceptions emerge from the mutual interactions with each other constitutes a promising avenue for analyzing organizational survey data.

Poster 105

Weaker neural responses to lexicality and word frequency in dyslexic adults:
A frequency-tagging EEG study

Aliette Lochy (1), Emilie Collette (2), Bruno Rossion (2,3),
Marie-Anne Schelstraete (2) and Christine Schiltz (1)

(1) Université du Luxembourg, Luxembourg; (2) UCLouvain;
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Dyslexia, a persistent reading disorder, is characterized by different brain activation patterns when reading. Here, we used a Fast Periodic Visual Stimulation paradigm during EEG recordings to assess the sensitivity of dyslexics to fine-grained psycholinguistic variations of letter strings: lexicality, lexical frequency, and orthographic regularity. Dyslexic and non-dyslexic students watched 60-seconds streams of stimuli presented at 10Hz, in which deviant items are inserted periodically (1/8, at 1.25Hz). Results show discrimination responses at 1.25Hz over left posterior occipito-temporal regions, reduced in dyslexics. Group differences were significant for discrimination of word lexicality and frequency, but not for word regularity. Interestingly, dyslexics did not discriminate regular words within streams of pseudowords, although they had significant responses for irregular words. Altogether, our results show that FPVS response amplitude distinguishes normal from pathological population. Since explicit reading is prohibited by the fast rate, results suggest differences of automatic and implicit word processing in dyslexics. The lack of group difference for regular/irregular words is interpreted post-hoc as reflecting the life-long drill of dyslexics to irregular words.

Poster 106

**Brief heart coherence intervention among highly anxious individuals:
Effects on interoception and heart rate variability**

Giulia Lorenzato (1), Alice Bodart (1), Laurent Lefebvre (1) and Mandy Rossignol (1,2)

(1) UMons; (2) UCLouvain

Trait anxiety is a stable facet of personality, which has been associated with (1) reduced autonomic flexibility and (2) increased interoception. Indeed anxious individuals show a predominance of sympathetic activation and increased attention to their body sensations, this vigilance towards the body is likely reinforcing their anxiety. To clarify how these biomarkers, the autonomous system and interoception, influence one another, an experimental group of anxious participants benefit from a weeklong breathing program, meant to enhance heart rate regulation. Therefore respiratory rate is paced at each individual's resonance frequency. To help them synchronize their breathing, the mobile app Respirelax+ was used. Matched with them on age and gender, two control groups, an anxious and a non-anxious one, had to reflect on moral dilemmas and submit their answers in writing. To assess interceptive features prior and post intervention, participants completed the interoceptive accuracy (IAS) and attention scales (IATS) and performed the heartbeat counting task. Cardiac parameters were monitored with Polar H10 chest belt. We hypothized that resonance breathing fosters a state of calm, eventually resulting in a decrease in interoceptive components, with therefore a positive impact on the inflated attention towards body sensations. Statistical analyses are currently in progress and results will be presented at the conference. In addition to a further understanding of how interoception and heart rate variability are linked, our results would also allow to determine if a brief implementation of this breathing technique could not only serve anxiety and cardiovascular outcomes, but also improve dysfunctional interoceptive patterns.

Poster 107

Geometry intuitions without vision? A study in blind children and adults

Cathy Marlair (1), Elisa Pierret (1) and Virginie Crollen (1)

(1) UCLouvain

Geometry intuitions seem to be rooted in a non-verbal system that humans possess since early age and share with other animal species. However, the mechanisms underlying the comprehension of basic geometric concepts remain elusive. Some authors have suggested that the starting point of geometry development could be found in the visual perception of specific features in our environment, thus conferring to vision a foundational role in the acquisition of geometric skills. To examine whether vision is mandatory for the development of geometry, a test probing intuitive understanding of basic geometric concepts (e.g., line, points, figures, symmetry) was presented to twelve congenitally blind children and nineteen congenitally blind adults. Our results showed that the blind presented poorer performance as compared to the sighted participants who did the task in the visual modality (i.e., with the eyes open), but they performed equally well as the sighted who did the task in the tactile modality (i.e., with a blindfold). We therefore provide first evidence that geometric abilities are hindered by the lack of vision.

Poster 108

Parental self-efficacy and gender roles representations during toddlerhood: Methodological design

Anthony Mauroy (1), Sarah Galdiolo (1), Justine Gaugue (1)

(1) UMons

During toddlerhood, parents often face toddler's challenging behaviors, such as temper tantrums (Fauziah et al., 2019). Challenging episodes of disruptive behaviors can decrease parental self-esteem, a cognitive aspect commonly embracing two dimensions: parental self-efficacy (PSE) and parental satisfaction (PS). Reciprocally, parents with decreased self-efficacy interact with less positive affects and behaviors (Schulz et al., 2019). Studies often focus on maternal cognitions, regardless of paternal cognitions (Murdock, 2013). However, factors predicting PSE in mothers and fathers are different, supporting the hypothesis of gender differences (Sevigny & Loutzenhiser, 2010). Gender differences in representations of parental roles could influence parents' cognitions and behaviors with their child, but little information is available to this day (Favez et al., 2015). The first aim of this study is to determine how parental cognitions vary during a period of toddlerhood characterized by temper tantrums and how parental roles representations moderate parental cognitions. The second aim of this study is to determine how evidence-based practice such as video feedback (VF) interventions, effective to enhance sensitivity, positive behaviors, and self-efficacy in parent-child interactions (Balldin et al., 2018), could affect parental cognitions during the same period specifically regarding parents' representations of their role and gender. Specifically, our goal is to a) evaluate PSE, SP, and parental roles representations of both mothers and fathers of toddlers (20-28 months); b) evaluate how VF intervention can affect those variables during a period of toddlerhood characterized by temper tantrums. Methodological design will be presented in this poster.

Poster 109

(eligible for poster prize)

**The short- and long-term effects of music education on
visuospatial discrimination and verbal memory**

Anne-Merel Meijer (1), Kobe Desender (1) and Eva Van den Bussche (1)

(1) KU Leuven

Musical training is found to benefit music-related skills and general intellectual ability as well. Brain imaging studies have shown that the left planum temporal region of the brain is larger in musicians. Since this region is involved in language processing, musical training might have a beneficial effect on verbal memory. No effects were found in the right temporal lobe, which is linked to visual memory. However, research has shown that musical expertise benefits visuospatial discrimination in adults, especially in the vertical dimension. The present study assessed the effects of musical training on visuospatial discrimination and verbal memory. Children with at least two years of musical training and adults with at least ten years of musical training were compared to children and adults with no musical training. All participants performed a visuospatial discrimination task, where a horizontal or vertical reference line was presented and followed by a target dot. Participants had to indicate whether the dot was presented left/right or above/below the reference line. After each trial a word was presented that the participants had to remember. A word recall test was performed after the visuospatial task and again a week later. Results showed that musical training benefits visuospatial discrimination in children, especially on the vertical dimension. Verbal memory was better in musicians than in non-musicians, especially for the long-term memory in the adult musicians. These results indicate that musical training has a short-term beneficial effect on visuospatial discrimination and a long-term effect on verbal memory.

Poster 110

(eligible for poster prize)

Validation of a virtual audience for public speaking: Preliminary results

Pauline Menjot (1), Angélique Remacle (1,2), Michael Schyns (1),
Elodie Etienne (1) and Anne-Lise Leclercq (1)

(1) ULiège; (2) ULB

Public speaking is one of the most feared activities (Furmark, 2002). Speaker's anxiety influences their communication performance. While the literature highlights the benefits of public speaking training, is complex to implement in real -life (Goberman et al., 2011). Hence, virtual reality (VR) could be a viable alternative tool (Owens & Beidel, 2015). The aim of this study was to validate a virtual audience for public speaking by assessing its qualities (i.e., feeling of presence and cybersickness) and its ability to elicit emotional (i.e., anxiety) and behavioral (i.e., dysfluencies) reactions. Forty participants without social anxiety (attested to by the PRCS, Heeren et al., 2013 ; LSAS-SR, Heeren et al., 2012 ; and BFNE-S, Rodebaugh et al., 2004) or fluency disorders (confirmed by the SSI-4, Riley, 2009) were recruited. They had to give an oral presentation under three counterbalanced conditions (in an empty virtual conference room and in front of virtual and real audiences). We aimed to analyze their speech and anxiety and the quality of VR. Due to the health crisis, this methodology was only pre-tested on 8 participants. However, positive results, including a sufficient feeling of presence and the lack of cybersickness, suggest that this virtual audience can be a relevant tool. The methodology will be discussed in light of these first positive results, on the one hand, and of the characteristics that can be improved (realism of the virtual audience and methodological limits), on the other hand, for the benefit of future studies.

Poster 111

(eligible for poster prize)

Can working memory reduce the development of secondary hyperalgesia?
The role of cognitive load, sex, arousal, and fear.

Elke Meyers (1), Andrew J. Palmer (1), Emanuel van den Broeke (2),
Andreas von Leupoldt (1), Johan W. S. Vlaeyen (1) and Diana M. Torta (1)

(1) KU Leuven; (2) UCLouvain

Low-frequency electrical stimulation (LFS) of the human skin induces hypersensitivity to mechanical pinpricks. The concomitant execution of a highly demanding working memory task seems to interfere with the development of such hypersensitivity (Torta et al., 2020). The aim of the present study was to replicate and extend these findings by exploring the role of sex. Eighty-four healthy participants were randomized between two groups in which they engaged in a cognitive task before, during, and after receiving LFS. The control group performed a low demanding 0-back task whereas the experimental group performed a high demanding 2-back task. Electroencephalography (EEG) was used to record steady-state evoked potentials (SSEPs) elicited by LFS at 2 Hz. Skin conductance was recorded throughout the duration of the task. Intensity and unpleasantness ratings for mechanical pinpricks were collected before (T0) and 20 minutes after LFS (T1), the area of hypersensitivity was measured at T1, and ratings of perceived intensity and fear were obtained after the task. Based on the p-values, the behavioral results showed that although LFS induced mechanical hypersensitivity successfully, the intensity and unpleasantness ratings of the pinprick after LFS did not statistically differ between the two groups. Similarly, no difference was found in the area of hypersensitivity between the two groups. In addition, the results did not show any sex differences. In line with previous results (Torta et al., 2020), we found that higher ratings of perceived intensity of LFS correlated with greater hypersensitivity. In addition, fear of LFS showed a positive correlation with hypersensitivity.

Poster 112

An experimental study on the role of cultural concerns in emotional fit

Fattana Mirzada (1) and Jozefien De Leersnyder (1)

(1) KU Leuven

As global migration is on the rise, it becomes increasingly relevant to understand and foster the peaceful coexistence of various ethnic and cultural groups. One way to improve intergroup relations is through fostering emotional 'fit' among cultural minority and majority members since this reflects their mutual understanding of situations and may result in better social relationships (De Leersnyder, et al., 2014). Building upon prior findings that suggest that people's emotional fit with one another increases upon interacting (e.g., Anderson et al., 2003; De Leersnyder et al., 2011), this study aimed to address a) to what extent minorities' emotional patterns become contingent upon those of their majority peers while interacting and b) if the changes in emotional patterns can be understood from changes in 'concerns' – i.e. the goals and values people consider relevant in a situation and that reflect their interpretations of the situation at hand. To this end, we conducted a 7-trial quasi experiment with 40 dyads of Turkish or Moroccan Dutch minority and Dutch majority participants. On each trial, participants had to i) read an emotional situation; ii) individually report their emotional experiences (EPQ) and salient concerns (SVQ); and iii) discuss with each other in order to jointly complete the EPQ and SVQ once again. We test whether minorities' patterns of emotions as well as patterns of concerns come to fit those of their majority interaction partner and, if so, to what extent minorities' fit in concerns on one situation is predictive of their emotional fit in future situations.

Poster 113

Contentless thinking is associated with whole-brain positive inter-areal connectivity patterns

Sepehr Mortaheb (1), Laurens Van Calster (1), Paradeisios Alexandros Boulakis (1), Kleio Georgoula (1), Steve Majerus (1) and Athena Demertzi (1)

(1) ULiège

During spontaneous mentation, our minds are occupied with different contents, including periods of contentless thinking (mind blanking (MB)). As the frequency of MB events is non-negligible, an emerging question is whether this mental state constitutes an accidental blip or rather a default function of our ongoing mental flow. Using fMRI experience-sampling in 36 typical subjects during which MB could be chosen among various mental states, we show that MB is less frequent (5.75%) compared to sensory-oriented (Sens, M=19.79%), stimulus-dependent (SDep, 31.57%), and stimulus-independent thoughts (SInd, 42.90%), distributed equally across time (Chi-square uniformity test, x2=12.31, p=0.20). The probability of reporting mind blanking is low but equal when departing from the other states (Markov chain transition probability=0.06), suggesting that this state is not driven by specific mental content. FMRI phase-based coherence showed that a recurrent brain pattern of overall positive functional connectivity was closer to mind blanking reports (in the sense of cosine distance) compared to other mental states (p=0.03 for MB vs. Sens and p=0.003 for MB vs. SDep and p<0.001 for MB vs. SInd, generalized linear mixed effect model and posthoc Tukey's test). This indicates that mind blanking is a default mental state supported by an over-connected brain configuration. Such overall positive connectivity can reflect a distributed fight of multiple local units to enter into the supervisory attentional system, which may hinder reportable mental content formation.

Poster 114

(eligible for poster prize)

French adaptation and validation of the Climate Anxiety Scale

Camille Mouguiama-Daouda (1), M. Annelise Blanchard (1,2),
Charlotte Coussement (1,3) and Alexandre Heeren (1,2)

(1) UCLouvain; (2) Belgian National Science Foundation (F.R.S.-FNRS);
(3) Le Beau Vallon – Psychiatric Hospital, Belgium

The notion of climate anxiety—i.e., anxiety associated with perceptions about climate change—has gained traction in the last couple of years. Clayton & Karazia (2020) recently developed the 22-item Climate Change Anxiety Scale that measures climate change anxiety. They also examined the factorial structure of their newly developed scale and reported that a four-factor structure (i.e., cognitive and related emotional impairments; functional impairments; personal experience; behavioral engagement) best fit their data. In this preregistered study (https://osf.io/5pnvu), we aimed at developing a French adaptation of the scale and validating it in a French-speaking community sample (n = 305). Although our confirmatory factor analyses replicated the four-factor model implied by Clayton & Karazia (2020), our results also pointed to a unidimensional factor-structure as a plausible and simpler—though statistically sound— alternative model. Moreover, both the four-factor and unidimensional approach to the French version of the scale yield good metric properties, including internal reliability and divergent validity. In this presentation, we will also discuss the implication of a four-factor versus unidimensional approach to climate anxiety.

Poster 115

**Brief online intervention to modify interpretation biases in emotional disorders:
Study protocol for a randomized controlled trial**

Inés Nieto (1) and Carmelo Vázquez (1)

(1) Complutense University of Madrid, Spain

Cognitive biases seem to play an important role in the development and maintenance of emotional disorders such as depression and anxiety. Novel procedures, known as Cognitive Bias Modification (CBM), were designed to reduce these dysfunctional information processing modes. This study aims to develop a new clinically inspired 4-session online CBM program to modify biased interpretations (CBM-IClin) in depression and anxiety. Volunteer participants will be recruited via social media, posters and universities. They will be randomly assigned to the experimental group or a waiting list control group. Both groups will complete questionnaires measuring cognitive and symptom variables as well as two experimental tasks to measure attention, memory, and interpretation cognitive biases before and after the intervention. All participants will receive, via email, follow-up questionnaires two weeks and three months after the post-intervention assessment. Analyses will test the effect of this new CBM-IClin in cognitive and symptom variables as well as the mechanisms of change using mediation models. Several limitations of previous CBM procedures are addressed. This trial was prospectively registered on June 17, 2019 with the ClinicalTrials.gov NCT03987477.

Poster 116

**The impact of familiarity, place attachment, distance and
social capital on effective urban green space attendance**

Tania Noël (1) and Benoit Dardenne (1)

(1) ULiège

The numerous benefits linked to the presence of natural spaces in an urban environment are no longer to be demonstrated, whether on a physical level, a psychological level or regarding our social interactions. However, low park attendance would prevent all those benefits. This study focuses on the various variables that can influence the effective attendance of urban green space by citizens. The study was conducted as part of a pilot project to fight urban poverty in Seraing, Belgium. In order to understand what might influence area residents to attend local green spaces, three parks were studied. Based on the literature, we assume that the more familiar an individual is with the urban green space, the more the emotional bond (attachment) to the space will increase, which will result in an effective augmentation in space attendance. We also assume that the link between familiarity and attachment may be influenced by the individual's active involvement in neighborhood life (social capital). Finally, we assume that the link between attachment and actual attendance might be influenced by the distance between the home and the space. Hypotheses were tested using linear mixed models. Results show that the more participants (N = 231) are familiar with the evaluated green space, the more they are attached to it, which leads to an increased attendance. Moreover, the link between familiarity and attachment is positively influenced by the number of memberships in local groups and by the regularity of participation. Distance does not have a significant moderating effect.

Poster 117

(eligible for poster prize)

Lesion lateralization of multivariate cognitive profiles after stroke

Annick Odom (1), Nele Demeyere (2), Mauro Mancuso (3),
Céline R. Gillebert (1) and Hanne Huygelier (1)

(1) KU Leuven; (2) University of Oxford, UK; (3) National Health Service, Grosseto, Italy

Cognitive impairment is prevalent after stroke. Most studies investigating stroke-related cognitive impairments and their neuro-anatomical correlates used a univariate approach. That is, they focused on impairments in specific cognitive domains. In contrast, when clinicians interpret test results, they typically integrate results of multiple cognitive tests rather than interpreting each test result in isolation. In this retrospective study, we took a novel approach, investigating the associations between multivariate cognitive profiles and lesion lateralization post-stroke. Data of 2219 stroke patients from the UK, Italy, and Belgium were pooled together. Domain-specific cognitive impairments (language, memory, praxis, numerical cognition, attention, and executive function) were assessed using the Oxford Cognitive Screen (OCS). Test scores were classified as impaired or not impaired based on previously published language-specific normative data. Using a hierarchical cluster analysis of subtask impairments on the OCS, we created cognitive profiles for individuals with complete subtask scores (n=1669). Finally, we ran a Bayesian multinomial logistic regression using lesion lateralization collected from clinical CT and MRI scans and radiologist reports (n=1335). We will present results from a hierarchical cluster analysis, revealing common cognitive comorbidities in stroke patients detected with the OCS. In addition, we will present results of the association between multivariate cognitive profiles and lesion lateralization. This study will provide insight into common cognitive comorbidities after stroke and reveal how multivariate cognitive profiles are associated with lesion lateralization.

Poster 118

(eligible for poster prize)

Chemotherapy-related cognitive impairment in an infant mouse model of intrathecal methotrexate

Victoria Ossorio-Salazar (1), Silke Janssen (1), Disha Shah (1,2), Livine Craeghs (1),
Willy Gsell (1), Uwe Himmelreich (1), Zsuzsanna Callaerts-Vegh (1) and Rudi D'Hooge (1)

(1) KU Leuven; (2) VIB

The increase in survival rates following advances in cancer treatments demands a better understanding of the negative consequences that these treatments inflict in the quality of life of cancer survivors, who often report discomfort in the form of cognitive impairment after chemotherapy. Despite the attention that chemotherapy-related cognitive impairment (chemobrain) has received in the last decades, the extent of the damage remains largely unknown. To gain further insight, chemobrain should be understood as a multifactorial phenomenon that affects various areas of behavior and brain regions. In this study, we developed a pre-clinical mouse model to mimic one of the chemotherapy treatments for the most common pediatric cancer – acute lymphoblastic leukemia. More specifically, we examined the consequences that early exposure to intrathecal methotrexate have long-term. We investigated aspects of cognition, social behavior, and emotional behavior (anxiety) longitudinally using a battery of validated behavioral tests. In addition, neuroimaging techniques – diffusion tensor imaging and resting state fMRI – were used to examine underlying changes in brain structure (white matter integrity) and functional connectivity. Our findings aim not only to expand the current knowledge in the field, but also to contribute to the improvement of current interventions, and likewise to the development of tools for early detection of impairments.

Poster 119

Positive affect reactivity: the association with subclinical depressive symptoms and the moderating role of positive reappraisal in general population young adults

Ana Mar Pacheco-Romero (1,2), Joana Velozo (1) and Thomas Vaessen (1)

(1) KU Leuven; (2) Universidad Complutense de Madrid, Spain

The onset of depressive symptoms, which previous work suggests is predicted by an increased negative affect (NA) reactivity to daily hassles (i.e. NA reactivity), may be likewise explained by a decrease in positive affect (PA) (i.e. PA reactivity). So far, most studies have investigated PA as a buffer against NA reactivity, and studies on the direct effect of PA reactivity in depression are inconclusive. This study investigates the relationship between stress, PA and subclinical depressive symptoms in a sample of general population young adults. In addition, we tested if positive reappraisal (PRA) increases PA at moments of stress and if it influences the association of depressive symptoms with PA reactivity. A total of 52 young adults participated in a momentary assessment study with the experience sampling method (ESM), collecting appraisals of stress and PA in daily life. Baseline levels of depression symptoms and trait PRA were obtained with validated questionnaires (subscales of DASS21 and CERQ, respectively). Linear multilevel regression was used to conduct the analyses.Findings show a significant main effect of stress on PA in all the models. However, there was no effect of depressive symptoms or PRA on PA reactivity. In conclusion, there was no support for the association between PA and subclinical depressive symptomatology. Likewise, PRA did not attenuate the effect of stress on PA. Further studies should investigate the effect of PA reactivity at follow up or with a more precise subclinical sample selection. PRA should be measured as a state variable.

Poster 120

**Meta Analysis: Are unpredictable painful stimuli always
perceived as more intense and aversive?**

Fabien Pavy (1), Aurelia Scarpa (1,2), Jonas Zaman (1),
Andreas Von Leopoldt (1)* and Diana Torta (1)*
(*co-supervisors)

(1) KU Leuven; (2) University of Sassari, Italy

Pain is a highly prevalent and aversive bodily symptom. Many theories and studies seem to support the notion that unpredictable pain is perceived more negatively and intense compared to its predictable counterparts. However, a recent review has revealed more mixed findings such that, unpredictable relative to predictable pain stimulation might also lead to equal or even less negative and intense pain perception. To help clarifying how pain perception is modulated by unpredictability, we decided to perform a systematic review and meta-analysis focusing on the effects of unpredictability on perceived pain intensity and unpleasantness. To this end, two researchers will independently screen the literature, evaluate the possible risk of bias of the selected articles and calculate the standardized effect sizes of the outcomes between the predictable and unpredictable conditions. To investigate the causes of heterogeneity, we will first realize exploratory single predictor meta regressions, corrected for multiple testing. In a second step, we will perform random forest analyses to rank the predictors according to their importance. One advantage of the random forest analyses is that through the decision trees it considers all the possible interactions between the predictors, and will therefore be complementary to the single predictor meta-regressions. We believe that this work will clarify the overall effect of unpredictability on pain perception and will identify variables being potentially responsible for the increased pain perception following either unpredictable or predictable painful stimulation.

Poster 121

(eligible for poster prize)

Effects of transcutaneous auricular stimulation of the vagus nerve on event-related pupil size as a function of stimulation parameters.

Ana Perković (1), Martina D'Agostini (1), Andreas M. Burger (1), Mathijs Franssen (1), Stephan Claes (1), Andreas von Leupoldt (1), Peter R. Murphy (2) and Ilse Van Diest (1)

(1) KU Leuven; (2) Trinity College Dublin, Ireland

Transcutaneous auricular vagus nerve stimulation (taVNS) is a non-invasive technique that stimulates the auricular branch of the vagus nerve. TaVNS has been tested as a potential treatment for a variety of conditions, such as drug-resistant epilepsy and depression. One of the mechanisms hypothesized to underlie its effects is an increase of the noradrenergic activity (NA) in Locus Coeruleus. Evidence for such working mechanisms of taVNS in humans is, however, preliminary at best. Knowledge on the most effective stimulation parameters of taVNS is also scarce. A non-invasive way to assess NA activity in humans consists in measuring pupil size. This project aims to investigate whether taVNS increases pupil size as a function of stimulation parameters. 40 healthy individuals will receive sham stimulation (left earlobe) and taVNS (left cymba concha) in two separate sessions, in a counterbalanced order. Short bursts (5s) of seven stimulation settings varying as a function of pulse width and intensity will be administered 16 times in separate blocks. Pupil size will be measured in parallel. We expect short bursts of stimulation to elicit phasic NA activity as measured by event-related pupil dilation. We hypothesize that higher stimulation setting will elicit larger event-related pupil dilation in taVNS, compared to sham condition. In specific, larger stimulation settings in the taVNS condition are expected to linearly increase event-related pupil dilation. This project may inform about the mechanism and most effective stimulation parameters of taVNS, that are imperative to maximize the potential therapeutic benefits of taVNS.

Poster 122

Face perception: How many dimensions are there?

Ninon Puttaert (1) and Benoit Dardenne (1)

(1) ULiège

How many dimensions are there in face perception? Traditionally, both cognitive and social psychology have considered 3 dimensions: warmth, competence, and dominance. Other dimensions have received so far few if any consideration but appeared important in other areas of social judgment: trustworthiness, morality, openness, and neuroticism. We presented randomly a total of 80 faces to 323 participants. They were asked to rate a subset of faces on 21 items (three per dimension) on a 7-point Likert scale. A total of 323 participants * 10 faces * 7 dimensions * 3 items = 68880 ratings was collected. The results of an exploratory factor analysis based on parallel selection suggested a 7 factors structure explaining 61% of the variance. Bartlett's Test of Sphericity gave a p-value < 0.001. The normed $\chi 2$ of this model was 4.83. An EFA enforcing a 7-factor structure (minimum residual extraction and promax rotation) revealed that all items loaded on their expected dimension. Only the traditional 3 dimensions and trustworthiness had a sum-of-square loadings > 2, altogether explaining 40% of the variance. In order to test this 7-factor structure, we performed a CFA. The normed $\chi 2$ was 16.90. Parsimony of the model was reasonable (RMSEA = .07 with 90%CI [.068:.072]), reasonably different from a null model (CFI = .92), and the overall difference between the observed and predicted correlations was also satisfactory (SRMR = .07). Are the 3 traditional dimensions enough or should there be more? If so, how many? This question should be addressed in future studies.

Poster 123

The impact of syntactic knowledge on working memory for serial order

Pauline Querella (1) and Steve Majerus (1,2)

(1) ULiège, Belgium ; (2) National Fund for Scientific Research, Belgium

While a vast number of studies have shown that the retention of item information in verbal working memory (WM) is strongly determined by long-term language knowledge, the interaction between the retention of serial order information in WM and verbal long-term is much more controversial. This study explored the impact of syntactic long-term knowledge on serial order retention abilities in WM. We presented to French speaking participants sequences of adjective – noun pairs, with adjectives either preceding or following the noun. The French language is of particular interest here as depending on the type of adjective, the most frequent positional occurrence of an adjective is either before or after the noun. We constructed adjective-noun pair lists that either obeyed to these statistical syntactic rules or that violated these rules. We hypothesized that if serial order recall in WM depends on long-term knowledge, then serial order recall errors should be larger for WM lists including adjective-noun pairs with infrequent/illegal positional arrangement, and serial order migration errors should occur involving positional regularization of the infrequent/illegal adjective-noun pairing. This hypothesis was tested in 120 participants (18-35 years old) who had to memorize and repeat 6-word lists containing each 3 adjective-noun pairs, the pairings following the syntactically most frequent order or not. Data analysis is on-going and preliminary results will be presented.

Poster 124

(eligible for poster prize)

Integration of attention control factors: An EEG study

Einat Rashal (1) and Nico Boehler (1)

(1) UGent

Attention can be controlled by bottom-up, stimulus driven, and top-down, goal-driven sources. The current study aims to examine how the different sources are integrated, using known EEG components related to attention – N2pc (i.e., lateralized negativity elicited 200-300 ms from stimulus onset), and Pd (i.e., lateralized positivity 200 ms from distractor onset). We used endogenous cues for top-down attention control and saliency for bottom-up attention control in a visual search task. Participants reported the orientation of a tilted target preceded by a valid or neutral cue. On some of the trials the target appeared in a different color, rendering it salient. On the other trials, target appeared with or without a salient distractor. Cueing effects were found on RT and accuracy, showing general facilitation of responses to validly cued targets. Responses were delayed when the search array contained a salient distractor. N2pc was found only in trials where the target was preceded by a neutral cue. Pd was evident only in trials where a target was preceded by a valid cue. The lack of N2pc in the validly cued trials suggests that no further engagement of attention was required by the search or the task. The evidenced Pd following a valid cue suggests the involvement of attention in the suppression of a salient distractor.

Poster 125

(eligible for poster prize)

Social interactions and work event experiences

Gudrun Reindl (1) and Jonas W. B. Lang (1,2)

(1) UGent; (2) University of Exeter, UK

How do work experiences alone differ from face-to-face work experiences with others? Researchers have long suggested that social interactions in daily life are important and Susan Pinker has popularized the positive effects of regular social interactions under the term the "village effect". However, the exact correlates of face-to-face interaction are not well understood and the evidence for these effects from actual events in daily work life is limited. To study the role of social interactions in daily work life, information on 656 work events within 216 employees was gathered using diary designs before and during the COVID-19 pandemic. Participants rated their work events using the multidimensional CAPTION situation taxonomy that has recently been adapted for work events (Reindl, et al., in press). Structural equation modeling revealed that social interactions were directly linked to affective event dimensions so that social events were more positive, more humorous, and less adverse than events alone. Leader interactions were experienced as more cognitively challenging but also less humorous than work events with coworkers. Data gathered during COVID-19 showed that especially alone events were perceived as more complex but also as less negative. Overall, the findings support the idea that social aspects of events act as momentary resources and thus explain variability in daily event experiences. Theoretical and practical implications will be discussed.

Poster 126

(eligible for poster prize)

**The role of spatial and temporal dimensions in working memory for serial order:
An fMRI study**

Robin Remouchamps (1), Steve Majerus (1) and Lucie Attout (1)

(1) ULiège

Serial order in working memory (WM) is a fundamental component to process information. However, the way our brain represents serial order information remains largely debated. Two major hypotheses are currently proposed in the literature: one considering that serial order could be represented using spatial codes, according to a left-to-right dimension; a second one considering a time-based coding, where each item would be associated with a dynamic temporal context. We currently do not know if one these two codes is used preferentially, if both codes are used at the same time, or if they reflect a more general ordinal reference frame to represent serial order information. To test these hypotheses, participants performed three tasks in an fMRI scanner: a spatial task where participants had to detect the left-right spatial location of a dot; a temporal task where participants had to detect the occurrence of a high frequency sound within a temporal sequence of low frequency sounds, occurring at the beginning, the middle or the end of the sequence; an order WM probe recognition task where participants had to judge the serial order of two probe letters, with different serial positions of the WM list being probed. We will determine if one these codes is used preferentially, via multivoxel pattern analyses, by examining whether the discrimination between left/right in the spatial task and/or between start-of-list/end-of-list target items in the temporal task can predict the start-of-list/end-of-list serial position of the WM items that are being probed. Preliminary results will be discussed.
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Poster 127

Assessing the prevalence of mind-blanking and its relation to attentional processes in a typical aging population

Aurèle Robert de Beauchamp (1), Matthieu Koroma (1), Kilian Elfert (1), Christine Bastin (1) and Athena Demertzi (1)

(1) ULiège

During spontaneous thinking the stream of consciousness is constantly fluctuating, as attention switches focus from one thought to another. But what happens when the content of some thoughts cannot be reported? Mind Blanking (MB) characterizes this particular mental state which appears as content-less thinking. MB may be relevant for the elderly population especially in light of ageing-related cognitive decline which may affect social interactions. The aim of this study is to explore MB occurrences in a cohort of elderly participants (65-75 years) and a control group of younger subjects (20-30 years). Using thought-sampling, a task which consists of behaviorally recording the content of the subject's thoughts at rest, we will measure the frequency of MB reports in relation to stimulus-related and stimulus-independent thoughts. Since age is negatively correlated with attentional processes, we hypothesize that there will be a positive correlation between age and MB occurrence frequency. Subjects will then answer the standardized ASQ questionnaire measuring different dimensions of attention. This study suggests that mental content (internal self-reflection) may be influenced by the impact of advancing age on cognition and more specifically, attentional abilities.

Poster 128

Motives and patterns of Instagram use in university students: a qualitative study

Silvana Romero Saletti (1), Stephan Van den Broucke (1) and Palmyra Zollo (1)

(1) UCLouvain

Using Social Networks Sites (SNS) is popular and has a substantial repercussion on the way we stablish and maintain online and offline relationships. However, there is a growing awareness that SNS use can have negative effects and evolve to problematic use. Instagram, with a billion active users, is the second most engaged social network after Facebook and at least 71% of their users are under 35. Since Instagram relies heavily on posting images and stories as the primary means of expression, it can be assumed that its pattern of use and related problematic use will differ depending on the specific motivations and sought gratifications, yet thus far no studies have investigated this. The purpose of this study is to understand the motivations, sought gratifications and patterns of use of Instagram use among university students. Ninteen Belgian and Peruvian students were interviewed individually using a semi-structured interview focusing on their use of Instagram. An analysis using grounded theory methods allowed us to identify the following motives: self-expression, curiosity and comparison, documenting, entertainment, connection, following trends, avoidance of uncomfortable emotions, need to be seen, information, professional use and make an impact on others. Regarding usage patterns, we found different degrees of loss of control, urge to enter the platform and engagement, a variety of emotional reactions, a pattern of striving for perfection, comparison and passive use. All these findings suggest that different motives entail different and varied usage patterns which can derive in problematic use.

Poster 129

A brief version of the DIPSI maladaptive trait measure for children and adolescents

Victor Rouco (1), Raissa Franssens (1) and Barbara De Clercq (1)

(1) UGent

This poster will present the development of a short and accessible maladaptive trait measure that covers all relevant aspects of developmental trait pathology, in order to comprehensively assess potential antecedents of personality pathology. From this perspective, we constructed a 98-item version of the well-established DIPSI measure (DIPSI-B), that is fully age-neutral across the developmental stages of childhood and adolescence and further includes those items from the original measure with the most optimal coverage of the latent traits. Relying on a large community-based sample of Flemish children and adolescents (N = 1873) randomly split and balanced in terms of age and gender, a precise selection of items was performed followed by an inspection of psychometric properties. The final item-set appears to be reliable, structurally stable, and invariant across both gender and age. We hope that its feasibility stimulates the integration of the DIPSI-B in ongoing prospective designs examining developmental antecedents of personality disorders.

Poster 130

(eligible for poster prize)

Exploring the relationship between source monitoring and cognitive theory of mind in schizophrenic patients with and without auditory hallucinations

Coralie Rouge (1), Alice Bodart (1) and Mandy Rossignol (1).

(1) UMons

Schizophrenia has been associated with cognitive deficits that affect cognitive Theory of Mind (ToM) or source monitoring. In particular, schizophrenic patients (SP) may misattribute their self-generated thoughts to external sources, and this external attribution bias (EAB) would be responsible for auditory hallucinations (AH). In these patients, an altered inference of one's own and other's mental states (cognitive ToM deficit) could contribute to the EAB and lead to AH. Yet, while an association between these cognitive functions has been shown in children's populations, no study so far has investigated this question in schizophrenia. Thereby, this study aims to investigate the relationship between AH, source monitoring and cognitive ToM. To do so, 17 male schizophrenic inpatients with (9) and without (8) AH and 17 controls paired in age and gender undertook a source monitoring task with three conditions distinguishing two internal sources (words read aloud VS. imagined), two external sources (words read by female VS. male voices) and internal with external sources (words imagined VS. heard). Cognitive ToM was assessed by a referential communication task (Champagne-Lavau et al., 2009) which consists of an interaction between interlocutors about tangrams. We hypothesize that SP will show (i) less efficient source monitoring and cognitive ToM, (ii) a correlation between cognitive ToM deficit and EAB and (iii) these deficits will be majored in patients with higher levels of AH. Results, which would allow us to better understand the mechanisms related to AH in schizophrenia, are being analyzed and will be presented at the conference.

Poster 131

(eligible for poster prize)

Characterization of cognitive fatigue in middle-aged participants

Maurine Salmon (1), Elisabeth Robert (1), Fabienne Collette (1) and Jessica Gilsoul(1)

(1) ULiège

Cognitive fatigue (CF) is a major source of work-related and traffic accidents. While the impact of prolonged cognitive activity in young adults is well documented, little information exists on the effect of CF on middle-aged people. However, some data highlight the specific sensitivity of that population to CF. We investigated here the influence of variables related to everyday life on the installment of CF in middle age. Sixty-six participants aged from 40 to 65 were recruited (50.98 ± 5.83 years old; 32 females. They first completed questionnaires encompassing demographic information, health status, quality of life, subjective fatigue and sleep quality. In a second session, they were submitted to the Psychomotor Vigilance task before a 100 minutes Stroop task. Assessment of CF was performed by analyzing changes in response times across the Stroop task (four blocks of 25 min) on the ex-gaussian tau parameter (known to be sensitive to fatigue effects) for each kind of item (Facilitator, interferent, neutral). Our results indicate that the relation between the blocks and the tau parameter is quadratic and varies among participants. There also exists a significant association between tau and the subjective fatigue index (p = .0352) as well as a significant interaction effect (p = .0486). However, no association was found with questionnaire assessing health status and quality of life. These results suggest that individual characteristics related to daily life (including health problems) are not the main determinant of cognitive fatigue in middle age.

Poster 132

(eligible for poster prize)

Mental arithmetic relies on the oculomotor system to alleviate cognitive load

Samuel Salvaggio (1), Laurence Bremer (1), Nicolas Masson and Michael Andres (1)

(1) UCLouvain

A dominant idea in cognitive psychology is that internally generated images provide a support to abstract mental activities. Several studies showed, for instance, that numbers are represented in ascending order along a left-to-right oriented continuum, so that subtraction or addition generates a shift in eye position to the left or right of this continuum. In an attempt to specify the role of the oculomotor system in arithmetic problem solving, we tested the hypothesis that eye movements occur to discharge the cognitive system in effortful conditions. Participants were informed that they would have to solve aurally presented problems whose result ranged from 11 to 78. We created two separate lists of problems: (i) a low cost condition where the presentation of the double-digit operand first (21+7) made the result highly predictable and (ii) a high cost condition where the presentation of the single digit first (6+41) made the result less predictable in the initial stage and imposed further effort to narrow down the response range. An eye-tracking camera was used to measure the amplitude and time course of the eye drift associated with calculation. Results showed that, compared to a control condition, the eye position drifted rightward after participants heard the second operand in the high cost condition only. The difference between low and high cost conditions was also reflected in response times. These findings suggest that the oculomotor system is involved in the spatial coding of numbers on a mental continuum to alleviate the cognitive load during arithmetic problem solving.

Poster 133

(eligible for poster prize)

Executive Function, Self-Regulation and Teacher-Student Interaction in preschool and primary school children: A systematic review

Simona Sankalaite (1), Jolien Dewandeleer (1), Canmei Xu (1),
Mariëtte Huizinga (2) and Dieter Baeyens (1)

(1) KU Leuven; (2) Vrije Universiteit Amsterdam

Executive functions (EF) and self-regulation (SR) are fundamental for children's learning, school functioning and academic achievement. Core EF/SR skills rapidly develop in preschool and continue to develop throughout childhood. However, in general, EF/SR fail to develop to its full potential if the contextual stimulation is not adequately presented. Recent research has shifted the attention towards malleable environmental factors; more specifically, to the role of school and classroom environment as an important developmental context for promoting children's EF/SR skills and, in turn, their cognition and behaviour. Numerous observational studies have shown a correlation between the quality of teacher-student interaction (TSI) at the dyadic or the classroom level and children's EF/SR skills. To explore this association further and to provide more insight, the objective of this systematic literature review is to examine the causal effect of interventions that aim to improve children's EF/SR with an added manipulation of the TSI. Generally, the results indicate that children in the intervention groups show higher gains in EF/SR compared to controls. More importantly, the findings reveal the largest effects of interventions in those performing most poorly at baseline, suggesting that the cognitive deficits can be minimised if children are supported appropriately. This review informs and highlights the need for more research (and interventions) explicitly investigating TSI and its potential influence on EF/SR in children. It aims to provide information as to which specific aspects of TSI need to be examined more closely; hopefully, instructing further development and implementation of lenient and effective interventions in education.

Poster 134

Baby don't hurt me: Victimization and perpetration experiences of offline and online intimate partner violence

Janneke M. Schokkenbroek (1), Wim Hardyns (1) and Koen Ponnet (1)

(1) UGent

Intimate partner violence (IPV) is a highly prevalent phenomenon. While many studies have identified patterns of IPV victimization of women and perpetration by men, female perpetration and male victimization experiences are often overlooked. Additionally, most previous research among representative samples has focused on the occurrence of physical forms of IPV, often neglecting other forms of partner violence such as psychological or cyber (i.e., the use of online means to control the behaviour of one's partner) IPV. In the present study, associations between and prevalence rates of victimization and perpetration experiences of physical, sexual, psychological and cyber partner violence were examined among a representative sample of adults. Additionally, we examined differences between men and women in these experiences. To do so, we conducted a survey study among a representative sample of citizens of Ghent. Of the total sample (n = 1587), 1144 (51.3% women, Mage = 47.7 years) were in a romantic relationship. IPV prevalence rates ranged from 4.0% to 60.1%, depending on the form of IPV. We found significant associations between all measured IPV experiences: between experiences of different forms of IPV (ranging from r = .220 to r = .472) as well as between victimization and perpetration experiences (ranging from r = .384 to r = .604). Additionally, we found significant differences between men and women for sexual IPV perpetration (men > women), psychological IPV victimization (men > women) and perpetration (women > men), and for cyber IPV victimization (men > women).

Poster 135

(eligible for poster prize)

The impact of transcranial Direct Current Stimulation on the attention networks:
A systematic review and meta-analysis of the sham-controlled studies

Emmanuelle Schoonjans (1), Charlotte Coussement (1,2) and Alexandre Heeren (1,3)

(1) UCLouvain; (2) Le Beau Vallon – Psychiatric Hospital, Belgium;
(3) Belgian National Science Foundation (F.R.S.-FNRS).

The prominent multifaceted models of attention posit the existence of three independent but functionally related attentional networks, namely the alerting, orienting, and executive conflict networks. Researchers have recently started to envision strategies to enhance the attentional networks, and transcranial Direct Current Stimulation (tDCS) has emerged as a promising tool. Yet, these studies have led to mixed findings, precluding any strong conclusion regarding the impact of tDCS on the three attentional networks. Moreover, this research field has been characterized by many study-to-study variations in terms of targeted samples (clinical versus nonclinical), stimulation parameters, and electrodes placement. In this project, we thus aimed, in a preregistered fashion (see link below), at auditing this research's field. To do so, we conducted a systematic review and a meta-analysis. We also assessed the quality of these studies. Only sham-controlled studies published (in English) in international peer-reviewed journals were included. A systematic search in bibliographical databases uncovered ten studies that compared a tDCS active stimulation to a sham stimulation. Our meta-analytic results suggest that tDCS produced a small and not significant modulation of the attentional networks. Yet, some meta-moderators were identified (e.g., electrodes localization). Although there was no indication of significant publication bias, the quality of the studies was substandard and modulated the effect sizes. From a clinical point of view, these findings imply that tDCS is not yet ready for wide-scale dissemination as a tool for targeting the attentional networks. https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=201199

Reducing gender inequality for men:
Support as a solution to foster men's engagement in communal roles?

Julia Schreiber (1), Sanne van Grootel (2) and Colette van Laar (2)

(1) Free University Berlin; (2) KU Leuven

Gender social change has led to an increasing number of women being represented in traditionally masculine (STEM) fields. However, for men, gender social change is much slower, and men are still strongly underrepresented in traditionally feminine (HEED) roles. One reason for this underrepresentation might be men's (mis)perception of the masculine norm. Since manhood is precarious, men often engage in traditionally masculine behaviors to assert their masculinity – especially when their masculinity is threatened. This might reinforce the perception of a traditional masculine norm that prescribes men to avoid or hide traditionally feminine attitudes and behaviors. Support could help to overcome this backlash by signaling men that others approve of their involvement in communal roles. In Study 1, we surveyed fathers in Belgium (N=132). We showed that experienced support is positively related to communal attitudes and behaviors, but that support can only buffer some negative effects of masculinity threat. In an additional experimental study (Study 2), we will further investigate the buffer role of support on the relationship between masculinity threat and men's future intentions to be involved in the domestic sphere. Together, these studies address a potential solution for the difficult road to reduce gender inequality in the presence of masculinity threat.

Poster 137

(eligible for poster prize)

Primed by the mean: (masked) priming by visual ensemble statistics?

Maria Servetnik (1) and Pieter Moors (1)

(1) KU Leuven

Ensemble processing refers to the ability of the visual system to extract certain summary statistics for various features of a group of objects without necessarily storing the individual items in the set (e.g., Ariely, 2001). Recently, ensemble statistics have been proposed as the mechanism explaining the gap between rich perceptual experience and sparse perceptual report (Cohen et al., 2016). It is often argued that they are processed quickly and efficiently, but it is currently unclear whether this process relies on being aware of the ensemble. The broader goal of this study is thus to assess whether ensemble statistics can be processed for ensembles presented invisibly. We first set up an ensemble priming paradigm that would allow us to investigate masked priming of ensembles as well. Participants are briefly (32 ms) presented with an ensemble of nine oriented grating stimuli. The task is to indicate the orientation of a test grating, which has either the mean orientation of the ensemble, the same orientation as one of the members, or an explicitly different orientation. The preliminary results of an experiment without visual masking (n = 4) show that the reaction times for the mean orientation are, indeed, the lowest, compared to member and non-member items, indicating a priming effect for ensemble statistics. We will subsequently investigate the same priming effect while masking the ensemble of gratings. If the mean orientation is extracted without awareness, we expect that the same priming effect should be observed.

Poster 138

(eligible for poster prize)

How do coastal landscapes impact stress, coping strategies, and pro-environmental attitudes?

Marine I. Severin (1), Filip Raes (2), Ann Buysse (3) and Gert Everaert (1)

(1) Flanders Marine Institute; (2) KU Leuven; (3) UGent

Recent studies have demonstrated salutogenic and restorative effects of being exposed to the coast on various mental health indicators. Contact with the coast has also been found to increase pro-environmental attitudes. The question remains of why that is and whether elements of pollution (e.g., plastic) potentially disrupt or weaken the benefits of the coastal experience. The present study has two aims: (1) assess the effect of exposure to coastal landscapes on stress, coping strategies, and pro-environmental attitudes; (2) evaluate the emotional experience of awe, nostalgia, and nature connectedness as potential mediators of these effects, and plastic as a potential moderator. We will conduct an online experimental study in which participants will be randomly assigned to one of six conditions in which they will watch a video-clip of a particular landscape that either contains plastic or not: "beach with a sunset", "coastal dunes", and "urban street". Before the video-clip, participants will be asked to recall a stressful moment and report their stress level. After the video-clip, they will once more report their stress level as well as their emotions, coping strategies, and pro-environmental attitudes. We expect that coastal landscapes will lead to a higher decrease of stress and a higher increase in meaning-focused coping strategies and pro-environmental attitudes compared to the urban landscape. We also expect that awe, nostalgia, and nature connectedness will act as mediators and that plastic moderates the impact of coastal landscapes by weakening it. Understanding how the coast impacts wellbeing and pro-environmental attitudes is essential to help optimize the coastal experience to benefit human health and protect ocean health. Preregistration of the study can be found here: https://osf.io/x2aqv

Poster 139

**Empathy in preschoolers: inter- and intra- individual variability
depending on individual and family factors**

Poline Simon (1) and Nathalie Nader-Grosbois (1)

(1) UCLouvain

At preschool age, main preoccupations in parents and teachers are social adjustment in family and in kindergarten. Some children display difficulties in their new interactions with peers or unfamiliar adults. They could develop a risk of internalizing or externalizing behavior disorders. Many studies highlighted the important role of social cognition and empathy, on abilities in emotion regulation (Hein, Röder, & Fingerle, 2018; Laghi, Lonigro, Pallini, & Baiocco, 2018) and on social adjustment (de Wied, Branje, & Meeus, 2007; Eisenberg, Eggum, & Di Giunta, 2010). It is important to better know the preschoolers' profiles of affective and cognitive empathy, in order to understand their impact on emotion regulation and social behavior. However, inter- and intra- variability could be influenced by individual characteristics in children, such as gender (Strayer & Roberts, 2004), temperament (Wagers & Kiel, 2019), language competences (Rhee et al., 2013) and family factors (Miller, Eisenberg, Fabes, Shell, & Gular, 1989 ; Taylor, Eisenberg, Spinrad, Eggum, & Sulik, 2013). This study examines how affective and cognitive empathy vary depending on age, gender, personality, and abilities in executive functions, and depending on socio economic status and parental emotional expression. Links between emotion regulation and affective and cognitive empathy are also explored. Participants are 54 children (between 3 and 6 years-old). Their empathy profiles are assessed by a performance-based measure of empathy, an observational design and empathy questionnaires completed by parents. Emotion regulation checklist and the Dimensions of Openness to Emotions are filled by parents.

Poster 140

Overnight consolidation in learning new words by reading stories

Anezka Smejkalova (1) and Fabienne Chetail (1)

(1) ULB

Learning new written words involves the establishment of a precise orthographic and semantic representation, and its integration with pre-existing knowledge in the mental lexicon. It has been argued that the lexical competition (i.e., the ability of a word to influence the activation of similar words) could be taken as a proof of lexical integration. Accordingly, several studies reported that competition effects emerge after intensive training sessions coupled with a consolidation period. However, these studies used very artificial training paradigms. Hence, the present study aimed to address the issue of new word learning through naturalistic contextual exposure. Participants were asked to read a short book with embedded pseudowords devised by substituting one letter of existing French hermit words (e.g., hamal-HAMAC). Participants were told to try to memorize these new words while reading stories. To assess lexical competition, they performed a semantic categorization task with the base words (e.g., HAMAC), immediately after learning and on the following day. Tasks assessing orthographic and semantic learning were also used. The results showed that, immediately after exposure, there was no evidence of a competition effect in the semantic categorization task, but such an effect emerged on the following day. These results are consistent with studies using more artificial training paradigms. The interpretations of novel word learning in terms of lexical competition and consolidation are discussed.

Poster 141

A dyadic study on discrimination and relationship satisfaction among same-sex couples: The role of internal stress and sex

Chao Song (1), Ann Buysse (1), Wei-Hong Zhang (1) and Alexis Dewaele (1)

(1) UGent

Despite the fact that the systemic transactional model (STM) is widely utilized for investigating associations between external stress, internal stress and relationship satisfaction, few researchers have considered minority stress indicators as external stressors and examined associations from a dyadic perspective. Also, possible sex differences in stress and relationship satisfaction have been considered only for heterosexual couples. This study examined the association between discrimination and relationship satisfaction among lesbian, gay, and bisexual (LGB) from a dyadic perspective, and also tested the potential mediating role of internal stress and sex difference in this association. Using an actor-partner interdependence mediation model (APIMem), we analyzed data including a sample of 241 LGB couples (133 female and 108 male same-sex dyads). APIMeM revealed significant indirect actor and partner effects from discrimination to relationship satisfaction through their own and partner's internal stress for male same-sex couples. In female same-sex couples, there are only actor and partner effects on the direct association between internal stress and relationship satisfaction. Additionally, the effect of own internal stress on partner's relationship satisfaction was significantly stronger for woman compared to men. These findings demonstrated the utility of the STM framework for understanding the risk of stressors in damaging LGBs romantic relationships. Couple interventions should integrate knowledge from a dyadic perspective with attention to sex differences.

Poster 142

(eligible for poster prize)

Maternal stress and children's eating style

Juliette Taquet (1), Ellen Moens (1,2), Sandra Verbeken (1) and Lien Goossens (1).

(1) UGent; (2) Odisee Hogeschool, Gent

Picky eating among children is relatively common during toddlerhood, but may develop into a problematic eating style. Although it has been suggested that problematic eating in children is associated with stress in the parents, little research exists on this topic in Belgian samples. The aim of the present study was to explore the association between maternal stress and different eating styles among non-clinical children. Additionally, we investigated whether these associations differ among gender. The Child Eating Behavior Questionnaire (CEBQ) and the Nijmeegse Ouderlijke Stress Index (NOSI) were completed by the mothers of 171 children (88 boys and 83 girls; 3-9 years of age). Results demonstrate that the overall score of the NOSI correlated positively with the CEBQ subscales emotional overeating, satiety responsiveness, emotional undereating, food fussiness and food avoidance. Furthermore, when analyzing the data separately for boys and girls, we found positive correlations between the mothers' stress index and emotional undereating, emotional overeating and food avoidance scales for both groups. Additionally, for boys we found a negative correlation with the enjoyment of food scale. The current results imply that maternal stress is associated with a number of problematic eating styles in young children among which emotional overeating, emotional undereating and food avoidance appear the most prominent ones. To determine the direction of this association, additional longitudinal research is needed.

Poster 143

(eligible for poster prize)

**Auditory frequency-tagging EEG to assess categorization
and social preference of the human voice**

Rowena Van den Broeck (1), Silke Vos (1), Francesca M. Barbero (2),
Olivier Collignon (2,3) and Bart Boets (1)

(1) KU Leuven; (2) UCLouvain; (3) Università degli Studi di Trento, Italy

People often orient more to human voices than to other sounds in our environment. We wondered whether this social preference is equal for everyone, or whether interindividual differences in social preference exist. Individuals with autism spectrum disorder (ASD) are characterized by social deficits, such as difficulties with voice processing. Therefore, we developed two auditory stimulation frequency-tagging electro-encephalogram (EEG) paradigms. The first is an oddball paradigm that allows us to test differentiation and categorization between object sounds and voices, where objects sounds are presented at a base frequency of 4 Hz and voices at an oddball frequency of 1.333 Hz, or every third sound. The second paradigm is a multi-input paradigm that allows us to test social preference by simultaneously presenting two streams of sounds at different frequencies (3.45 Hz and 3.70 Hz). One stream consists of different object sounds and the other stream consists of all kinds of vocal stimuli. Preliminary results show us that the paradigms allow us to pinpoint individual sensitivity for vocal stimuli. For the oddball paradigm, we found an EEG response on both the base and oddball frequency in neurotypical adults, indicating that they differentiate the voices from the object sounds. For the multi-input paradigm we observed a response at both frequencies, but we found a higher peak (SNR) at the frequency related to the vocal stream. This suggests that neurotypical adults indeed prefer voices compared to object sounds. In a next stage, we will compare these findings with those of matched adults with ASD.

Poster 144

**Not stuttering but stutterings: Different cognitive profiles
of stuttering revealed by a multiple case study**

Amelie Van Thorre (1) and Gilles Vannuscorps (1,2)

(1) UCLouvain; (2) Harvard University, USA

Stuttering is a speech disorder characterized by disruptions of the flow of speech. The cause.s of the disorder remain.s highly debated. Indeed, there are currently four major sets of theories of stuttering: (1) the speech motor control theories, (2) the cognitive and linguistic theories, (3) the rhythmic theories, and (4) the sensory theories. Here, we explored the possibility that all these theories may be true, but only for a subset of individuals who stutter. Four adults who stutter and 20 control were administered a battery of auditive, proprioceptive, tactile, cognitive, linguistic, motor and rhythmic tests relevant to assess the four main sets of theories. In line with our hypothesis, the individual profiles provided clear evidence that the clinical category of stuttering consists in fact of a heterogeneous set of patients with deficits at different levels in the functional architecture supporting speech production. This finding has important theoretical and clinical implications.

Poster 145

(eligible for poster prize)

Knowledge of body biomechanics influences perceptual judgments of human motion

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(1) UCLouvain; (2) Harvard University, USA

Observers typically mislocate the final position of a moving target slightly farther along its trajectory – an effect known as the "representational momentum" (RM). In the field of human motion perception, the RM is known to be larger for movements of the arm resulting from shoulder rotations toward than away from actor's body midline. Shoulder rotations away from the body are biomechanically harder to execute. Therefore, it has been suggested that RM for body movements is influenced by implicit knowledge of the biomechanical constraints of the body. An alternative, however, is that this effect results from a mere "landmark attraction effect" – a general tendency for larger RM effects when an object moves toward than away from another stationary object. The goal of this study was to discriminate these two accounts. In each trial of our experiment, participants saw videos depicting either an actor's arm moving toward or away from the actor's body or highly similar movements from a geometrical shape. We measured the size of the RM as a function of the direction of movement (toward or away) and the type of stimulus (human/shape). We found a main effect of the movement direction, indicating a general landmark attraction effect on the size of the RM, and an interaction between the conditions: the difference between the two directions of movement was larger for humans than for shapes. This indicates that knowledge of body biomechanics influences RM for body movement.

Poster 146

**Fraud detection when using computerized adaptive tests
in unproctored personnel selection**

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(1) Cebir

The last decade has been marked by a sharp increase in unproctored testing within a personnel selection context. Unproctored testing allows candidates to take tests at home or at another location of choice. As a result, it can be used for an initial screening or to shorten the duration of the test battery at the office. At the same time, however, the use of unproctored testing significantly increases the risk of fraud (attempts) in a high-stakes selection context. We have taken various measures to reduce fraud among candidates: (1) the use of several parallel test versions of classical tests or the use of computerized adaptive tests with large item banks, (2) the verification of candidate identity before test onset, (3) the development of test items which are sufficiently resistant to candidate faking and item disclosure, (4) the automatic detection of "burned" test items via partial correlation analysis and (5) the verification of unproctored test scores via supervised hypothesis or control testing. In this study we discuss these measures focusing on unproctored computerized adaptive tests designed to quantify cognitive abilities such as fluid and/or crystallized intelligence. We highlight the challenges of unproctored compared to proctored testing and provide concrete guidelines to minimize fraud among candidates. Finally, we directly compare the use of hypothesis testing (assessing the plausibility of the unproctored test performance) and control testing (using a predefined selection criterium to check candidate performance in a supervised test setting) as different methods to verify the veridicality of unproctored test results.

Poster 147

(eligible for poster prize)

Interference control and response inhibition in gifted and non-gifted adults

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Inhibition is cognitive control function that allows us to focus on relevant task information, while suppressing irrelevant information. Inhibition can be further divided in two separate but related subprocesses, namely interference control (i.e., the suppression of irrelevant information) and response inhibition (i.e., the suppression of triggered but inaccurate responses). Previous studies have suggested that gifted adults outperform non-gifted adults in exerting cognitive control. However, it remains unclear whether this is the case for inhibition in particular, and specifically for both interference control and response inhibition. In this study, interference control and response inhibition were studied in gifted and non-gifted adults using a numerical flanker task and a Stroop task and a go/no-go task. In addition, we assessed participants' general cognitive ability and numerical abilities. We observed that the gifted individuals performed better on the numerical tasks. Crucially, the gifted individuals were significantly more accurate on the response inhibition task than non-gifted participants, while reaction times did not differ. However, although the gifted participants reacted significantly faster on the Stroop and Flanker task, there was no significant difference in interference control between the two groups (i.e., similar flanker and Stroop effects). Our study supports the notion that interference control and response inhibition are separate inhibitory processes and suggests that gifted individuals outperform non-gifted individuals with regards to response inhibition, but not interference control.

Poster 148

(eligible for poster prize)

Do you know what you're doing?
Subjective perceptions of difficulty of varying levels of cognitive control

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Metacognition is the awareness of one's own experiences that results from monitoring one's own cognitive processes. This study explored whether we are metacognitively aware of varying task demands induced by cognitive conflict. To this end we implemented a numerical Stroop task and varied the proportion of congruent trials within different blocks to manipulate the objective difficulty of the task. Participants (N = 53) performed 10%, 25%, 50%, 75% and 90% proportion congruency blocks. After each trial as well as after each block, they were asked how difficult they found that trial or that block. The preliminary results from the post-block subjective ratings indicated that participants found blocks with a greater proportion of congruent trials to be less difficult than blocks with a smaller proportion of congruent trials. The trial-by-trial subjective difficulty ratings showed a significant interaction between the proportion congruency of the block and trial type (i.e., congruent or incongruent). Incongruent trials were judged to be more difficult as the proportion congruency increased and congruent trials were judged the be less difficult as the proportion congruency increased. This proportion congruency effect observed for subjective perceptions mirrored the proportion congruency effect observed for objective response times. These preliminary results indicate that participants are subjectively aware of varying demands of the task, and that subjective judgments of difficulty are directly related to the objective difficulty of the task.

Poster 149

(eligible for poster prize)

**Frequency-tagging oddball EEG paradigms to identify
implicit differentiation of socially relevant sounds**

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Voices are important sources of social information, such as speaker identity and emotion. Autistic people have difficulties processing socio-affective information, although behavioural findings are inconsistent. Therefore, a more robust paradigm to reliably quantify socio-communicative sensitivity at the individual level is needed. Here, we apply auditory frequency-tagging EEG to investigate the implicit discrimination and categorization of emotion (Experiment 1) and speaker identity (Experiment 2) among a periodic stream of highly variable vocal utterances. The general principle is that frequency-tagging EEG elicits a steady-state evoked potential exactly at the frequency of presentation. Periodically presented oddball stimuli will also elicit a response at the oddball frequency, but only if the brain can differentiate the oddball from the standard stream. First, we presented a periodic stream of neutral vocal utterances at 4 Hz, with a fixed target emotion (e.g. fear) as oddball every 3rd utterance (i.e. at 4/3 = 1.333 Hz). We found that neurotypical male adults (N=20) can implicitly differentiate emotions in a stream of utterances, as we observed robust EEG responses for both standard (4 Hz) and oddball frequency (1.333 Hz) for several emotion categories (i.e. fear, anger, happy, sad). Second, we presented a periodic stream of neutral vocal utterances of one speaker identity at 4 Hz, and oddball utterances of four different same-sex speakers at 1.333 Hz. We found that participants can also implicitly differentiate between identities in a stream of utterances, as both standard and oddball frequencies were present in the EEG data.

Poster 150

(eligible for poster prize)

Disentangling the relation between Prematurity and Developmental Language Disorder

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Infants born prematurely are at an increased risk for developing oral language deficits. However, due to inherent inconsistencies in methodological factors, there has been much controversy on the developmental prospects of this population. The question remains as to whether premature birth serves as a risk factor for a Developmental Language Disorder (DLD), or if these language deficits emerge as part of a neurodevelopmental disorder. As a result of this uncertainty, the categorization of these children remains unclear within the diagnostic framework developed by the CATALISE Consortium, dissociating language disorders as DLD or as a language disorder associated with a biomedical condition. The objective of this review is to disentangle the complex relation between DLD and prematurity and to provide a comprehensive review of the language, cognitive, and motor outcomes of children born prematurely. By using six electronic databases, our key search terms led to a total inclusion of 20 articles. The findings of developmental outcomes will be presented thematically, categorized by degree of prematurity and age of outcome measure.

Poster 151

(eligible for poster prize)

A systematic approach to study the relations between order, complexity, and aesthetic appreciation

Astrid Warny (1), Eline Van Geert (1) and Johan Wagemans (1)

(1) KU Leuven

The relations of order, complexity, and their balance with aesthetic appreciation have been an interest of inquiry for centuries. The literature in this research field is contradictory, however, disagreeing on the type and direction of the relation of order and complexity with aesthetic appreciation. Moreover, the relationship between order and complexity is a puzzling one as it seems to be both antagonistic and complementary. Few studies have investigated both order and complexity simultaneously, while also recognizing both constructs to have multiple aspects. Furthermore, those studies that investigated the role of order often reduced it to examining symmetry. Our online study will overcome these issues and will empirically test how order and complexity contribute to aesthetic appreciation using a controlled stimulus set. We created an Order & Complexity Toolbox for Aesthetics (OCTA) to easily generate stimulus sets that, once published as an open-source Python package, will grant other researchers in the field the ability to manipulate stimuli to desired degrees of order and complexity in a number of different stimulus dimensions (e.g., size, shape, color pattern, etc.). The aim of this study is to further investigate the interplay between order and complexity in relation to aesthetic appreciation by examining how both constructs contribute to aesthetic appreciation, and whether they do so in an independent or a joint fashion. Levels of perceived complexity, order, and aesthetic appreciation will be collected, while individual differences and their interactions with stimulus properties will be examined to systematically investigate their role in aesthetic appreciation.

Poster 152

The SABA, a new homonegativity scale. Belgian validation on French-speaking adults

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The "Manif pour tous" in France and the "LGBT-free zones" in Poland are just a few, although extreme examples of common and persistent negative attitudes towards gay and lesbian people in Europe. To better understand these attitudes, homonegativity is a useful notion as it encompasses stereotypes, prejudices, and discrimination against homosexual people at both the individual and societal levels (Herek et al., 2015; Morrison & Morrison, 2011). Nevertheless, existing homonegativity scales show little validity. Preuss and colleagues (2020) addressed this problem by developing the new Scenarios for measuring the Affective and Behavioral components of Attitudes toward lesbians and gay men Scale (SABA) in German. As part of a project aiming to validate this instrument in several countries and languages, the present study focuses on the French validation of the SABA in Belgium. To this end, an online questionnaire aiming at exploring the reliability and the validity of the French SABA was distributed. Responses from 375 French-speaking adults were collected. This questionnaire consisted of several other homonegativity scales, demographic questions, scales measuring social and psychological correlates of homonegativity, and a false petition to study the predictability of a queer-friendly behavior. The hypothesized two-factor structure of the SABA will be tested using confirmatory factor analysis, while expected correlations and predictions will be analyzed using multiple and logistic regressions, ANOVAs, and t-tests. The SABA has the potential to become a valuable instrument for studying homonegativity. Its intercultural validation will allow for comparisons and the implementation of controllable interventions across countries.

Poster 153

Impact of social exclusion and ostracism on attentional biases toward external and internal threatening cues in socially anxious children: A cyberball experiment

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Cognitive models of social anxiety disorder (SAD) emphasized that the increased attentional processing of external and internal threatening cues would cause and maintain the main symptoms of the disorder. However, in children, studies having specifically examined this double attentional focalization are inexistent. In our study, 20 high socially anxious (HSA) children and 20 low socially anxious (LSA) children aged between 8 and 12 performed three sessions of a cyberball paradigm in which they were either included (sessions 1 and 3) or excluded (session 2) from an online ball-tossing game. Attentional biases (AB) towards external threatening cues were measured after each session with a visual dot-probe task while AB towards internal threat were investigated through a heartbeat perception task. First, we showed that all children displayed a facilitated vigilance to angry faces when compared to neutral ones and experienced disengagement difficulties from these after the exclusion session. Second, we showed that HSA children tend to display a greater vigilance toward angry faces and did not present an improvement of their heartbeat perception through game sessions when compared to the LSA group. Results confirmed the presence of an attentional preference for angry faces in HSA children and showed an AB for external threat in all children confronted to a social situation. However, only HSA children reported low interoceptive awareness throughout the game. This suggest the presence of AB toward internal only in the HSA group.

Poster 154

(eligible for poster prize)

Child attachment and adhd: A systematic review

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ADHD children exhibit behavioral characteristics similar to children with insecure or disorganized attachment, such as hyperactivity, impulsivity and difficulties with emotional regulation. Several studies with adopted and deprived children have shown that early relationships influence the development of ADHD symptoms. However, the nature of this association in the general population is not clear. We conducted a systematic review excluding adopted and deprived populations. Studies published in English between 2000 and 2020 were included. Inclusion criteria: (1) participants were children or adolescents with a clinical diagnosis of ADHD or an ADHD symptomatology as assessed by a validated questionnaire; (2) the research must include a measure of the child attachment. Twenty-six studies met the inclusion criteria. Twelve included clinical ADHD children and 14 community samples. An association between insecure / disorganized attachment and ADHD was regularly observed. However, in some studies, the association could be explained by the presence of comorbidities. The pharmacological treatment for ADHD was associated with a decrease of disorganized attachment. A causal link between insecure or disorganized attachment and the development of ADHD symptoms is still unclear. Comorbidities, neuropsychological profiles and contextual factors should be considered in future studies investigating the association between ADHD and attachment. Longitudinal prospective studies including assessment of attachment and cognitive functioning at different points in time could help disentangle relationships between these factors.

Poster 155

Alliance and alliance rupture in couple therapy: A scoping review

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It is widely known that the therapeutic alliance plays a major role in the efficacy of psychotherapy (Flückiger, Del Re, Wampold, & Horvath, 2018). The alliance was mainly conceptualized in individual therapies; and only a limited number of studies focused on the characteristics of the alliance within couple therapies. However, this is a therapeutic setting where alliance ruptures can be particularly common, ranging from 50 to 58% (Tremblay, Wright, Mamodhoussen, McDuff, & Côté, 2008). For this reason, a systematic scoping review was conducted to explore conceptualizations and processes of alliance and alliance ruptures in couple therapy. The scoping review was conducted according PRISMA for Scoping review guidelines (Tricco et al., 2018). The database search (Cairn, Francis, Pascal, PsycInfo, Pubmed, Scopus and Google scholar) led to find 1836 articles . Relevant articles were selected on the basis of exclusion/section criteria and inter-judges discussions. A total of 70 papers, mixing empirical and theorical data, was finally included. After a systematic analysis of these articles, we have organized our scoping review around 3 core themes: alliance, alliance rupture, and the therapist's effects. These findings will be detailed and discussed. We expect to provide to therapists a wide range of information to improve their professional practice and to prevent alliance ruptures in couple therapy.

Poster 156

(eligible for poster prize)

**Cultural fit of self: Novel measures and evidence from
Turkish Belgian and Chinese British minorities**

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(1) KU Leuven

There are systematic cultural differences in the ways people define themselves and accordingly navigate daily situations (Markus & Kitayama, 1991; Vignoles et al., 2016). Consequently, cultural newcomers may demonstrate an initial mismatch with the majority culture's typical ways of being and relating (e.g., in terms of independence and interdependence). Over time, however, they may come to 'fit in' with regard to their self-construals—a process we consider the 'acculturation of self'. The current research aims to shed first light on the acculturation of self in refernce to two studies. First one of these two compares Turkish immigrants in Belgium to their Belgian counterparts and assesses the self-construals by means of Kağıtçıbaşı's (2007) autonomy-relatedness scale; the other one compares Chinese-British biculturals to British and Chinese monoculturals and assesses the self-construals using the seven-dimensional scale by Vignoles and colleagues (2016). In our analysis, we first develop a novel method to capture the extent to which minorities' self-concepts 'fit' with those that are perceived as typical of the majority. Subsequently, we test if minorities' cultural fit in terms of self-concept is associated with their cultural engagement (e.g., years spent in majority culture, quantity of social contact with the majority, etc.) as well as identification with home and majority cultures and acculturation attitudes. Together, these studies expand the phenomena to be studied in terms of cultural fit and provide first insight into the acculturation of self.

Poster 157

(eligible for poster prize)

Predictors of reading and writing skills in Brazilian elementary students

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Aspects related to visual perception were prevalent in pioneering studies on reading and its disabilities. Now, linguistic abilities related to phonological processing have been pointed out as the most relevant to explain success or failure in learning how to read. Nevertheless, these abilities are not enough to explain all the aspects related to the reading and writing deficits. Therefore, the main objective of this work was to analyze the contribution of visual and phonological processing skills in reading and writing performances on a sample of young children (1st to 5th grade) to better understand the contribution of these skills on the development of reading and writing. Our present sample is composed of 26 literate participants aged between 6 and 11 years (M = 8,27, S.D. = 1,37), from two Brazilian private schools. They were submitted to tests of words reading, spelling, phonological awareness, phonological working memory, visuospatial working memory, visual perception, and rapid automized naming (RAN). The study followed a cross-sectional design, with multiple regression analysis, with reading and writing as criterion variables. Results show an important role of phonological working memory in the early years, endorsing its importance in learning to read and write. Phonological awareness only appeared as a good predictor for writing, which highlights the difference between reading and writing learning processes. Visual processing skills were not good predictors for neither variables. Finally, RAN was the only variable presented as a good predictor for both skills analyzed, confirming its importance in reading and writing development.

Poster 158

(eligible for poster prize)

**Assessment of the executive function of mice trained in
a fixed ratio schedule of reinforcement**

Aurélie Zaros (1) and André Ferrara (1)

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Operant tasks allow to study various behavioral and cognitive processes such as motivation, impulsivity, attention, memory or behavioral flexibility and are commonly used in animal models of brain pathologies (Blackshear et al., 2011; Trueman, Dunnett & Brooks, 2012). One of the simplest operant tasks is the fixed ratio schedule of reinforcement (FR). In this task, animals must provide a set of operant responses to obtain a food reward. Although simple, this test allows to obtain various behavioral indexes linked to motivation or general motor skills and several conventional measures are generally acquired like the post-reinforcement pause, the rate of reinforcement and the inter-response time (Alderson and al., 2012; Thompson et al., 2016; Tsutsui and al., 2011). However, there is a lack of interest in the executive function: how do animals plan their behavior? In this study, we focused on the distribution of food tray visits produced under a FR30 to examine how animals checked the consequences of their responses. We found that the more responses they had produced, the more frequently they checked the food tray, suggesting that animals planned their actions using a mental representation of the ratio of responses to be produced. Thus, we conclude that the analysis of the food tray visits helps to assess the planning ability of animals, providing an additional efficiency measure of the operant behavior.

Poster 159

The role of language and cultural engagement in emotional fit with culture

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The current study investigated to what extent language and culture shape emotional experience. Specifically, we randomly assigned 178 Chinese-English bilinguals to report on emotional situations, cultural exposure, engagement, and language proficiency in either English as a foreign language (LX) or Chinese (L1). We established their fit with both the typical patterns of emotions among British and Chinese monolinguals and predicted these fit indices from the survey language, cultural exposure, and engagement. Whereas monolinguals fitted their own culture's emotional patterns best, bilinguals fitted both the typical LX and L1 patterns equally well. The survey language affected bilinguals' emotional fit, but there was no evidence for true frame switching. Rather, bilinguals with low exposure to English encountered a drop in emotional fit when using English. Yet, this negative effect of survey language was buffered when bilinguals had better quality interactions with Westerners that are likely to foster conceptual restructuring in the LX.