BAPS 2022

Annual Meeting
of the
Belgian Association for Psychological Sciences

Abstract Book

2022 BAPS Meeting

June 2\textsuperscript{nd}-3\textsuperscript{rd}, 2022
Leuven
Local Organizing Committee BAPS 2022

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Guy Bosmans (KU Leuven)
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The organization of the 2022 BAPS meeting is supported by

[Logos of Vlaanderen, FNRS, and KU Leuven]
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Welcome from the BAPS president

Dear BAPS supporters,

As psychologists, we know that the whole can be more than the sum of the parts. We know that collaboration can lead to increased benefits for all involved. We realize that people have a strong need to affiliate. Yet as researchers, we often work in isolation, focusing on the tasks that are relevant for us, right here, right now. Sometimes it is good to step out of our scientific isolation, to share with other researchers our aspirations, achievements, and concerns, to inspire and to learn from others, to be part of something bigger. Not just because it is beneficial for what is relevant for us right here, right now but also for the unknown future benefits that it can bring, for us and for others. Scientific meetings are an ideal opportunity to step out of our scientific isolation. You can present and listen. You can say hi to that hero you always wanted to meet or that stranger whose research is unexpectedly similar to yours. To be inspired by research that seemed so different from yours but that suddenly sheds new light on what you are doing or would like to do. This can be fun in the virtual world. It is more fun in the real world.

For the above reasons, our annual meeting is so important for BAPS. The 2022 meeting is, however, particularly important for us because it marks the 75th anniversary of BAPS. We are extremely grateful that the local organizing committee put together such a wonderful and festive two-day program to celebrate this milestone event! Being 75 years old, BAPS is one of the oldest psychological associations worldwide. In those 75 years, our association has changed considerably. Some of that history can be found in two papers by Marc Brysbaert, one that he wrote 25 years ago for the 50th anniversary of BAPS and a second one that he completed recently for the 75th anniversary (https://www.psychologicabelgica.com/articles/10.5334/pb.1140). In those papers, you can see that BAPS is much more than its annual meeting. Our continuing aim is to support and promote psychological science in Belgium. We do so not only via our annual meeting but also via the awards that we provide, via our journal *Psychologica Belgica*, the mailing list, newsletter, and so on. One of the biggest innovations in recent years was the introduction of the junior board. An incredibly active group of young researchers have made it their mission to identify and satisfy the scientific needs of young psychological scientists in Belgium. The success of the Junior Day that complements the annual meeting shows how much the efforts of the BAPS Junior Board are needed and appreciated.

I also want to highlight some of the less visible work that BAPS members perform in service of psychological science and psychology in general. Via the Belgian Federation of Psychologists (www.bfp-fbp.be) BAPS is actively involved in Compsy (www.compsy.be), the organization that protects the title of psychologist in Belgium. You can read more about BAPS’ position toward Compsy on our completely revamped website (www.baps.be) including advice on whether you should register at Compsy (https://www.baps.be/news/). Via the Belgian Federation of Psychologists, BAPS is also represented at the European Federation of Psychologists’ Associations (www.efpa.eu), an organization that works hard at promoting and representing psychology in Europe. BAPS also represents psychology in Belgium within the International Union of Psychological Science (https://www.iupsys.net/) of
which BAPS is a founding member. Finally BAPS members took the lead in forming the expert group on Psychology & Corona that advised the government during the Corona crisis (sorry that I could not avoid using the C-word). Our BAPS members perform all of this work despite the fact that it is not directly relevant for the research that they conduct right here, right now. Instead, they act on their belief that the whole can be more than the sum of their parts, that collaboration increases benefits for all, that we desire to affiliate. BAPS is a community. Thank you for being a part of it.

Jan De Houwer
President of the Belgian Association for Psychological Sciences
Welcome from the BAPS 2022 Organizing Committee and practical information

Dear Colleagues,

The Organizing Committee is delighted to welcome you to Leuven for the 75th Anniversary Conference of BAPS 2022! Thanks to the exceptionally large number of researchers who will share their work through symposia, posters, and flash talks, we have been able to compile a rich and high quality program. We trust that your numerous presence will foster many stimulating conversations, initiate new collaborations, and corroborate existing ones. We above all hope that this festive ‘real-life’ meeting after two years of corona crisis will sparkle new and strengthen old friendships, allowing us all to enjoy a real sense of community.

Because this year’s festive edition of the meeting, the BAPS 2022 conference lasts two full days. We will during these two days look at the future with expectation and trust – hence the special focus on young researchers and the Junior Day with which the conference starts – but we will also celebrate our history, and honor some of the valuable traditions that have developed in BAPS. Thus, as has become a tradition at BAPS conferences, the program that we have compiled fully reflects the multifaceted nature of psychology. It thus offers a panorama of the various fields, research questions, and methods that make our discipline so irresistibly fascinating. We continue the development towards more international appeal of BAPS conferences, with participants from many European countries. We also again follow open science recommendations by providing presenters with the opportunity to share their presentation, poster, or flash talk via a public repository created for this conference (OSF: https://osf.io/meetings/BAPS2022).

Because this is a festive jubilee edition and the first real-life conference of BAPS since the beginning of the corona crisis, one of our main goals is to foster the development of new bonds and to strengthen our community of researchers at different universities, from various backgrounds, and at all stages of their career. We therefore warmly encourage you all to not only participate in the scientific activities, but also to get to know new colleagues during the various breaks and social activities. Don’t hesitate to talk to members of the Organizing Committee or one of the friendly volunteers if there is anything we can do to improve your conference experience or to make it even more pleasant.

Thank you all for sharing your science and building our community. Enjoy the meeting!

Vera Hoorens & Ilse Van Diest
On behalf of The BAPS 2022 organizing committee

Some practical information:

You will receive a printout of the program book at the registration desk. The abstract book is only electronically available for environmental reasons.
The conference activities are spread over different buildings and locations in the city of Leuven, all in walking distance from each other. Please consult the program book for directions, see https://www.baps2022.com/uploads/1/3/8/9/138984452/program_at_a_glance_-_baps_2022_-_final_to_print.pdf. This abstract book contains only a map and the addresses of the different locations (see p10).

**Wifi** access will be possible via the eduroam network. If you are not affiliated to a university that provides access to eduroam, you can pick up an individual guest account at the registration desk that will provide wifi access.

For **Oral sessions**: Parallel sessions (invited/thematic/flashtalk symposia) should be a maximum of 80 minutes long. Presentations in invited / thematic symposia should not exceed 15 min; flashtalks can maximally last 5 min. Please consult the program book for details regarding the location of your symposium. Make sure to provide your presentation to the chair of your symposium prior to the conference and make sure to also bring your presentation to the conference as a safeguard. Practical assistance during each symposium will be available when needed. As a presenter, make sure to be in the symposium room at least 10 min before its starts.

For **Poster sessions**: The area for displaying poster materials is 2m high by 1m wide. The maximum width of the poster should be 95cm. That means that you could use A0 (oversized) only in a vertical layout. If you want to use a horizontal layout, please go for A1 format or smaller. Fixing materials will be provided. Please check the timing of your poster session. Your poster needs to be removed immediately after your poster session.

**Talk and poster sharing platform**: For those of you wanting to share your slides or poster, we have set up the OSF page (https://osf.io/meetings/BAPS2022). We encourage you to deposit your files there.

Thanks to all for sharing your science and enjoy the meeting!

*The BAPS 2022 organizing Committee*
Locations
<table>
<thead>
<tr>
<th>Location</th>
<th>Address in Leuven</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Institute: <strong>PSI</strong></td>
<td>Tiensestraat 102</td>
</tr>
<tr>
<td>Lecture hall Pieter De Somer: <strong>PDS</strong></td>
<td>Charles Deberiotstraat 24</td>
</tr>
<tr>
<td>Vesalius aula: <strong>VES</strong></td>
<td>Andreas Vesaliusstraat 11</td>
</tr>
<tr>
<td>Van Den Heuvelinstituut: <strong>VHI</strong></td>
<td>Dekenstraat 2</td>
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Program at a glance
### THURSDAY JUNE 2 – BAPS 2022

<table>
<thead>
<tr>
<th>Time of day</th>
<th>Programme</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00 - 17:00</td>
<td>Registration open</td>
<td>VESA 91.90</td>
</tr>
<tr>
<td>13:00 - 17:00</td>
<td>Mounting of posters</td>
<td>PDS 00.10</td>
</tr>
<tr>
<td>14:15 - 14:30</td>
<td>Opening Ceremony by BAPS President, Jan De Houwer</td>
<td>VESA 91.30</td>
</tr>
<tr>
<td>14:40 - 16:00</td>
<td>Parallel sessions 1</td>
<td>See schedule on the right</td>
</tr>
<tr>
<td>16:20 - 17:20</td>
<td>Keynote lecture 1: ‘In the best interest of the child: Research findings and implications’ by Prof. dr. Marian Bakermans-Kranenburg</td>
<td>PDS 01.30</td>
</tr>
<tr>
<td>17:20 - 18:50</td>
<td>Festive Reception &amp; Poster session 1</td>
<td>PDS 00.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PDS 01.06</td>
</tr>
<tr>
<td>19:00 -</td>
<td>Conference party</td>
<td>Museum M</td>
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</tbody>
</table>

### Parallel sessions 1

<table>
<thead>
<tr>
<th>Time of day: 14:40 to 16:00</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thematic Symposium</td>
<td>VHI 00.10</td>
<td>Intimate relationships during the COVID 19 pandemic and lockdown in Belgium Chair: Saeid Gholipour</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>VHI 01.29</td>
<td>Organization and perturbation of the human ventral occipito temporal cortex Chair: Stefania Mattioni</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>VHI 02.29</td>
<td>The psychology of pro-environmental behavior change Chair: Florian Lange &amp; Ruth Kreiss</td>
</tr>
<tr>
<td>Round-table discussion</td>
<td>PSI 01.90</td>
<td>Ethical clearance procedures: The situation and challenges for psychological research in Belgium Chair: Steve Majerus</td>
</tr>
<tr>
<td>Flash talks</td>
<td>PSI 91.93</td>
<td>Attitudes, perception, &amp; stress Chair: Costas Kozouzakis Moderator: Costa Kozouzakis</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>PSI 02.51</td>
<td>Recent developments in metacognition research Chair: Kobe Desender</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>PSI 02.60</td>
<td>Family solidarity in postmodern families: A dyadic, parental and professional perspective Chair: Lara Stas</td>
</tr>
</tbody>
</table>
## FRIDAY JUNE 3 – BAPS 2022

<table>
<thead>
<tr>
<th>Time of day</th>
<th>Programme</th>
<th>Location</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 10:00</td>
<td>Registration &amp; mounting of posters</td>
<td>PDS 00.10</td>
<td>PDS 01.06</td>
</tr>
<tr>
<td>09:00 - 10:20</td>
<td>Parallel session 2</td>
<td>See schedule on the right</td>
<td></td>
</tr>
<tr>
<td>10:30 - 11:40</td>
<td>Coffee break + Poster session 2</td>
<td>PDS 00.10</td>
<td>PDS 01.06</td>
</tr>
<tr>
<td>11:40 - 12:40</td>
<td>Keynote lecture 2: 'Mentalising – the heart of social cognition' by Prof. Dr. Chris D. Frith</td>
<td>PDS 01.30</td>
<td></td>
</tr>
<tr>
<td>12:40 - 14:30</td>
<td>Lunch break + Poster session 3</td>
<td>PDS 00.10</td>
<td>PDS 01.06</td>
</tr>
<tr>
<td>14:45 - 16:05</td>
<td>Parallel sessions 3</td>
<td>See schedule on the right</td>
<td></td>
</tr>
<tr>
<td>16:15 - 17:15</td>
<td>Closing word of BAPS; President Prof. Dr. Jan De Houwer + Awards Session and Early Career Award address</td>
<td>VESA 91.30</td>
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</tr>
</tbody>
</table>

### Parallel sessions 2

<table>
<thead>
<tr>
<th>Time of day: 09:00 to 10:20</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thematic Symposium</td>
<td>VHI 00.10</td>
<td>Dysfunctions in social mentalizing: advancements in theory and training (Chair: Frank Van Oerswal)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>VHI 01.20</td>
<td>Affective processes in romantic and parent-child relationships (Chair: James Dobson)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>VHI 02.20</td>
<td>Mental health and mentalizing (Chair: James Dobson)</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>PSI 00.10</td>
<td>Negative outcomes for minority group members: buffering factors across contexts and groups (Chair: Lisa Williams)</td>
</tr>
<tr>
<td>Flash talks</td>
<td>PSI 01.20</td>
<td>Clinical and mental health (Chair: Maria Molina)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>PSI 02.20</td>
<td>Comparative formats in communications about similarities and differences in consequential patterns of training (in societies and alternative outcomes (Chair: Chris Christmas) &amp; Andrew Wake)</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>PSI 00.30</td>
<td>Frequency tagging HCG to investigate socio-communicative processes for one and all (Chair: Silva Xiao)</td>
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</tbody>
</table>

### Parallel sessions 3

<table>
<thead>
<tr>
<th>Time of day: 14:45 to 16:05</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited Symposium</td>
<td>VHI 00.10</td>
<td>Healthy conflicts in startups (Chair: Lisa Williams)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>VHI 01.20</td>
<td>Social relationships in children and adolescents: social and biological processes (Chair: Thierry Desbordes)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>VHI 02.20</td>
<td>Recent advances in memory research (Chair: Christine Bunting)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>VHI 04.20</td>
<td>Tinnitus, microsleep &amp; hyperactivity: current psychological perspectives (Chair: Tatsuo Hino)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>PSI 00.30</td>
<td>School culture matters: the complex role of how schools deal with diversity for ethnic minority and majority pupils (Chair: Katsuko Morita)</td>
</tr>
<tr>
<td>Flash talks</td>
<td>PSI 01.20</td>
<td>Cognition and neuroscience: the role of social media (Chair: Toshio Watanabe)</td>
</tr>
<tr>
<td>Thematic Symposium</td>
<td>PSI 02.20</td>
<td>Conspiracy beliefs and their function in times of crisis: individual and cultural variability (Chair: Christopher Knight)</td>
</tr>
<tr>
<td>Invited Symposium</td>
<td>PSI 00.30</td>
<td>Pain modulation in normal and pathological states and its relevance for chronic pain (Chair: Liang Xiao)</td>
</tr>
</tbody>
</table>
Abstracts

Keynote Lectures
IN THE BEST INTEREST OF THE CHILD: RESEARCH FINDINGS AND IMPLICATIONS

Prof. Dr. Marian Bakermans-Kranenburg

Vrije Universiteit Amsterdam, The Netherlands

The “best-interest-of-the-child” standard is often referenced in decision-making on child protection and child custody. The United Nations Convention on the Rights of the Child stipulates that “in all actions concerning children, whether undertaken by public or private social welfare institutions, courts of law, administrative authorities or legislative bodies, the best interests of the child shall be a primary consideration” (Article 3.1). However, it is not always clear what is the best interest of the child, and as a result in the courts inconsistent or even contradictory conclusions are drawn with reference to attachment theory and research. In this presentation, I will present a (meta-analytic) overview of research on antecedents and consequences of attachment. Next, I will discuss research on neurobiological dimensions of parenting in typical and at-risk groups. These include correlational and experimental studies with neural measures assessing brain responsivity to infant signals, and studies on adult’s hormone levels (e.g., oxytocin, testosterone, and vasopressin) in relation to behavioral observations. In contrast to most research on parenting, I will not only focus on mothers, but also highlight studies on fathers. In closing, I will address the issue of translation of research findings to clinical practice and policy.
MENTALISING – THE HEART OF SOCIAL COGNITION

Prof. Dr. Chris D. Frith

University College London & Institute of Philosophy at London University, UK

Mentalising is a special human ability which allows us understand the behaviour of ourselves and others in terms of hidden mental states, such as desires and beliefs. We can use this knowledge to predict what people will do. I will distinguish two forms of mentalising. Implicit mentalising is apparent early in life and has been demonstrated also in some other animals. In contrast, explicit mentalising, with its links with language, is unique to humans and is permeated by cultural learning. It first emerges around 4-6 years of age but has a protracted development up until adulthood. I will briefly discuss the hypothesis that the specific social impairments associated in autism can be neatly explained by a problem in implicit mentalising. It is autism that persuaded researchers that mentalising has a neural basis that is vulnerable to the hazards of brain development. There have by now been a great many brain imaging studies of mentalising, and they all converge on a circumscribed system specialised for this ability. I will speculate on roles for the three major hubs of this hierarchical system, with mPFC/ACC acting as controller, pSTS/TPJ as a connector between prior expectations and incoming sensory evidence, and PCC/precuneus as a navigator in social space. I suggest that explicit mentalising involves the highest layer in this hierarchy, being placed on top of an implicit mentalising system.
Abstracts

Parallel Session 1

Thursday June 2\textsuperscript{nd}
14:40 – 16:00
How certain are you that your choice to attend BAPS22 was a good idea? In order to answer this question, you need the ability to evaluate your own cognition, often referred to as “metacognition”. In recent years, the field of metacognition has seen a rapid expansion, with researchers investigating cognitive, computational and neural underpinnings of the ability to introspect. In the current symposium, we will approach metacognition from various angles, focusing on the emergence of under- and overconfidence, the development of metacognition during learning, the role of metacognition in collaborative settings, and how metacognition can fail in the case of mind-blanking. By bringing together young researchers in Belgium studying metacognition, we aim to showcase the growing interest in metacognition research in the BAPS community.
S1.1 – Manipulating prior beliefs causally induces under- and overconfidence

Helene Van Marcke¹, Pierre Le Denmat¹, Tom Verguts¹,², & Kobe Desender¹

¹ – KU Leuven, Belgium
² – Universiteit Gent, Belgium

Making a decision is invariably accompanied by a sense of confidence in that decision. There is widespread variability in the exact level of confidence, even for tasks that do not differ in objective difficulty. Such expressions of under- and overconfidence are of vital importance, as they are related to fundamental life outcomes. Yet, a clear account regarding the computational mechanisms underlying under- and overconfidence is currently missing. In the current work, we propose that prior beliefs in the ability to perform a task can explain why confidence can differ dramatically despite similar task performance. In two experiments, we provide evidence for this hypothesis by showing that manipulating prior beliefs about task performance in an induction phase causally influences reported levels of confidence in a testing phase, while leaving actual performance in the testing phase unaffected. This is true both when prior beliefs are influenced via manipulating feedback and via manipulating task difficulty during the training phase. These results are accounted for and simulated within an accumulation-to-bound model by assuming an additional parameter controlling prior beliefs about task performance. Our results provide a fundamental mechanistic insight into the computations underlying over- and underconfidence.
S1.2 – The role of metacognition in embodied collective decision making

Nicolas Coucke¹, Mary Katherine Heinrich¹, Axel Cleeremans¹, & Marco Dorigo¹

¹ Université libre de Bruxelles, Belgium

Many of the choices that we make on an everyday basis are taken together with other people. How can we interact with others in a way that optimizes these collective decisions? Recent studies have highlighted the importance of sharing metacognitive judgments. That is, collective decisions improve when people accurately estimate the confidence in their opinion and communicate that confidence to others. In most experimental paradigms, confidences are communicated explicitly, after which a joint decision is made. In most real-life decisions, however, people don’t explicitly share their confidence; people implicitly convey confidence during a continuous decision process. In this talk, we present a new experimental setup that requires people to take collective decisions by means of their hand movements in the absence of explicit communication. Groups of 2, 3 or 4 individuals make a collective decision by moving their fingers towards one of several locations on a touch screen. We find that both participants’ initial opinion and confidence are encoded in their movements – in the speed, timing, and trajectory shape of movement. We show that groups can make collective decisions with an accuracy that surpasses the accuracy of individual judgments, while only relying on implicit movement cues. These results hint at the importance of implicit metacognitive signals for collective decision making.
S1.3 – Dynamics of confidence in implicit probabilistic learning

Ivan Ivanchei¹

¹ – Universiteit Gent, Belgium

Metacognition is often studied in static situations, e.g., when representations of a task are already formed, and the cognitive system can generate accuracy predictions (i.e., confidence) based on it. However, little is known on how metacognition develops when representations relevant for a task are constantly changing, i.e., in the process of learning. This study addresses the problem of metacognition in probabilistic learning. The weather prediction task was used as a model of probabilistic learning. Confidence ratings were collected during the learning task. Such an experimental setting allowed us to track the dynamics of metacognition in parallel with the learning process. Single-process and dual-process models of metacognition were considered for predicting possible results. The results showed that probability learning correlated with metacognitive sensitivity. However, this correlation was weaker at the beginning of the experiment. Learning and metacognition also depended on different aspects of stimuli and behavior. The obtained results support the dual-process models of metacognition.
Meta-awareness, the awareness of the contents of our mental life, provides us with a monitoring mechanism to access, identify and monitor our stream of consciousness. Whether our minds drift through environmental stimuli, pay attention to a task or just wander, we are mostly aware of our thoughts. Occasionally however, this immediate awareness fails us. Self-catch and experience sampling methods have shown that people report an inability to access brief parts of their mental life, and through a reflective process of no mental experience, no thoughts. This peculiar phenomenological state is termed Mind-Blanking. In this presentation, we will be discussing behavioral, neuroimaging and computational advances in cases of “absence” reports to examine what may precede monitoring and access errors. In the first part, we will discuss findings on the role of specific brain connectivity patterns preceding blanking reports, paving the way for decoding access errors from neural activity. Interestingly, specific bodily contributions might guide these patterns, in line with recent embodied theories of meta-cognition. After that, we will examine how Bayesian models might be used to test potential mechanisms for absence reports. Examples from metacognition and confidence research provide us with evidence of perception-awareness decoupling metacognitive components that fail during access to consciousness. Finally, we will discuss cognitive and metacognitive components that might help us understand individual variation in how blanks occur, based on previous work on mind wandering.
In 2021, BAPS initiated a working group on ethical clearance procedures and associated problems for psychological research in Belgium. This working group gathers the representatives of the different ethical committees assessing psychological research projects in Belgian universities. After a presentation of the diversity of these committees, we will present and discuss the conclusions of the working group regarding several major issues, such as the scientific versus legal competence for clinical research of the committees, the legal (non)-recognition of the committees, the interactions between psychology-related and biomedical ethical committees, and the possibility of cross-university ethical appeal procedures.
In March 2020, the WHO declared the disease caused by SARS-CoV-2 coronavirus a “pandemic”. To reduce the risk of contamination, the Belgian government has ordered a strict lockdown characterized by social distancing and restrictive isolation measures. As a result of these governmental lockdown measures and the COVID-19 pandemic, most people’s work and social lives were restricted and people were confined to their homes and to the people with whom they lived. This pandemic has profoundly affected families’ daily lives and created multiple daily challenges. One important challenge has been maintaining well-functioning intimate relationships. So, the influence of the lockdown on the intimate relationships seems to be of great importance for social and health policies and needs to be examined in the current symposium. The first presentation (Schokkenbroek, UGent) will identify which couple’s relationship aspects were under strain during the pandemic by considering gender-differences. The second presentation (Galdiolo, UMONS) will examine the trajectory of couple satisfaction during the lockdown with a dyadic perspective. The third presentation (Woine, UCLouvain) will investigate the sociodemographic and situational factors to predict parental burnout during the lockdown. The last presentation (Verhelst, UGent) will describe potentially important factors that could go together with differences in the relational and individual well-being of Belgian couples during COVID-19.
S3.1 – Confined couples: Relationship stress in men and women before and during the COVID-19 pandemic

Janneke M. Schokkenbroek¹,², Wim Hardyns², Sarah Anrijs¹, & Koen Ponnet¹

¹ – Universiteit Gent, Belgium
² – Universiteit Antwerpen, Belgium

The COVID-19 pandemic has drastically affected people’s daily lives and relationships. Indeed, several studies have shown that the pandemic and governmental lockdown measures impacted people’s romantic relationships, often in a negative way. In our study, we set out to identify which relationship aspects were particularly under strain during the pandemic lockdown in Belgium in April 2020. Specifically, we assessed whether perceived relationship stress about five relationship aspects, i.e., conflict, diverging attitudes, restrictions, less connectedness, and neglect, differed before and during the lockdown and between men and women. We conducted an online survey study between April 3 and 17, 2020, which was filled out by 2889 respondents. 1491 respondents (76.3% female, Mage = 41.23) lived together full-time with their partner at the time. For this subsample, between-subjects analyses revealed that during the lockdown, women experienced more relationship stress than men because of conflict and diverging attitudes within their relationship. Within-subjects analyses revealed that both men and women experienced more stress during the lockdown than before because they felt restricted in their relationship, and that women (but not men) reported significantly more relationship stress during the lockdown compared to before because of conflicts with their partner. Our findings provide important insights on relationship stress by pinpointing which relationship aspects in particular are under strain during the COVID-19 pandemic and possibly future crises to come.
S3.2 – Harmful stress-related couple processes during the COVID-19 pandemic and lockdown: A longitudinal dyadic perspective

Sarah Galdiolo¹, Stéphanie Culot¹, Pauline Delannoy¹, Anthony Mauroy¹, Florine Laforgue¹, & Justine Gaugue¹

¹ – Université de Mons, Belgium

To reduce the risk of infection to the COVID-19, Belgian government ordered restrictive isolation measures. While the lockdown and social isolation have proven to be quite effective in terms of physical health, little is known about their impact on couple satisfaction in a dyadic perspective. The current research was a 4-waves longitudinal study (i.e., from March to July 2020) with the objective to examine the trajectory of couple satisfaction during the lockdown with a dyadic perspective (N = 108 couples), including the presence (or absence) of children, the number of hours spent together, and the duration of the relationship as time-invariant predictors and the partner’s couple satisfaction trajectory as a time-varying covariate. Results showed positive intraindividual changes in couple satisfaction during the lockdown, especially an increase in partners’ effectiveness for resolving couple conflicts and a decrease in partners’ aggressiveness. Partners had also perceived the influence of the lockdown as more and more positive over time on couple and family functioning. Finally, the couple satisfaction of both partners changed in tandem during the lockdown: The perception of the couple relationship seems to similarly evolve between partners.
S3.3 – The role of cognitive appraisals in parental burnout: A preliminary analysis during the COVID-19 quarantine

Aline Woine¹, Moïra Mikolajczak¹, James Gross², Hedwig van Bakel³, & Isabelle Roskam¹

1 – Université catholique de Louvain, Belgium
2 – Stanford University, USA
3 – Tilburg University, The Netherlands

Counter-intuitively, sociodemographic characteristics account for a small proportion of explained variance in parental burnout. The present study conducted during the Covid-19 pandemic asks whether (i) sociodemographic characteristics are more predictive of parental burnout than usual in a situation of lockdown, (ii) situational factors, that is, the specific restrictive living conditions inherent in the context of lockdown, predict parental burnout better than sociodemographic characteristics do, and (iii) the impact of both sociodemographic and situational factors is moderated or mediated by the parents’ subjective perception of the impact that the health crisis has had on their parenting circumstances. Results show that, within the context of lockdown, both sociodemographic and situational factors explain a negligible proportion of variance in parental burnout. By contrast, parents’ cognitive appraisals of their parenthood within the context of the health crisis were found to play both a crucial mediating and moderating role in the prediction of parental burnout. These findings pressingly call for research at the intersection of cognitive and applied sciences.
S3.4 – Intimate relationships in times of COVID-19: A descriptive study of Belgian couples and their well-being

Laura Sels¹, Sarah Galdiolo², Justine Gaugue², Marie Geonet³, Pauline Verhelst¹, Claudia Chiarolanza⁴, Ashley K. Randall⁵, & Lesley Verhofstadt¹

¹ – Universiteit Gent, Belgium
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⁴ – Sapienza Università di Roma, Italy
⁵ – Arizona State University, USA

How do Belgian couples cope during COVID-19? In this study, we investigated in a descriptive manner several potentially important factors that could go together with differences in the relational and individual well-being of Belgian couples during COVID-19. Specifically, we investigated the potential impact of demographic factors such as regionality (Dutch speaking vs. French speaking participants), having children or no children together, and relationship duration on participants’ individual and relational well-being (more generally and more specific in response to COVID-19). Additionally, we investigated if relational well-being predicted perceived change in individual well-being from pre- to post-COVID-19 restrictions. To this end, a cross-sectional one-time survey was conducted in both the Dutch and French speaking part of Belgium. Data from 679 participants suggested that Dutch and French speaking participants did not differ in their self-reported individual or relational well-being, but couples with and without children did. Importantly, parents reported less relational well-being than participants without children, just as people that had been in a relationship for longer. Relational well-being predicted less perceived increases in distress from pre-COVID-19 restrictions to after COVID-19 restrictions went into effect. These findings might inform practice and policy during the COVID-19 pandemic.
Human behavior is the main driver of environmental degradation, biodiversity loss, and climate change. Addressing these issues requires a profound behavioral sustainability transformation, that is, a large-scale shift toward more pro-environmental behavior. With this symposium, we aim to illustrate how research methods, theoretical models, and behavioral interventions from psychology and neighboring disciplines can contribute to this transformation. Lange and Dewitte will provide an overview of how pro-environmental behavior is typically studied and introduce validated behavioral paradigms that allow for the experimental analysis of pro-environmental behavior under controlled conditions. Organizing the theoretical landscape, Köster and Moors will then present a goal-directed framework that can integrate existing accounts of pro-environmental behavior and that may inspire new approaches to promote pro-environmental behavior. Pearce and colleagues will report findings from experimental studies that compared different message interventions to examine which communication strategy is most effective in motivating children to engage in pro-environmental behavior. Finally, Roozen and Raedts will present results from an online experiment that investigated how verbal and visual nudging techniques may affect consumer choices between conventional and sustainable fashion items. In combination, the contributions to this symposium highlight the breadth of Belgian pro-environmental behavior research and demonstrate how psychology can help address issues related to the climate crisis.
Mitigating the human impact on natural resources, biodiversity, and climate change requires a profound scientific understanding of pro-environmental behavior. Pro-environmental behavior research has been dominated by self-report methods and field studies. Although both approaches have their merits, they also suffer from critical limitations. To address these limitations, we developed two experimental models that allow studying consequential pro-environmental behavior under controlled conditions. On the Pro-Environmental Behavior Task, participants make choices that either minimize the length of the laboratory session or the energy being wasted during that session. On the Work for Environmental Protection Task, participants can opt to exert effort identifying target stimuli and for every page of stimuli they complete, an amount of money is donated to an environmental organization. In validation studies, we found participants’ behavior on both tasks to be sensitive to the implemented costs (waiting time, effort) and environmental consequences (energy waste, donations). We thus argue that these experimental models can be used for the externally valid study of real-world situations that involve similar trade-offs. They allow examining the determinants of pro-environmental behavior under controlled conditions and optimizing novel interventions before translating them into more costly field studies.
The growing awareness that human behavior causes environmental problems (e.g., environmental litter) provides good reason to engage in more pro-environmental behavior (e.g., collect litter, eat vegan, fly less). However, despite awareness of these reasons and an increased endorsement of the need to change, people still seem reluctant to reorient towards pro-environmental behaviors. This has led to a proliferation of theories and the proposal of many specific factors to understand and address the causes of these behavioral reluctances. In this presentation we apply the goal-directed framework of Moors and colleagues (Moors, Boddez, & De Houwer, 2017) to organize and extend existing explanations under a goal-directed assumption of behavior causation. The framework explains behavior as the result of a cycle of events starting with the detection of a discrepancy between a goal and a status quo followed by the selection of behavior to reduce this discrepancy. We list various factors that may hinder this cycle and thus contribute to the reluctance to adopt pro-environmental behaviors. After that, we highlight potential remedies to address each of the identified barriers. We thereby hope to organize existing explanations and intervention strategies as well as to point out new ways to think about and to address the reluctance to adopt pro-environmental behaviors.
On becoming a green kid: How to effectively design climate messages to encourage children's intention to adopt pro-environmental behavior through message framing and emotions

Hayley Pearce¹, Liselot Hudders¹, Dieneke Van de Sompel¹, & Veroline Cauberghe¹

¹ – Universiteit Gent, Belgium

Global warming can be considered one of the most important challenges of the 21st century. Academic literature has therefore focused on identifying ways to encourage pro-environmental behavior among adults. However, as a result, an important target group is often forgotten, namely children. Nevertheless, it is essential to involve children in the climate challenge from an early age, as their environmentally friendly attitudes and habits are still developing and their impact, which is currently rather limited, will only increase in the future. In this dissertation, four studies (one qualitative study and three experimental studies) were conducted to identify children's perceptions regarding energy consumption in relation to climate change and explore ways to develop effective climate messages to encourage their pro-environmental behavior intent. These climate messages specifically addressed the use of message framing (i.e., victim framing; attribution of responsibility; anthropomorphism; goal framing) and the role of moral emotions (i.e., empathy; guilt; pride; worry). From the results, three recommendations were formulated when climate messages are aimed at young children. First, to increase children's engagement, it is important that the message highlights a topic that they find personally relevant. Second, it is advisable to make children aware of their personal responsibility for the problem given it increases their awareness of their own impact. Finally, climate messages were found to be more effective when they capitalize on the arousal of negative moral emotions.
S4.4 – Do verbal and visual nudges influence consumers’ choice for sustainable fashion?

Irene Roozen¹ & Mariet Raedts²

¹ – KU Leuven, Belgium  
² – Universiteit Antwerpen, Belgium

The fashion industry is one of the largest polluters of the world. The exploitation of resources for the ever-changing trends in fashion puts tremendous pressure on the environment. The literature shows that nudging could be an encouraging tool to promote pro-environmental behaviour. The aim of this study was to investigate whether nudging can influence consumers’ choice towards sustainable fashion.

We examined if a verbal or visual nudge on a retailer’s website can significantly influence consumers’ (sustainable) fashion choice. Data was collected by an online survey. Respondents (N = 288, Prolific) were randomly divided into three experimental conditions, i.e., verbal nudge, visual nudge or control group (no nudge). The findings showed a significant positive influence of the verbal nudge and, to a lesser extent, of the visual nudge on choosing the sustainable version of the apparel. The nudges also positively influenced the willingness to pay for the sustainable apparel. This suggests that nudging is a promising tool to direct consumers to a more sustainable fashion choice. Furthermore, the results showed that respondents with a relatively high score on ecological conscious consumer behaviour and a relatively low score on fashion involvement are significant more likely to choose the sustainable apparel.
In humans, ventral-occipito-temporal cortex (VOTC) is thought to subvert visual categorization. However, many aspects of VOTC categorical representations are yet unknown or highly debated. The aim of this symposium is to bring together a multifaceted group of scientists who used diverse approaches to deepen our understanding of the categorical organization of VOTC.

First, the emphasis will be on recent studies unfolding knowledge at the forefront on the categorical organization of VOTC. E. Y. will present findings about the mapping of macroscopic dimensions (shape/animacy) along the VOTC using a combination of advanced neuroimaging techniques and artificial intelligence. C.J. will exploit intracranial recordings in a large sample, to map face categorization and face individual discrimination in VOTC.

Then, the focus of the symposium will shift towards taking advantage of specific perturbations of the VOTC to (further) unfold the driving pillars of the categorical organization. S.M., using a combination of cutting-edge fMRI multivariate techniques, will show how a transient period of postnatal visual deprivation might affect the development of hierarchical object categorization in VOTC. Finally, T.T., employing a frequency-tagging EEG paradigm on a large sample of children born prematurely, will open a window on the developmental trajectory of a deficit in processing faces within the face neural network.

This rich ensemble of complementary methodological approaches will provide a comprehensive overview of the state-of-the-art research on the categorical organization of VOTC.
Objects are represented in the occipitotemporal cortex (OTC) but it has proven difficult to distill an integrative view of the complex functional organization of these regions. Recent, Bao et al. (2020, Nature) proposed a characterization of object space in monkeys and humans in which OTC is organized as a map with two main dimensions, stubby-spiky and animate-inanimate. However, the definition of these two dimensions might be confounded by selectivity for faces and bodies, for example, body stimuli were mostly spiky. To dissociate individual dimensions that might characterize object representations, we prepared a novel set of stimuli including images of animates (face and body) and inanimates (natural and man-made) with a comparably wide range of aspect ratios in each of these four categories. We obtained fMRI and deep neural networks (BigGAN) responses to stimuli and examined the similarity of representational space between OTC, BigGAN, and models of animacy or aspect ratio. Results showed that object space in BigGAN and most category-selective regions was significantly better explained by the animacy rather than the aspect ratio model. In addition, not all category-selective regions showed sensitivity to the aspect ratio of stimuli from their selected category. Our findings suggest that object representations strongly rely on the animacy aspect and the distinction between faces and bodies, but not upon aspect ratio, suggesting a very different organization of object space compared to proposals implicating stubby/spiky as a primary dimension.
S5.2 – The neural basis of rapid unfamiliar face individuation with human intracerebral recordings

Corentin Jacques¹, Jacques Jonas², Sophie Colnat-Coulbois², Louis Maillard², & Bruno Rossion²

¹ – Université catholique de Louvain, Belgium
² – Université de Lorraine, France

Rapid individuation of conspecifics’ faces is ecologically important in the human species, whether the face belongs to a familiar or unfamiliar individual. Here we tested a large group (N=69) of epileptic patients implanted with intracerebral electrodes throughout the ventral occipito-temporal cortex (VOTC). We used a frequency-tagging visual stimulation paradigm optimized to objectively measure face individuation with direct neural recordings. This enabled providing an extensive map of the significantly larger neural responses to upright than to inverted unfamiliar faces, i.e. reflecting visual face individuation processes that go beyond physical image differences. These high-level face individuation responses are both distributed and anatomically confined to a strip of cortex running from the inferior occipital gyrus all along the lateral fusiform gyrus, with a large right hemispheric dominance. Importantly, face individuation responses are limited anteriorly to the bilateral anterior fusiform gyrus and surrounding sulci, with a near absence of significant responses in the extensively sampled temporal pole. This large-scale mapping provides original evidence that face individuation is supported by a distributed yet anatomically constrained population of neurons in the human VOTC, and highlights the importance of probing this function with face stimuli devoid of associated semantic, verbal and affective information.
S5.3 – How a short and transient period of visual deprivation early in life affects the development of categorical preference in the brain

Stefania Mattioni¹,², Mohamed Rezk¹, Xiaoqing Gao³, J. Nam⁴, Z. Liu⁴, Terry Lewis⁴, Daphne Maurer⁴, & Olivier Collignon¹

¹ – Université catholique de Louvain, Belgium  
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³ – Zhejiang University, China  
⁴ – McMaster University, Canada

It has been suggested that the typical categorical organization in the ventral occipito-temporal cortex (VOTC) may depend on early visual experience. How would a transient period of postnatal visual deprivation affect the development of hierarchical object categorization in VOTC? We used fMRI to characterize VOTC responses to 5 visual categories (faces, bodies, objects, buildings & words) in a group of cataract-reversal individuals who experienced a short and transient period of visual deprivation early in life, and in a group of control subjects with a typical history of visual development. First, we show that categorical decoding is impaired in the early visual cortex (EVC) while preserved in the VOTC. Then, using Representational Similarity Analyses (RSA), we show that the encoding of the low-level visual properties of our stimuli is only impaired in EVC. RSA showed preservation of the categorical encoding of information in higher-tier regions. This selective impairment of stimulus encoding in EVC with preservation in VOTC was confirmed using intra-category decoding (e.g. comparing different houses or faces between themselves). Our results suggest that we do not need visual experience early in life to develop the typical visual categorical organization of VOTC, even in the presence of impaired low level visual processing in EVC.

These results challenge the classical view of a feedforward development of categorical selectivity in VOTC according to which the categorical organization of high-level regions develops based on a hierarchical tuning of visual low-level protomaps.
S5.4 – Understanding face processing and socio-communicative vulnerabilities in school-aged very preterm birth survivors using frequency-tagging EEG

Tiffany Tang\(^1\), Matthijs Moerkerke\(^1\), Stephanie Van der Donck\(^1\), Nicky Daniels\(^1\), Kaat Alaerts\(^1\), Jean Steyaert\(^1\), Gunnar Naulaers\(^1\), Els Ortibus\(^1\), & Bart Boets\(^1\)

1 – KU Leuven, Belgium

Very preterm (VPT) birth is common and is associated with socio-communicative vulnerabilities that can have long-term implications and may result in future persistent psychopathology. Yet, social impairments may be subtle and subclinical, and may thus stay unnoticed and untreated. Therefore, more sensitive approaches are needed to elucidate the underlying deficits in VPT birth survivors. The innovative frequency-tagging EEG approach can robustly and implicitly quantify socio-communicative sensitivity and has proven to differentiate reliably between school-aged boys with and without autism. Here, we implemented this approach to investigate the long-term impact of VPT birth on implicit facial expression discrimination, as a proxy for socio-communicative sensitivity. We presented a stream of neutral faces, periodically interleaved with expressive faces (fearful or happy), and quantified the periodic brain response at the oddball frequency to determine the neural sensitivity for brief changes in facial expression. We will present the data of 40 8-to-12-year-old preterm children born between 24 and 32 weeks of gestation (without a formal psychiatric or neural diagnosis), compared to 40 age and gender matched term-born peers. This frequency-tagging EEG approach could potentially pinpoint subtle social vulnerabilities in our VPT birth survivors. This paradigm is part of a larger study design that consists of a series of multimodal face processing experiments comprising various behavioural, neural, and autonomic nervous system physiology measures.
What we mean by “family” has undergone radical changes in the past decades. We can observe an increasing plurality of constellations of living together (partnerships) and raising children (parenthood) that makes it difficult to define what actually makes a family “a family”. The many possible combinations of partnership and parenthood in our pluralistic Belgian society require that we conceptualize family as a more fluid concept that goes beyond the narrow legal and biological notions and definitions. We will call these family constellations postmodern families. Their complexity has altered solidarity principles within families and between generations in families. It gives rise to new questions whereas scientific knowledge is currently limited. In an interdisciplinary project, we aim to fill this gap and target what contemporary solidarity in complex families looks like. That is, the academic expertise of family researchers from UGent, KU Leuven and Artevelde University of applied sciences are combined with the insights and knowhow of committed societal stakeholders. Recent findings on family solidarity in the field of psychology, sociology and social work are presented.
The concept of family solidarity, the ties that bind generations, has been widely used as a guiding framework for studying parent-child relationships. Despite its importance for the understanding of family relations through the lifespan, it has almost exclusively been applied to intergenerational dynamics between aging parents and their adult offspring. Moreover, there exists no instrument suited for assessing the willingness and frequency of instrumental and emotional support in families with adolescent children. Current study presents the development and psychometric evaluation of a novel multidimensional family solidarity scale for these families. Based on the influential theoretical model of Bengtson and Roberts (1991), we constructed an initial item pool covering three facets of functional solidarity. Parents and adolescents (aged 11 to 22) from 177 Flemish families filled in our initial questionnaire. In this design, participants report on different aspects of solidarity in relation to each of the other family members. A series of exploratory and confirmatory factor analyses demonstrated the validity and reliability of our scale for both intra and intergenerational relationships. More specifically, we withheld a total of twelve items covering our three proposed dimensions: 1) financial 2) practical or instrumental and 3) socioemotional solidarity. Our new instrument opens up opportunities for family researchers to take into account adolescents’ perspective and to simultaneously disentangle the individual, dyadic and family effects underlying family solidarity.
As families have become more diverse, so have parenthood and parenting. In many present-day families, caring for a child is not exclusively reserved for biological and/or legal parents; also so-called ‘social parents’, without a legal or biological parent tie, can play an important role in children’s upbringing. However, parenting is still often looked at with the nuclear two-parent family as the guiding reference point, leaving many questions unanswered regarding the different parenting roles and dynamics in the diversity of postmodern families. To better understand parenting in its diversity, and to gain insight into the ways in which family policy and services can further attune to present-day families’ needs, a new questionnaire was developed and validated. This questionnaire aims to answer four main questions: who are important caregivers in a child’s life, which parenting tasks do caregivers take on, how are the parenting roles experienced by children and caregivers, and how do caregivers collaborate in parenting. In this talk, the questionnaire and its construction process will be presented together with preliminary findings from the pilot study. Additionally, the ongoing research using this questionnaire will be brought forward.
S6.3 – Towards an inclusive family policy for postmodern families

Liesbet De Lepeleire¹, Sarah Thys¹, & An Keppens¹

¹ – Arteveldehogeschool Gent, Belgium

Professionals in education-care settings experience a lack of strategies to deal with crisis situations related to complex family structures in our society today. Organizational structures and communication procedures of education-care settings are mainly centered around the traditional two-parent family, leaving professionals insecure on how to deal with different family types. While social parenthood largely overlaps with legal parenthood in traditional two-parent families, there is now a growing group of so-called ‘social parents’ that have no legal relationship with the child but who are crucial actors in terms of downward care and intra-familial solidarity towards the child. This involvement of social parents challenges professionals in education-care settings in their communication and cooperation with different family types, in particular with newly composed families. In this talk, researchers of the Artevelde University of Applied Sciences will provide an in-depth perspective on these challenges that professionals are faced with due to the changing contemporary dynamics of family solidarity. Preliminary results from in-depth interviews and focus groups with professionals on the cooperation with divorced and newly composed families will be discussed. This way, the researchers provide insight into their ongoing investigation of how a more inclusive family policy in education-care settings may increase the wellbeing of children and their family.
What makes a family a family in the absence of blood ties or legally confirmed descent? The postmodern concept of family conceptualizes a family as a fluid concept that is mainly constructed through everyday interactions and meaning-making processes of the people involved (Gergen, 1994; Pylyser, 2019). Using this constructionist perspective, studies emphasize the importance of family members’ everyday interactions to co-construct and maintain their family relationships (Sarkisian, 2006). Nonetheless, research on shared family activities in stepfamilies is limited. Current research aims to fill this gap by studying one of the most common and everyday family activity: sharing family meals.

To study this type of “doing family”, biological parents, stepparents and adolescents of the same families were asked to report how often they shared family meals with each other. We explain that such measures can be treated as purely dyadic data, assuming a single score per dyad (e.g., the amount of meals a stepparent shares with the adolescent child is equivalent to the amount of meals this child shares with the stepparent, in a given timeframe).

To properly analyze this kind of data, we developed an adapted version of the well-known Social Relations Model (Kenny & La Voie, 1984): the Purely Dyadic Social Relations Model.

In this presentation, the results of our Belgian study are presented together with this innovative model that allows researchers to analyze purely dyadic data in its full complexity and disentangle such scores into individual, dyadic and family characteristics.
S7 – Attitudes, perception, & stress

June 2nd 14:40 – 16:00

Room: PSI 91.93

Flash Talks

Chair: Gosia Kozusznik\textsuperscript{1,2}

1 – Universiteit Gent, Belgium
2 – KU Leuven, Belgium
The irony of fairness: How procedural fairness climate perceptions can hinder disadvantaged group members’ support for social change

Kim Dierckx¹, Alain Van Hiel¹, Hermann Swart², & Barbara Valcke¹

¹ – Universiteit Gent, Belgium
² – Stellenbosch University, South-Africa

The current research investigated an “ironic” consequence of a perceived procedural fairness climate vis-à-vis disadvantaged groups. Specifically, we examined whether the perception that societal institutions treat one’s underprivileged group in a procedurally fair way negatively impacts upon minority group members’ support for social change. Six studies (total N=1076) supported our claims. In survey Study 1 (Belgian ethnic minorities), procedural fairness climate perceptions were negatively related to support for social change. Cross-sectional Studies 2 (colored South Africans) and 3 (Hispanic Americans) further showed that this relationship is mediated by beliefs in minority mobility. Finally, Studies 4-6 (Asian and African Americans) provided experimental evidence corroborating our causal mediation model. Our findings align with literature demonstrating similar “ironic” effects of procedural fairness among advantaged group members, as they illustrate that the perception of a procedural fairness climate can analogously prevent disadvantaged group members from advocating changes that can alleviate their state of deprivation.
Discrimination is often studied as an active behavior, but a subtler way involves ignoring individuals through a mechanism of invisibility (overlooking a stimulus). An intersectional invisibility model describes how individuals with multiple subordinate group identities are invisibilised in various contexts. But can we take literally this metaphor of invisibility? To answer this question, we operationalised invisibility as attentional blindness. We investigated the effects of a person’s race and gender on their visibility. A first experiment (N = 1,380, US White women, preregistered) tested whether the gender and race of the target predicted detection. This yielded a 2 (Gender: female, male) × 2 (Race: White person, Black person) between-subjects design. We expected the non-prototypical categories to be the least detected. Only the gender hypothesis held: Women were perceived less often than men (42% vs 54%). This experiment illustrates a moderation of attentional blindness by a social category of the target. This experiment was exactly replicated (N=1060, Belgian students, preregistered) and confirmed the observed findings. Our second experiment (preregistered, ongoing data collection) aims to show that the influence of social categories can be moderated by situational factors. We manipulate perceivers' goal by priming stereotypes. We expect each target to be more detected in their stereotypic goal condition. calling for a situated perspective on intersectional invisibility.
Docimology has documented the biases that impact the assessment of students. Student's ethnicity (Sprietsma, 2013), social background (Rangvid, 2015; Autin et al., 2019), and gender (Lafontaine & Monseur, 2009) may influence their assessment. The SARS-CoV-2 pandemic had significant effects on educational systems: school closures and lockdowns appear to have negatively impacted the academic performance of students (Maldonado & DeWitte, 2020). The result is a generation of students that is qualified as "sacrificed" (Van Nieuwenhuyse, 2021). This experimental research tests the hypothesis that copies of this “COVID generation” are judged more negatively by evaluators. An essay and a mathematical task produced by a grade 6 student were assessed (with a standardized correction grid) by a sample of 297 college students. Based on a random assignment, half of the students received the copy attributed to a student whose class did not experience closure due to COVID, while the other half of the sample received the same copy assigned to a student whose class experienced periods of closure due to this crisis. The magnitude of the differences between the assessments of the copy in each of the experimental conditions (essay: -0.25; math: -0.15) leads to confirmation of our hypothesis. While these effects remain small, their potential reproduction throughout the schooling of this “COVID generation” could have detrimental effects (Autin et al., 2019).
Coparenting refers to the degree to which parents work with or against each other to raise their child (Murphy et al., 2016). It is one of the most important processes being discussed in contemporary studies on relationships and parenting (Darwiche et al., 2021). Research has consistently found that interparental conflict following divorce is related to poorer child adjustment (Adamsons & Johnson, 2013; Teubert & Pinquart 2010; Dunn et al., 2005; Choi et al. 2019) while low conflict coparenting is seen as a significant protective factor that facilitates children's adjustment to divorce (Becher et al., 2019). Our goal is to better understand the family dynamics involved in low conflict co-parenting relationship after divorce. In order to answer the following question: How do separated parents explain their low conflict co-parenting relationship? we examined the experiences of sixteen participants from eight heterosexual parental couples who consider themselves as having successfully negotiated marital breakdown. A qualitative method and an inductive approach have been chosen in order to emphasize effective components and processes within coparenting evolution after divorce. In line with this method, individual semi-structured interviews were conducted. Phenomenological interpretive analysis (Smith et al., 2009), allowed us to identify three key ideas that govern low conflict post-separation co-parenting behaviors: Parents for life, Acting in the child’s best interests and Managing disagreements. Clinical implications of these results are discussed.
Despite well-recognised health benefits of nature, it is still unclear which nature aspects can counteract stress, how to integrate nature indoors and whether nature also influences eating behaviour. Before and after a stressor, participants saw one of the four slideshows with in green or grey shades: nature or urban environments (study 1, n=81); interiors including plants or objects (study 2, n=92). Group differences were tested on Perceived Restorativeness Scale, heart rate variability (HRV), cortisol, mood, food wanting and snack buffet consumption. An online questionnaire (n=130) dealt with nature aspect differentiation. Reported restorative power was highest for the green nature/plant group. The green nature group had the best happiness recovery. Nature overall was more beneficial via lower HRV and negative emotions reactivity. Only study 2 showed more vegetable wanting and less snack wanting in the green plants group.

In the questionnaire, indoor plants received the same stress-protective scores as indoor flowers, nature sounds and nature smell but were stronger than wooden or green interior. For eating behaviour, forest smell and indoor plants scored highest. A perceived effect of nature on stress was mentioned via fascination, green colour and ‘feeling at home’, while effects on diet via stress-reduction and nudging towards healthy lifestyle. For stress and diet interventions, plants seem most important but green colours or other sensory elements can help. A nature sound/smell lab, focus group, diary study, cohort analysis and pilot intervention are ongoing.
S7.6 – The effects of stress on the voice: Acoustic features from semi-spontaneous speech in a multi-paradigm stress-induction task

Mitchel Kappen¹,², Gert Vanhollebeke¹,², Jonas van der Donckt³, Ingemarie Coquyt¹,², Sofie Van Hoecke³, & Marie-Anne Vanderhasselt¹,²

¹ – Universitair Ziekenhuis Gent, Belgium
² – Universiteit Gent, Belgium
³ – Universiteit Gent – Imec, Belgium

The use of speech as a biomarker to detect stress levels is increasingly gaining attention. In our prior work, we investigated the effects of stress on acoustic speech features using validated stress paradigms in controlled lab settings. However, these results were obtained using a read-out-loud paradigm, suppressing possible vocal variation. Therefore, we collected semi-spontaneous speech in our current study, which enables us to move towards ecological validity and daily life implementations. Subjects participated in two distinct stress paradigms including control conditions (i.e., Cyberball & MIST) on two separate days. Successful stress induction was confirmed using psychophysiological responses (i.e., ECG & EDA). We consistently found, corresponding to earlier findings, increases in pitch (Fundamental Frequency; F0) after the stress condition. Moreover, we were able to detect increases in jitter (frequency variation), shimmer (amplitude variation), and speaking rate after the stress condition, which were not detectable in earlier read-out-loud paradigms. In addition, we found that these effects acoustic parameters return to baseline levels after a 10 minute recovery period. Our results show that speech 1) is a promising biomarker for stress measurement, 2) samples that are semi-spontaneous give reliable results, and 3) has a high temporal resolution as a stress measurement tool. By inducing stress in two distinct paradigms, we ensure that our results are related to the experience of (psychosocial) stress in general, rather than the induction method specifically.
Abstracts

Parallel Session 2

Friday June 3rd
09:00 – 10:20
Human judgment is inherently comparative. The outcomes of comparison processes can be expressed in different manners (comparative formats) that often are rather similar or even equivalent. For example, a difference between groups may be described in terms of one group having a feature more than the other, or the other group having it less. However, comparative formats shape observers’ understanding of and responses to what is being expressed. This symposium brings together research on such effects. Presentations 1 and 2 focus on descriptions of inequalities as one group’s disadvantage or another group’s advantage. Presentation 1 shows that these comparative formats affect emotional responses, perceptions of the legitimacy of inequalities, and intentions to take action, particularly among members of disadvantaged groups. Presentation 2 shows that these formats also shape explanations of inequality and suggestions for interventions to reduce them. Presentation 3 presents evidence that even equality claims provoke different reactions as a function of how the similarity is being expressed, with people more strongly approving of non-directional (‘X and Y are equally...’) than directional similarities (‘X is as... as Y’). Presentation 4 extends the more-less asymmetry to comparisons between real and hypothetical outcomes in upward counterfactual thinking (how could things have gone better?) and shows that a reversed more-less asymmetry occurs in downward counterfactual thinking (how could things have gone worse?).
Social inequality is one of today’s major challenges. How people mentally represent inequality is often determined by its framing. In the present work, we seek to analyze whether putting the focus of a comparison on the disadvantaged or advantaged group affects legitimacy perceptions of and action intentions against different forms of social inequality. Overall, six studies embedded in different inequality contexts will be presented. Results of two studies in the context of global inequality indicate that it is perceived as less legitimate and people are more willing to act against it when the disadvantaged compared to the advantaged group (e.g., people of the global south versus people of the global north) is the grammatical subject of a comparison. In addition, social emotions were found to mediate the relationship between comparative framing and legitimacy perceptions. In a planned third study, we will investigate the moderating role of justice sensitivity in this context. In three further studies, we additionally tested whether framing also affects people’s inequality perception when they either belong to the relatively disadvantaged or advantaged group. Across two inequality settings, i.e., gender and workplace inequality, framing effects in favor of mentioning the disadvantaged group as the subject of a comparison became stronger among members of the disadvantaged group. We discuss the findings with regard to the role of how framing elicits certain mental representations of justice and how this can help to increase support for redistributive policies.
S8.2 – One group’s advantage or another’s disadvantage?
How comparative framing shapes explanations of, and
reactions to, different kinds of inequality

Susanne Bruckmüller¹ & Maike Braun¹
1 – Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Inequality between social groups can be framed as one group’s disadvantage or another group’s advantage. We examined how such different framings of inequality affect how people explain these inequalities and what people want to do about them. In two studies, participants who read about gender inequality framed as disadvantages for women (compared to participants who read about the same inequality framed as advantages for men) generated more explanations of gender inequality focusing on women relative to explanations focusing on men. They also generated more suggestions of interventions targeting women at the expense of interventions aimed at systemic changes. In a third study, participants who read about how much less poor people have generated more explanations of inequality focused on poor people, indicated higher support for government interventions, and suggested more specific interventions aimed at helping poor people (e.g., welfare programs) than participants who read about how much more rich people have. The latter instead generated more explanations focused on rich people and the system and suggested (somewhat) more interventions targeting the rich (e.g., taxes). Together, these studies show that seemingly superficial differences in framing the same information can have consequential effects on how people construct and respond to inequality.
There are several different ways to express that social groups are equal. One option is to use a directional comparison that expresses how a target group resembles a referent group, as in “Men are as helpful as women”. An alternative option is to use a non-directional comparison that expresses how two groups resemble each other, without assigning roles, as in “Women and men are equally helpful”. Despite their identical content, readers interpret similarity claims with different comparative formats in divergent manners. For instance, they feel that non-directional claims imply greater equality than directional claims (Chestnut & Markman, 2018). Building upon this comparative format effect on the perception of claims, we investigated how comparative formats might affect the perception of claimants. Participants (N = 305) judged claimants who tweeted either directional or non-directional similarity claims. They judged claimants more negatively if these used directional (versus non-directional) formats. More specifically, claimants who used directional (versus non-directional) formats were seen as less likable, interesting, deserving of admiration and attention as well as more offensive and more sexist. In sum, saying “Men are as helpful as women” rather than “Women and men are equally helpful” seems to have immediate negative consequences for a claimant’s image.
Should I have been more careful or less careless? Comparative framing of counterfactual thoughts alters judgments of their impact

Karl-Andrew Woltin¹ & Kai Epstude¹

1 – Université catholique de Louvain, Belgium
2 – Rijksuniversiteit Groningen, The Netherlands

A more-less asymmetry has been demonstrated regarding responses to claims about differences: People evaluate claims with a ‘more than’ expression (vs. a ‘less than’ expression) more favorably, consider them more likely to be true, and agree more with them, presumably because ‘more than’ claims are easier to process (i.e., more fluent). Counterfactual thoughts also imply a comparison, namely of a given reality to an alternative state of affairs. We therefore examined the impact of ‘more than’ versus ‘less than’ expressions in the context of counterfactual thoughts. In four studies (N=614, including two internal replications) we demonstrated that people find it easier to produce self- and other-focused upward counterfactuals (i.e., thoughts about how the outcome could have been better) with a more-than compared to a less-than comparative format, and that they generally consider ‘more than’ thoughts more impactful (i.e., more plausible, persuasive, and likely to affect feelings and provoke behavioral change) than ‘less than’ thoughts. However, the more-less asymmetry reverses in the case of downward counterfactual thoughts (i.e., thoughts about how the outcome could have been worse), with ‘less than’ rather than ‘more than’ counterfactual thoughts being judged as easier to produce and as more impactful. Our findings extend demonstrations of the more-less asymmetry to comparisons of events, demonstrate a hitherto unidentified boundary condition to it, and illustrate a correspondence principle linking antecedents and outcomes operating in comparative counterfactual thinking.
In this symposium, four upcoming scholars will bring forward contemporary updates on historical mentalizing perspectives, in particular in relation to mental health conditions. Dr. Jane Conway will introduce the Mindspace framework to explain variations in mental state inference. Within this multidimensional psychological space, the mental states of individual minds may be differentially represented given a certain context. Prof. Henryk Bukowski will organize basic mentalizing processes in a multidimensional framework under two central dimensions: self-other distinction and self-other priority. A novel psychometric tool will capture these dimensions into distinct socio-cognitive profiles for different clinical populations. Dra. Qianyi Ma’s talk will focus on the cerebellum’s function. She will present a belief serial reaction task that investigates its role in implicit learning and predicting new belief sequences. Finally, Dr. Eliane Deschrijver will theoretically expand on her relational mentalizing framework: the construct of sheer disagreement may explain why individuals prefer to engage with like-minded others in society. These conceptual and empirical approaches hope to, each in their own way, explain social challenges in populations ranging from autistic individuals to those with depression, schizophrenia, psychopathy, alcohol dependence and personality disorders.
Impaired social cognition is widely observed across neurodevelopmental and neuropsychiatric disorders, but poorly understood despite its impact on social and occupational functioning. Indeed, socio-cognitive impairments strongly predict both current and future levels of psychosocial functioning. Despite being a clear target for intervention, however, effective treatments that reliably improve socio-cognitive ability do not exist. The need to better understand the component processes in social cognition has been highlighted as a priority research area, including by the National Institute of Health’s Research Domain Criteria (RDoC) project. ‘Theory of Mind’ is a particularly important socio-cognitive process that involves the mental representation of the contents of other people’s minds. In this talk, I will introduce our Mindspace framework for understanding variation in mental state inferences in both typically and atypically developed populations. Mindspace is a multidimensional psychological space in which individual minds can be differentially represented. The location of a mind in Mindspace affords a probability of that mind holding a specific mental state in a given context. I will discuss how the Mind-space framework may shed light on the theory of mind impairments which are a transdiagnostic trait of many psychiatric and neurodevelopmental disorders, including autism, depression, eating disorders, and personality disorders.
Our capacity to understand others and ourselves determines our interpersonal functioning, our well-being and our mental health. As a matter of fact, socio-cognitive deficits are frequent among patients with mental health disorders, such as alcohol dependence, psychopathy, anorexia, and schizophrenia. However, reports of these deficits are inconsistent, and we identified 3 potential reasons: (1) The inconsistency in theories of mentalizing as there is a lack of consensus and of interest in defining the basic and universal processes underlying mentalizing performance, that is, the building blocks of mentalizing. (2) The inconsistency in the measurement of mentalizing, with an overreliance on self-report scales and upon single-score tasks that each tap into a specific type of mental state inference. (3) The inconsistency that is the actual heterogeneity in terms of socio-cognitive profile among patients of the same population. I will present our attempt to address these 3 issues: First, a novel multidimensional framework that distinguishes the basic processes contributing to mentalizing and organizes them under two central dimensions: self-other distinction and to self-other priority. Second, a practical psychometric tool (short, online/offline, and performance-based) that separately measures the multiple processes that could be the building blocks of mentalizing. Third, the preliminary empirical data supporting that we identified distinct socio-cognitive profiles within the same clinical populations.
Although the cerebellum was neglected in social neuroscience for a long time, it is becoming increasingly clear that the posterior cerebellar Crus (I & II) is involved in mentalizing, when sequences play a critical role. To test this sequence role at an implicit level, we design a belief serial reaction time task (Belief SRT task) which requires mentalizing about two protagonists’ beliefs about how many flowers they receive. Unbeknownst to the participants, a fixed sequence related to the two protagonists’ true-false beliefs was repeated throughout the task and could be interrupted by random sequences. As a non-social control, the two protagonists and their beliefs were replaced by two different shapes of different colors respectively (Control SRT task). As predicted, the posterior cerebellar Crus I & II were activated more in the Belief SRT task than the Control SRT task. Our results demonstrate the involvement of the posterior cerebellar Crus during implicit learning and predicting new belief sequences. Previous clinical studies showed that psychiatric disorders with impairments in social skills can be linked to distorted posterior cerebellar volumes and functions, and cerebellar dysfunction can be linked to impaired social ability. Therefore, the current findings suggest that the posterior cerebellum can be a potential target for noninvasive neurostimulation and neuro-guided therapy/training for patients.
S9.4 – Introducing 'sheer disagreement': Can relational mentalizing explain humans' friendships with likeminded others?

Eliane Deschrijver¹,²

¹ – Universiteit Gent, Belgium
² – University of New South Wales, Australia

As social beings, we usually migrate towards friends and loved ones that hold similar opinions, values and attitudes about the world as we do. The field of social neuroscience has yet to incorporate this so-called ‘social homophily’ in its scientific practice: the concept of theory of mind, which emphasizes an ability to infer others’ mental states, has been the leading conceptual framework instead. Neuroscience scholars often regard humans’ proclivity for aggregating in homophilous social circles as not within the scope of mentalizing, or, at most, as something that facilitates “putting oneself in others’ shoes”. Our social relations are however an emerging property of successful social cognition: shouldn’t social neuroscience theories have social homophily front and center in their explanatory reach? I recently proposed the ‘relational mentalizing’ framework as an alternative for the idea that theory of mind is key to social success. This theory focuses on mechanisms of detecting and resolving social differences in worldviews (mental conflict), rather than on neural enablers of any particular mental representation per se (theory of mind). On the basis of this work, I will now coin the construct of sheer disagreement: dual conflict may emerge in the brain whenever one perceives another’s viewpoint as: 1. different (mental conflict) and 2. wrong (cognitive conflict). I will explain how sheer disagreement, and the brain’s response to it, may fill the theoretical gap as to why our society is stratified through individuals’ coalescing in similarly-minded social networks.
S10 – Affective processes in romantic and parent-child relationships

June 3rd 09:00 – 10:20

Room: VHI 01.29

Invited Symposium

Chair: Jonas Everaert\textsuperscript{1,2}

1 – Tilburg University, The Netherlands
2 – KU Leuven, Belgium

Emotions are often experienced and regulated within the context of interpersonal relationships. People may rely on others to regulate their own emotions or may intentionally want to influence other person’s emotional experiences. Research increasingly studies such emotion and emotion regulation processes within the context of romantic and parent-child relationships. This symposium brings together cutting-edge research taking an interpersonal perspective on affective processes. The first speaker will discuss a study on neural responses to social evaluation in adolescents at high (vs. low) depression risk using fMRI and daily-diary. The second speaker will discuss how emotion regulation strategies may modulate the relation between attachment and depressive symptoms over time using data from a three-year longitudinal study. The third speaker will examine whether emotional intelligence buffers the risk of parental burnout resulting from expecting children to be perfect using survey data. Finally, the fourth speaker will present a series of studies testing whether expression of one’s emotions helps people to describe and label their own emotions in a more differentiated and specific manner. Together, these four talks highlight the importance of studying interpersonal aspects of affective processes that occur within social relationships.
S10.1 – Attachment and the development of depressive symptoms in adolescence: The role of regulating positive and negative affect

Martine Verhees¹

¹ – KU Leuven, Belgium

Although widely accepted, attachment theory's hypothesis that insecure attachment is associated with the development of depressive symptoms through emotion regulation strategies has never been longitudinally tested in adolescence. Additionally, previous research only focused on strategies for regulating negative affect, whereas strategies for regulating positive affect may also serve as a mechanism linking insecure attachment to depressive symptoms. This study aimed to fill these research gaps by testing whether the association between attachment and change in depressive symptoms over time is explained by strategies for regulating negative and positive affect in adolescence. Adolescents (N = 1706; 53% girls; Mage = 12.78 years, SDage = 1.54 at Time 1) were tested three times, with a 1-year interval between measurement times. They reported on their attachment anxiety and avoidance at Time 1, depressive symptoms at Times 1 and 3, and regulation of negative affect (brooding and dampening) and positive affect (focusing and reflection) at Time 2. The results from multiple mediation analyses showed that more anxiously attached adolescents developed more depressive symptoms via increased brooding and dampening. More avoidantly attached adolescents developed more depressive symptoms via decreased focusing. These findings provide longitudinal support for attachment theory's emotion regulation hypothesis, and show that the regulation of both negative and positive affect is important.
S10.2 – Pursuing perfect children may burn parents out

Gao-Xian Lin¹ & Dorota Szczygieł²

1 – Université catholique de Louvain, Belgium
2 – SWPS University of Social Sciences and Humanities, Poland

It is probably hard to deny that the pursuit of flawlessness and perfection has become the zeitgeist in recent decades. This tendency has not even passed by such a private sphere of life as the care of children. Some parents not only demand perfection from themselves, but also expect perfection in their children's performance. Demanding perfection from children can exacerbate conflicts with children, leading to tremendous stress and ultimately burning parents out. But is this inevitable? This communication aims to explore whether a well-known protective factor, parental emotional intelligence—ability to identify, express, understand, regulate, and use emotions—can moderate and buffer the risk of parental burnout that comes from expecting children to be perfect (i.e., child-oriented perfectionism). To support this, we surveyed a total of 325 Polish parents (Mage = 38.9 years, SDage = 5.98 years; 78.8% of mothers). They completed measures of parental burnout (Roskam et al., 2018), child-oriented perfectionism (Piotrowski, 2020), and trait emotional intelligence (Petrides, 2009). Results of regression analyses showed that among the dimensions of child-oriented perfectionism, only the discrepancy—monitoring the extent to which children met parental expectations—put parents at risk for parental burnout; however, parental emotional intelligence buffered such risk. This specific finding adds to the literature on parental burnout and parent-child interaction as well as provides a new direction for future research.
Maternal depression increases risk for offspring psychopathology. While the specific mechanisms underlying risk transmission remain unclear, one critical factor may be aberrant emotional reactivity and regulation in response to social evaluation. The present study examined neural responses to social evaluation in adolescents at high (vs. low) depression risk. In the scanner, participants listened to critical, praising, and neutral comments from their mother and a peer. fMRI was complemented with daily assessments of social experiences and depressive symptoms (28 days). Thirty participants (age 9-13; data collection is ongoing) completed the fMRI and daily-diary. Behaviorally, youth at high (vs. low) risk identified more with criticism and less with praise. In line with theories tying depression to context insensitivity, neural responses of youth at the high (vs. low) risk group were blunted in response to both criticism and praise. Youth who blunted neural activation in regions related to valuation (bilateral caudate) and emotion regulation (bilateral dorsolateral prefrontal cortex) during critical (vs. neutral) statements in the scanner, responded to parental criticism with significant increases in depressive symptoms in everyday life. Conversely, adolescents who recruited these regions more, did not experience significant increases in depression following criticism. Neural responses to praise did not moderate daily decreases in depression following praise. These results suggest that responses to criticism play a role in the intergenerational transmission of depression.
S10.4 – Putting feelings into words: Is emotional sharing associated with more or less emotion differentiation?

Laura Sels¹, Elise Kalokerinos¹, Yasemin Erbas³, & L. Verhofstadt¹

¹ – Universiteit Gent, Belgium
² – University of Melbourne, Australia
³ – Tilburg University, the Netherlands

When an emotional event happens, people often turn to others to share their emotions. Among other things, sharing emotions would help people to make sense of the situation and to label and structure their emotional experience. Thus far, the empirical support for this theoretical assumption has been inconsistent, indirect and experimental, mainly showing that unshared or concealed emotions require more cognitive effort and lead to an increased search for understanding. That means that the idea that the mere expression of one’s emotions indeed helps people to describe and label their own emotions in a more differentiated and specific manner remains untested. To fill this gap, we tested this hypothesis in the context of four different experience sampling studies (varying from N = 101 to N = 202). People reported daily (Study 1) or multiple times a day (Study 2-4) on their emotions and emotional sharing during regular daily life (Study 1-2) or in the context of an acute (Study 3) or chronic (Study 4) stressful event. Across 3 out of 4 studies (Study 2-4), we found that social sharing at one moment actually predicted less emotional differentiation the next moment (all p < .01). Rather than serving a beneficial cognitive function, emotional sharing seemed to be associated with rumination. Further, the relationship was reciprocal: less emotion differentiation at one moment also predicted more emotional sharing the next moment. These findings shed a new light on the dynamic interplay between two key concepts in emotion research.
Social mentalizing is an important function that is impaired in a variety of clinical pathologies, such as autism, addiction and many others. The speakers of this symposium approach these dysfunctions from distinct perspectives. Van Overwalle argues that, given the large role of the posterior cerebellum in social functioning, the cerebellum might also involved in social impairments of many clinical pathologies. His key idea is that the major sequencing function of the cerebellum might be distorted and lead to under- or overuse of inflexible social routines and lack of plasticity for learning new, more adaptive, social automatisms. The next speakers further demonstrate the role of distorted social mentalizing in alcohol use disorder and autism. Noel describes distorted perception of the richness of imagined future scenarios, which could have important implications for treatment and rehabilitation in alcohol addiction. Nijhof discusses neuroscientific evidence to show difficulties in spontaneously representing own and others' mental states among persons with autism. On a more promising note, Bylemans describes the outcome of a narrative sequencing and mentalizing training for autistic adults, based on recent theoretical insights with respect to the sequencing function of the cerebellum. Taken together, these speakers present an overview of theories and evidence showing progress in the field of dysfunctional social mentalizing.
Recent advances in social neuroscience have highlighted the critical role of the cerebellum in social cognition, and especially the posterior cerebellum. Studies have supported the view that the posterior cerebellum builds internal action models of our social interactions to predict how other people’s actions will be executed, what our most likely responses are to these actions. This mechanism allows to better anticipate action sequences during social interactions in an automatic and intuitive way and to fine-tune these anticipations, making it easier to understand other’s social behaviors and mental states (e.g., beliefs, intentions, traits). In this paper, we argue that the central role of the posterior cerebellum in identifying and automatizing social action sequencing provides a fruitful starting point for investigating social dysfunctions in a variety of clinical pathologies, such as autism, obsessive-compulsive and bipolar disorder, depression, and addiction. Our key hypothesis is that dysfunctions of the posterior cerebellum lead to under- or overuse of inflexible social routines and lack of plasticity for learning new, more adaptive, social automatisms. We briefly review past research supporting this view and propose a program of research to test our hypothesis. This approach might alleviate a variety of mental problems of individuals who suffer from inflexible automatizations that stand in the way of adjustable and intuitive social behavior, by increasing posterior cerebellar plasticity using noninvasive neurostimulation or neuro-guided training programs.
People with alcohol use disorder (AUD) have a distorted perception of the richness of imagined future scenarios, which could have important implications for AUD treatment and rehabilitation. A typical future thinking task involved imagining events in as much detail as possible, before orally describing the imagined events and rating different aspects of their own imagined experience. From this task, two measures of EFT can be obtained: first, individuals’ own subjective experience of their imagined scenarios, and second, the objective number of reported details in these imagined events, as scored by an independent observer. By comparing the two measures, we could determine the extent to which the subjective and objective characteristics of EFT corresponded among the AUD participants and the controls. The subjective measure showed that those with AUD perceived their imagined future events with similar vividness and detail as the control participants. However, the objective measure showed that the AUD participants provided significantly fewer details about the event (such as happenings, people, time, place, sensory perceptions, thoughts, and emotions) than the non-AUD participants, even when controlling for differences in cognitive functioning and poor mood. The quantity of reported details was found to correlate with participants’ difficulties in understanding or describing one’s emotions. Limited awareness and understanding of one’s own thought processes, or a compromised ability to verbalize the imagined future events could be key mechanisms or impaired EFT in AUD.
S11.3 – Differences in spontaneous self- and other-related processing in adults with autism

Annabel D. Nijhof¹, Marcel Brass², Letizia Amodeo¹, Judith Goris¹, & Jan R. Wiersema¹

¹ – Universiteit Gent, Belgium
² – Humboldt-Universität zu Berlin, Germany

In recent years, there has been growing attention for the hypothesis that individuals with autism show difficulties in spontaneously representing their own and others’ mental states (‘spontaneous mentalizing’), as well as differences in the processing of self- and other-related stimuli more generally. In my talk, I will focus on three of our recent studies that suggest such differences are indeed present in adults with autism. Firstly, as spontaneous mentalizing in autism had not yet been investigated at the neural level, using fMRI we tested adults with and without autism on a newly developed mentalizing task. Differences in spontaneous mentalizing in autism were reflected in decreased activation of the right temporo-parietal junction (rTPJ). Secondly, although there are many studies on other-related mentalizing in autism, research on self-related social aspects is relatively scarce. Using two different paradigms, we focused on ERP differences between adults with and without autism in response to self- and other-related stimuli. In one study, participants listened to their own and others’ names. In the neurotypical group, the preferential response to one’s own name was reflected in a late parietal positivity (PP), which was absent in the autism group. In a second study, we also found reduced self-related PP amplitudes in autism, this time during a shape-label matching task. Interestingly, source localization indicates that the source underlying the PP is the rTPJ, implying a crucial role for this region in the social difficulties characteristic of autism.
S11.4 – A neuroscience-informed narrative sequencing and mentalizing training for autistic adults

Tom Bylemans¹, Elien Heleven¹, Kris Baetens¹, Natacha Deroost¹, Chris Baeken¹,², & Frank Van Overwalle¹

¹ – Vrije Universiteit Brussel, Belgium
² – Universiteit Gent, Belgium

Autistic adults daily experience difficulties with understanding mental states of others or self (mentalizing) and with structuring personal stories (narrative coherence). Given that the posterior cerebellum is implicated in both of these skills and in the etiology of autism, we developed a narrative sequencing and mentalizing training for autistic adults, based on novel theoretical insights with respect to the sequencing function of the cerebellum. Participants were randomly assigned to a Training group (n = 17) or a waiting-list Control group (n = 15). The Training group participated in 6 weekly sessions in groups of 3 lasting each about 60 minutes. Participants had to (re)tell stories from the perspective of the original storyteller and answer mental state questions that required mentalizing. Results showed significant improvements in narrative coherence for the Training group compared to the Control group. Mentalizing, however, was not improved. Results are discussed in light of cerebellar theories on sequencing of social actions and further improvements to the program are suggested. Our results highlight the clinical utility of adopting a neuroscience-informed approach to developing novel interventions for autistic populations.
S12 – Negative outcomes for minority group members: Buffering factors across contexts and groups

June 3\textsuperscript{rd} 09:00 – 10:20

Room: PSI 01.90

Thematic Symposium

Chair: Iris Meinderts\textsuperscript{1}

1 – KU Leuven, Belgium

Being different and feeling threatened can lead to negative outcomes for minorities (e.g., dropout from university, less support for social change, reduced wellbeing). In this symposium, we combine mixed methods (i.e., experimental manipulations, diary studies, and longitudinal studies) and investigate contextual factors that may buffer such negative outcomes for minorities. Talk 1 discusses how an overarching social identity can help Qatari secondary school students cope with damages to self-esteem and well-being in the wake of a threatening event (the Qatar blockade). Talk 2 investigates when friendship with majority group members is compatible (vs. conflicting) with support for social change among indigenous minorities, depending on the nature of those friendships. Talk 3 examines how group status, intergroup relations, and moral emotions can affect intentions to help minority groups during the Refugee Reception Crisis. Talk 4 investigates the buffering role of a collaborative (vs. competitive) work climate in STEM in perceiving day-to-day work-related feedback as more trustworthy, something that in turn is related to daily levels of ability certainty. Together, these talks demonstrate the challenges of feeling different and threatened as a minority member, and how contextual factors should be considered to properly understand these processes and to reduce negative outcomes.
S12.1 – Can identify buffer against the detrimental effects of threat? The case of the Qatar blockade

Jasper van Assche\textsuperscript{1,2}

1 – Universiteit Gent, Belgium
2 – Vrije Universiteit Brussel, Belgium

In 2017, the blockade of Qatar Gulf states caused a plethora of effects on the country. This paper sought to examine the resulting threat effects of this blockade in terms of lowered self-esteem and well-being, and the potential buffering effects of an overarching identity. Using self-report questionnaire data from Qatari secondary school students (N = 1,410), multiple moderated mediation models investigated the predictive effects of youngsters’ perceived threat, via self-esteem, on their well-being, and the mitigating roles herein of, respectively, national, Gulf region, and Arab identity. Perceived threat was indeed related to lower well-being via lower self-esteem, and this relationship was equally strong for those low and high in social identity. In terms of the three facets of identity, the overarching Gulf identity seems the most predictive, and it even (marginally significantly) buffers the negative relationship between threat and reduced self-esteem.
S12.2 – When majority friends value minority friendship: Majority friendship and support for social change among indigenous minority group members in Chile

Katrín Árnadóttir

While positive intergroup interactions like majority friendship usually predict harmonious intergroup relations, they may also undermine support for social change among minority group members. This study examines how friendship with majority group members predicts support for social change among indigenous minorities in Chile. We expect that when – and only when – minorities perceive that their majority friends do not value their friendships with minority ingroup members, majority friendship will predict less support for social change. We expect this sedating effect of majority friendship to work mainly via minority-group distancing, i.e., via reduced minority group identification. Drawing on two waves of longitudinal data over two years (N = 1827, aged = 18-90), we tested (fully) cross-lagged models with majority friendship, valuation of minority friendship by majority friends, and their interaction as predictors (T1), ethnic and political minority group identifications as mediators (T1) and support for social change (T1 and T2) as outcomes. As expected, indigenous minorities with more majority friends at T1 showed less support for social change at T2, and this longitudinal association was mediated by self-group distancing, but only when these majority friends did not value their minority friendships. Overall, our findings shed new light on the so-called sedating effects of majority friendship for social change, by showing that by buffering self-group distancing majority friends who value minority friendships can be compatible with minority support for social change.
S12.3 – An experimental study on the effect of group status, intergroup relations, and moral emotions on intergroup helping behaviors

Mado Hanioti¹

¹ – Vrije Universiteit Brussel, Belgium

Amid the ongoing Refugee Reception Crisis, there have been multiple spontaneous efforts at the interpersonal and intergroup level to aid refugees. These efforts have mainly been of humanitarian and political nature. The current study considers an intergroup approach and aims to determine how group status, intergroup relations and moral emotions affect intentions to engage in intergroup helping behaviors, conceptualized as Collective Giving and Collective Acting. We conducted an experimental study (n=401) using a fictitious scenario to test two parallel multiple mediation models, with group status as the independent variable, moral emotions as mediators, intergroup relations as the moderator between group status and moral emotions, and intergroup helping behaviors as the dependent variable. Our results suggest that there are some interesting differences in intentions to engage in Collective Giving and Collective Acting depending on group status, that these are explained by different mediation paths, and that intergroup relations do appear to moderate the effect of group status.
Despite recent changes, women continue to be underrepresented in STEM (Science, Technology, Engineering and Mathematics) fields and are more likely to opt out of these fields compared to men. One potential explanation for this, one that has yet to be explored, is that women in STEM, due to their minority and stigmatized status in these fields, might be less able to receive trustworthy feedback and develop a certain and stable ability self-concept. This is examined in the present study. Furthermore, we propose that the ability to receive trustworthy feedback depends on the dominant work climate. This was examined with a daily diary study among junior researchers in STEM. Across N=1,169 data points nested in 200 individuals (postdoctoral and PhD researchers in STEM-fields), we find support for the idea that those who find themselves in more collaborative work climates perceive the feedback they receive from others as more trustworthy. Daily perceptions of feedback trustworthiness, in turn, were related to higher daily levels of self-concept clarity and state self-esteem, and lower levels of imposterism (i.e., fearing that others will discover one’s incompetence) with regards to one’s research abilities. Furthermore, daily self-concept clarity, self-esteem and imposterism were related to motivation and risk-taking, which have shown to be key aspects of professional success. These results demonstrate the importance of a collaborative work climate in junior researchers in STEM’s ability to effectively make use of feedback to develop themselves professionally.
Various research domains are faced with the same problem of mixed findings while investigating socio-communicative processes. Many of these inconsistencies may relate to the heterogeneity of the population and may be driven by the mobilization of compensatory strategies. Yet, when using implicit tasks and measures (e.g. neuroimaging), studies revealed more robust results, for example when comparing individuals with autism spectrum disorder versus neurotypical controls on face or voice processing abilities.

In this symposium we want to present a few of the endless possibilities of using frequency tagging paradigms to investigate socio-communicative skills which are often hard to separate from an explicit task but can be studied with an implicit paradigm using frequency tagging EEG. The basic principle of the frequency tagging approach is that the periodicity of the electrophysiological response on the human scalp corresponds exactly with the periodicity (frequency) of the visual/auditory stimulation. The advantages of using implicit frequency tagging paradigms are clear. The response can be measured implicitly, i.e. without an explicit behavioural task, and can be identified objectively since it occurs at a predefined frequency. Moreover, it can be quantified directly by comparing the response at that frequency with responses at neighbouring frequencies. Lastly, the technique is extremely robust, since it is immune to artefacts and yields high signal-to-noise ratio responses in a short amount of time which makes it ideal for clinical or vulnerable populations.
S13.1- The many-sided voice: Voice categorization, vocal emotion and identity processing in adults with autism

Silke Vos¹, Francesca M. Barbero², Olivier Collignon²,³, & Bart Boets¹

¹ – KU Leuven, Belgium
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We daily communicate our feelings to the people around us. We also receive specific social information on the basis of vocal cues. In an instant we know the gender, an approximation of the age, and the identity of a person, merely by hearing their voice. Individuals with autism spectrum disorder (ASD) may have difficulties processing socio-affective information from the voice, although behavioural findings are inconsistent. Therefore, a more robust paradigm to reliably quantify socio-communicative sensitivity is needed. Here, we developed a series auditory frequency-tagging EEG paradigms that pinpoint the implicit sensitivity for vocal socio-communicative cues. In particular, we designed oddball and multi-input frequency tagging paradigms to investigate voice categorization, voice preference, vocal emotion discrimination and vocal identity discrimination in 25 adults with ASD as compared to 25 matched neurotypical controls. We found that adults with ASD show intact voice categorization, but a reduced neural tuning towards vocal stimuli. Moreover, we observed reduced sensitivity for the more subtle socio-communicative cues, indexing vocal emotion and vocal identity discrimination. Importantly, we did not observe any group differences on behavioural vocal emotion and identity discrimination tasks, indicating that implicit measures such as frequency-tagging EEG can reveal subtle group differences that would remain concealed in more explicit behavioural tasks.
S13.2 – Selective brain response to voices at four months of age

Roberta Pia Calce¹, Diane Rekow², Francesca Barbero¹, Anna Kiseleva², Siddharth Talwar¹, Arnaud Leleu², & Olivier Collignon¹,³,⁴,⁵

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⁵ – The Sense Innovation and Research Center

Human voices are the most relevant sound in our daily life and selective voice areas (TVAs) have been found in the superior temporal sulcus in the adult brain. Yet, how early in the developing brain a selective categorical response to voice occurs remains poorly understood. In the present study, we investigate voice selective response in the infant brain, relying on a Fast Periodic Auditory Stimulation (FPAS) paradigm (based on Frequency Tagging) combined with scalp electroencephalography (EEG). This approach provides an objective marker of the brain’s automatic ability to categorize vocal information with a high signal-to-noise ratio within a short testing duration, therefore overcoming many of the limitation intrinsic to infant testing. Twenty-three 4-month-old infants listened to a stream of heterogeneous sounds presented periodically to elicit a brain response at the same frequency in the EEG spectrum. Importantly, voice stimuli were inserted each third sound to elicit an additional response if the brain discriminates voices from other sounds and generalizes across heterogeneous vocal exemplars. We observed a peak in the EEG spectrum over the temporal channels at the voice presentation rate. This response was significantly reduced in a control condition consisting of scrambled sounds from the same sequence, bringing forth evidence of high-level voice categorization as early as four months of age. Thanks to its many advantages, FPAS is thus an ideal approach to study the categorization of auditory stimuli in infants.
S13.3 – Facial expression processing in adolescents exposed to childhood adversity

Celine Samaey¹, Aleksandra Lecei¹, Ruud van Winkel¹, & Bart Boets¹

¹ – KU Leuven, Belgium

Face perception is an innate process, but it is also guided by visual learning and social experiences. Extreme environmental factors, such as childhood adversity, can disrupt normative development and alter facial expression processing, as the brain areas involved in face processing are particularly vulnerable for the impact of stress during childhood. Research has indeed provided support for hyper-reactivity to angry faces in limbic areas, as well as a selectively greater P260 response for anger in children and adults exposed to adversity. Altered facial expression processing may thus be an important mechanism through which childhood adversity is associated with psychopathology, yet there is a large degree of variability and inconsistency in reported findings. This variability is at least partly due to the various tasks, methods and populations used to study facial expression processing in individuals exposed to adversity. We applied a visual frequency tagging EEG paradigm to implicitly and objectively quantify facial expression processing in adolescents with and without various forms of childhood adversity. 120 adolescents between 12 and 16 years old completed an oddball task in which angry and happy faces were inserted periodically into a stream of neutral faces. We hypothesized that adolescents exposed to adversity would show selectively increased neural responses for angry, but not happy, faces. Results will be discussed in light of the existing literature.
S13.4 – Face categorization and facial identity processing in prematurely born infants at increased risk for socio-emotional difficulties

Steffie Amelynck¹, Sofie Vettori¹,², Lyssa de Vries¹,³, Melinda Madarevic¹, Ilse Noens¹, Jean Steyaert¹,³, Gunnar Naulaers¹,³, Els Ortibus¹,³, and Bart Boets¹

¹– KU Leuven, Belgium
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³ – Universitair Ziekenhuis Leuven, Belgium

Infants have a natural interest in faces and communicate with others by ‘reading’ faces. From a very young age, they are able to detect a face and discriminate familiar from unfamiliar faces. Prematurity is associated with socio-emotional difficulties and an increased prevalence of autism. Therefore, detailed monitoring of early socio-emotional development in this high-risk population is of great importance. Methods in previous studies are generally complex, inconclusive, time-consuming and thus less suitable for infant research. Here, we apply frequency-tagging EEG to investigate the visual preference and neural saliency of processing social versus non-social information (experiment 1), and the neural sensitivity to detect, discriminate and categorize their mother’s face within a stream of unknown faces (experiment 2). Experiment 1 shows two streams of pictures, one of houses (non-social) and one of faces (social), next to each other at presentation rates of 5 and 6 Hz, counterbalanced for position and presentation rate. Experiment 2 presents a stream of highly variable unknown faces at 3 Hz, with highly variable images of their mother’s face appearing at 1 Hz oddball rate. We will present data of 32 preterm infants versus 41 term-born infants, assessed at the ages of 5 and 10 months. We expect that prematurely born infants, and especially those showing more aberrant socio-emotional development, will show less preference for social stimuli and a reduced neural sensitivity for the face of their mother.
S14 – Clinical and mental health

June 3rd 09:00 – 10:20

Room: PSI 91.93

Flash Talks

Chair: Marta Walentynowicz¹

1 – KU Leuven, Belgium
S14.1 – Parental burnout features and their family context: A temporal network approach

M. Annelise Blanchard¹, Yorgo Hoebeke¹, & Alexandre Heeren¹

¹ – Université catholique de Louvain, Belgium

Some parents experience intense emotional exhaustion, emotional distance, and feeling fed up. Researchers have termed this parental burnout and propose that it arises when parents chronically endure severe stress without sufficient resources to compensate, and parental burnout can lead to escape ideations, marital conflict, and neglect and violence toward children. However, many parents experience such features occasionally, since parenting is an experience that changes daily with its context. We therefore recruited 47 parents to rate 11 variables (including the core features of parental burnout and the family context) daily over eight weeks, leading to a maximum of 56 datapoints per person. We used multilevel vector-autoregressive models to generate three networks. Results suggest that exhaustion is implicated in the onset of parental burnout, as it self-predicts and forms a feedback loop with feeling fed up and finding children difficult to manage. Distance, by contrast, is mainly connected to sharing positive moments with children. Contextual variables also interact with parental burnout features, illustrating the relevance of examining parenting within the family system context. If future research confirms the central role of exhaustion in the development of parental burnout, prevention efforts can focus on lessening parental exhaustion in general and at-risk populations.
Early detection of psychosis is crucial for positive clinical outcomes. To detect (or even delay) first symptoms, it is important to be able to identify preexisting, sub-clinical, individual risk factors. The purpose of the current study is to better understand and characterize the behavioral and neurophysiological patterns that might point to a vulnerable structure. Clinical experience, as well as scientific studies, demonstrate that psychotic disorders are characterized by recognizable linguistic features (Bazan, 2012), as well as by difficulties in cognitive inhibition (Schneider et al., 1982). Therefore, we used a linguistic inhibition task to compare and contrast participants with low psychotic traits and participants with high psychotic traits, measured by the Schizotypal Personality Questionnaire (Raine, 1991). Fifty-one non-clinical participants took part in a modified version of the ThinkNoThink paradigm (Anderson & Green, 2001). Behavioral (number of correctly recalled word pairs after an inhibition task) and neurophysiological (EEG) response patterns will be analyzed. We expect to observe that participants with high psychotic traits will show better recall (a sign of less efficient inhibition) and weaker alpha brain wave synchronization (a less efficient neurophysiological mechanism of active inhibition), compared to participants with low psychotic traits. These results can serve as a basis for the future development of a non-invasive, objective, and easy to administer linguistic tool that can be used in clinical practice to detect psychotic vulnerability.
S14.3 – Making the ‘intangible’ tangible. Exploring a network approach to burnout

Valentina Sagmeister¹, Sara de Gieter¹, Jesse Vullinghs¹, Safaâ Achnak¹, & Tim Vantilborgh¹

¹ – Vrije Universiteit Brussel, Belgium

Burnout continues to be an issue for individuals, their environment and the health care system. We believe that burnout research is hindered by its contemporary conceptualization as a latent variable, i.e., an intangible concept that is only captured by assessing indicators (symptoms). Recently this conceptualization has been questioned given the emergence of network research, i.e., symptoms as active contributors instead of passive indicators. In our study, we aimed to investigate whether a network approach fits real life burnout data better than a latent approach. Using three independent, secondary data sets (n=240, n=1077, n=386), each measuring burnout with 3 established burnout scales (i.e., Burnout Assessment Tool (BAT), Shirom-Melamed Burnout Measure, Maslach Burnout Inventory), we constructed both network and (various) latent models. We performed confirmatory factor analyses in R and tested for best model fit (using the CFI (> 0.95), RMSEA (< 0.06) fit indices, and BIC). The network model fitted each data set better than the competing latent model(s), e.g., Maslach Burnout Inventory (MBI) network: CFI = 0.99, RMSEA = 0.03, BIC = 18803 vs MBI latent: CFI = 0.94, RMSEA = 0.06, BIC = 18865) and similar results for the other data sets. The results from all three unrelated study samples support the symptom network conceptualization. Future research should build on our findings and investigate the interactions of symptoms over-time and thereby, work towards a more dynamic and person-centered approach to burnout research and consequently, practice.
Cognitive flexibility and emotion regulation as transdiagnostic mechanisms underlying psychopathology in clinically-referred youths

Jolien Braet¹, Lien Goossens¹, & Sandra Verbeken¹

1 – Universiteit Gent, Belgium

An increasing amount of reports sound the alarm about our youngsters mental health state. Research on underlying mechanisms of both internalizing and externalizing problems is needed. Recently, attention has been drawn to the role of deficits in cognitive flexibility (CF), the ability to adapt our thoughts and behavior to changes in our surroundings and context, as a possible risk factor for psychopathological development, yet research among children and adolescents is lacking. Therefore, the present study investigated the transdiagnostic relationship between CF and internalizing and externalizing symptoms in a sample of 191 clinically-referred children and adolescents (65% female; mean age = 12.65; SD = 2.99). Moreover, the adaptive and maladaptive emotion regulation strategies were investigated as possible mediators of this relationship. Youths filled out questionnaires on their use of emotion regulation strategies and parents reported on their CF capabilities and symptomology. Structural equation modelling analyses revealed that CF was cross-sectionally related to both internalizing (.28, p<.001) and externalizing (.73, p<.001) symptoms. However, this relationship was not mediated by adaptive or maladaptive emotion regulation strategies. Clinically, these results highlight the importance of cognitive regulatory processes, such as cognitive flexibility, as targets for clinical intervention. Implications for future research are discussed, in particular about research designs and measurement of CF.
S14.5 – Can we pharmacologically enhance exposure therapy? Evidence from rats receiving propranolol before extinction learning

Laura Luyten¹, Anna Elisabeth Schnell¹, Burcu Özcan¹, Natalie Schroyens¹, & Tom Beckers¹

¹ – KU Leuven, Belgium

Considerable research has been devoted to the pharmacological enhancement of fear extinction, in part because of its potential to improve exposure therapy for anxiety patients. Here, we focus on propranolol, a beta blocker that is sometimes prescribed to reduce physical anxiety symptoms. Prior research suggests that the administration of propranolol before extinction can be detrimental to extinction learning, although findings are somewhat mixed. In a series of 9 preregistered experiments, we examined the effects of systemic propranolol (prop, 10 mg/kg) administered 20 min. prior to extinction of an auditory fear memory. One day later, rats (N = 201) were tested for retention of the extinction memory. Experiments varied with regard to strain and sex, strength of conditioning and extinction, additional spontaneous recovery tests and inclusion of an extra control drug group (midazolam, 3 mg/kg). In 8 experiments, we found lower freezing during extinction training in the prop versus saline group. These acute fear-reducing effects align with the literature. Furthermore, we found (a trend toward) better retention of extinction learning in 2 experiments. This is in contrast with the majority of prior research, which typically finds either no effect of prop or worse retention, i.e., more fear at test. In our 7 other experiments, freezing during the extinction retention test was statistically indistinguishable between both groups. The effects of midazolam were in line with prior literature and indicate that benzodiazepines can decrease the effectiveness of fear extinction.
S14.6 – Parenting behaviors and adolescents’ alcohol use: The mediating role of youth perceptions of the laws

Catherine Cimon-Paquet¹,², Marie-Hélène Véronneau², & Cécile Mathys¹

¹ – Université de Liège, Belgium
² – Université du Québec à Montréal, Canada

Alcohol use can lead to deleterious consequences on health and social development during adolescence. Parental monitoring and attitudes towards alcohol stand out as important correlates of youth substance use. This study aimed to better understand these associations by examining adolescents’ knowledge of the laws and subjective perception of the acceptability of illegal situations as potential mediators of the associations between parenting and alcohol use. The sample includes 1154 Belgian adolescents (705 girls; M age = 16.34 years; 54.9% French; 45.1% Flemish) who filled out questionnaires on their parents’ knowledge of their out-of-home activities and attitudes towards their drinking behaviour, their alcohol use, and two situational vignettes assessing knowledge and perceptions of the law. The structural equation model showed adequate fit, \( \chi^2 (6) = 21.61, p < .05, \text{CFI} = 0.98, \text{TLI} = 0.96, \text{RMSEA} = .05, \text{SRMR} = .02. \) Higher parental monitoring was associated with lower perceived acceptability of illegal situations. In turn, these perceptions were related to lower alcohol use, \( c' = -.08, p = .001. \) Higher perceived acceptability of illegal situations mediated the positive association between positive parental attitudes towards alcohol and youth alcohol use, \( c' = .26, p < .001. \) In contrast, knowledge of the laws was unrelated to adolescents’ alcohol use. These findings suggest that parents can either promote or prevent alcohol use through socialization processes, whereas improving youth’s understanding of the laws would be less efficient in preventing alcohol use.
S14.7 – Effectiveness of Silver, a serious game aimed at improving mental health in adolescents: A randomised controlled trial

Eva De Jaegere¹, Kees van Heeringen¹, & Gwendolyn Portzky¹

1 – Universiteit Gent, Belgium

Introduction: In Flanders suicide is the leading cause of death in the 15-19 age group. A serious game aimed at improving mental health in adolescents may be useful as a universal suicide prevention tool. Therefore, the serious game Silver was developed.

Aim: This study aimed at examining the effectiveness of Silver in adolescents aged between 12-16 years. Methods: The study consisted of a two-arm randomised controlled trial. Assessments on emotion regulation skills and strategies, cognitive coping strategies, cognitive errors, and depressive symptoms were carried out at baseline and after 3 weeks (post-test). Furthermore, participants evaluated the game.

Results: 555 participants were allocated to the intervention group, and 573 participants to the waitlist control group. Per protocol analyses (n = 640) showed that playing Silver led to a significant increase in emotion regulation skills. Furthermore, participants in the intervention group had a significant decrease in cognitive errors when comparing pre- to post-test. Regarding the evaluation of the game, participants stated that they had a better understanding of the relationship between their thoughts, feelings, and behaviours and of how others think and feel.

Conclusion: The findings suggest that Silver may be an effective tool to work with adolescents on their cognitive errors and emotion regulation skills. As emotion dysregulation may increase the risk for future psychopathology, Silver may be an effective tool to prevent mental health problems in adolescents. Future research on the effects of Silver is warranted.
Abstracts

Parallel Session 3

Friday June 3rd
14:45 – 16:05
Knowledge about memory functioning has recently benefited from the development of original paradigms and analytical methods. This symposium aims at illustrating these state-of-the-art approaches across two presentations about novel experimental data (C. Bastin and S. Invernizzi) and two presentations reviewing recent evidence on hot topics (T. Verguts and P. Peigneux). The work demonstrates how declarative learning can be promoted by acting on reward prediction error or sleep and how healthy aging modifies memory processes and neural bases.
S15.1 – Neural bases of recollection in aging using inter-subject similarity analyses

Christine Bastin

1 – Université de Liège, Belgium

With increasing age, recollection of specific details from past events decreases and the associated neural representations become undifferentiated. Recent advances in multivariate neuroimaging analyses have made possible the examination of the similarity of neural patterns of activations measured across participants. Using fMRI, we examined across-participants similarity of neural patterns of activations during memory encoding and retrieval in young and older adults. During a study phase, young and older participants viewed scene pictures associated with labels. At test, participants were presented with the labels and were asked to recollect the associated picture. To examine across-participants neural similarity, we used Pattern Similarity Analyses by which we compared patterns of neural activation during the encoding or the remembering of each picture of one participant with the averaged pattern of activation of the same trial across the remaining participants. Results revealed that across-participants neural similarity was significantly higher in young than in older adults in posterior occipital areas during memory encoding. Moreover, patterns of brain activation associated with memory retrieval were more similar across young than older participants in distributed parietal and occipital regions. Considered together, these findings extend prior evidence by demonstrating that an age-related reduction in regional specificity of neural activation is also evident when the similarity of neural representations is examined across, rather than within, participants.
In procedural memory, the importance of reward prediction error (RPE) is not debated; in fact, RPE is considered to be a key factor of procedural memory. In contrast, the role of RPE in declarative memory has remained unclear at the empirical level. Nevertheless, at computational level it is clear that learning is only efficient via prediction errors, suggesting that (reward) prediction errors may be crucial in declarative memory as well. In a series of recent experiments, we have indeed demonstrated a robust effect of RPE in declarative memory. At the neural level, we additionally demonstrated that the effect of the experimental RPE manipulation on subsequent memory is fully mediated by activation in the ventral striatum, suggesting that this experimental manipulation indeed operates via reward (predictive) processes. I review this empirical work in this talk.
S15.3 – Managing ambiguity in aging: a study of activation/selection and selection/interference as differential processes of semantic memory

Sandra Invernizzi¹, Laurent Lefebvre¹, & Isabelle Simoes Loureiro¹

1 – Université de Mons, Belgium

Selecting a meaning among different sources of ambiguity relies on distinct selection processes; an activation/selection (observed using Homonym-Dominant (HD; e.g., bank-money) or -Subordinate (HS; e.g., bank-river) pairs); and a selection/interference (observed in tasks requiring the voluntary association of words presented among interfering foils). We investigate the hypothesis that aging would affect selection/interference but not activation/selection through a paradigm combining two tasks (automatic and voluntary) using the same set of homonyms. Fifty healthy older participants performed: (1) a primed lexical decision task (PLD, automatic) including 3 relations of interest: HD, HS, or non-related (NR); (2) a task of (voluntary) association between 2 words (either on 'global meaning' (HD or HS pairs) or on a 'common feature' (color or size)) in the presence/absence of interfering foils. In the PLD we observe a priming effect (HD/NR) and a selection effect (HS/HR). In the association task, in the absence of interfering foils, only the number of errors varied according to the type of association to be made (feature<HD<HS) confirming an effect on activation/selection. Interfering foils impacted performance across all association conditions, showing a general difficulty in using selection/interference. Our results confirm the dissociation between a preserved activation/selection in aging and an affected selection/interference. Voluntary dealing with the ambiguity of a homonym would therefore require an executive implication that is more sensitive to aging.
S15.4 – Targeted memory reactivation and information processing during sleep

Philippe Peigneux\textsuperscript{1}

\textsuperscript{1} – Université libre de Bruxelles, Belgium

The relationships between sleep and memory have emerged as a topical issue over the past decades. Past studies evidenced the spontaneous replay of neural activity patterns associated with awake experience and learning during post-training episodes of REM and NREM sleep, in line with the neural replay hypothesis proposing that memories are consolidated through the spontaneous reactivation of learning-related neural patterns during sleep. The past decade has witnessed the development of a new paradigm expanding on this assumption by showing that presenting during post-learning sleep specific cues previously associated with elements of the learning episode actually leads to improved memory performance, i.e., sleep Targeted Memory Reactivation (TMR). Besides, progress was made to better delineate information processing capabilities during sleep, and their extent, including the possibility to learn novel information by being exposed to it during sleep (i.e., hypnopaedia). I will present here an overview of our current knowledge and nagging questions in these domains.
Disabling tinnitus, misophonia and hyperacusis, can be understood as audiological sensations which are intrinsically innocuous, though can acquire the capacity to generate fear, irritation, extreme anger, and/or disgust in those affected. Most well-known and scientifically studied at present is disabling tinnitus. Although progress has been made, tinnitus remains a scientific and clinical conundrum. While knowledge on effective treatment options for tinnitus is growing, this has impacted clinical practice minimally. There is substantial discrepancy between the scientific and clinical perspectives on the management of tinnitus and the actual day-to-day practice in the health care setting. Up to this day a medical or pharmacological cure is unavailable. Similar developments are observed if we look at other related sound-specific conditions, such as hyperacusis and misophonia. In this symposium we would like to present the state of the art on all three conditions, discuss recent developments and provide clinical perspectives for psychological practice.
It is estimated that in Europe alone over 70 million people experience tinnitus and that for 7 million it creates a chronic incapacitating condition, tenaciously haunting them up to the point where it interferes with every aspect of their daily living. Residing within and confined to the individual’s subjective and perceptual experience, tinnitus is not measurable or quantifiable by objective physical recordings, and is furthermore not traceable to disease, injury, or pathology in the brain or elsewhere. At present, we address the counterintuitive conjecture that is not the tinnitus-sound itself, but rather fear responses and associated threat-appraisals and avoidance tendencies that elicit and maintain tinnitus-disability. The question as to why a small group of individuals is at increased risk to enter a vicious circle of incapacitation whereas the larger part remains unaffected is a major challenge in tinnitus research and clinical practice.

For 16 to 21% of the adult population tinnitus is a common auditory sensation, only for a relatively small subgroup (3-6%), it becomes a chronic bothersome incapacitating symptom. It is of high importance for clinicians and patients alike to define the relevant potential risk factors, such as fear-responding and safety-seeking behaviors, enabling us to predict outcomes over time, allocate treatment elements efficiently, and prevent worsening of the condition in vulnerable individuals. Results from clinical and experimental studies will be discussed and implications for clinical psychological practice will be presented.
Hyperacusis is typically described as a type of reduced tolerance to sounds. This really belies its complexity and the significant challenges it can present for the patient and clinician. In this talk I will highlight controversies in the field, starting with how we even define or describe hyperacusis. This is critical if we are to develop meaningful measures or clinical practice guidance. As a small but growing research field, it is important to set priorities for hyperacusis research that are meaningful to patients and to clinicians. To do this in the UK, we undertook a James Lind Alliance Priority Setting Partnership, identifying 28 priority unanswered research questions. Work to address some of these questions is now ongoing including development of new assessment tools and expanded treatment options. Recent studies on definition and the lived experience of hyperacusis will be presented, and directions for the field discussed.
Misophonia is a recently recognized condition, characterized by an impulsive aversive physical reaction of irritation, anger, or disgust when confronted with specific, repetitive stimuli (for instance, eating sounds). Misophonia (From Greek ‘Hatred of sounds’), first used in audiology literature is relatively unknown and has hitherto scarcely been described. Analysis of a large sample confirms that misophonia is a distinct disorder characterized by an intense emotional reaction of irritation, anger, and often disgust elicited by specific auditory, visual, or sensory triggers predominantly induced by another person, resulting in preoccupation and avoidance. Results from recent studies and the clinical implications will be presented.
In people suffering from bothersome tinnitus, misophonia and hyperacusis, specific and intrinsically innocuous sounds acquire the capacity to generate extreme anger, disgust, irritation and/or fear. Literature suggests that alongside the characteristics of the sounds, previous exposure, the evaluation of the sound and the context also play a role in the development of misophonia. In bothersome tinnitus, however, ‘danger’ has been suggested as an acquired, fundamental meaning. The findings suggest that the reactions may be driven by acquired, specific meanings of the trigger sounds, which highly depend on the meanings associated with sounds. Previous literature mention learning and conditioning playing a role in the development of misophonia and bothersome tinnitus, however, this was not yet the case for hyperacusis. We investigated possible underlying unconditioned stimulus–unconditioned response complexes (meanings that may underlie emotional reactions) of the three conditions via an exploratory qualitative study involving focus group sessions with people suffering from the symptoms of each condition. According to the thematic analysis of the misophonia study, eight themes emerged during the focus groups, namely, threat, offensive context, intrusion, violation of borders, feeling trapped, lack of control, fear, defensive anger, and escape/avoidance. Content analysis revealed 44 codes within 6 categories. The most common codes were sound triggers, the insight that one’s own emotional reaction is exaggerated, and not feeling respected by others/violation of personal borders.
Follow-up research has established that relationships with parents and peers are associated with a wide range of developmental outcomes in children and adolescents. Current research explores how biological dispositions can contribute to these long-term outcomes and, more specifically, how they interact with environmental factors such as parents and peers. Other studies examine how these social relationships themselves change over time and how they are embedded in a broader cultural context. The first paper shows how increased parental sensitivity is associated with increased secure attachment to parents when adolescents show decreased expression in an attachment-related gene (i.e., the oxytocin receptor gene). The second paper demonstrates that being bullied by peers predicts stronger inflammatory responses to a laboratory stressor, but only in adolescents who also showed low functioning of the parasympathetic nervous system under social duress. The third paper shows how longitudinal changes in parenting are linked to the development of externalizing problems in adolescents. The fourth paper presents an overview of an interdisciplinary project that explores how socio-cultural pressures on parents are linked to overprotective parenting (sometimes referred to as “helicopter parenting”) which puts adolescents at increased risk for anxiety and depression. The discussant, an expert from the Netherlands who examines the role of genetic factors in parenting interventions, will integrate the different presentations, provide new insights, and suggest avenues for future research.
Attachment is an inborn tendency to search proximity to a caregiver when distressed, but individual differences exist (Bowbly, 1982). Sensitive parenting has been put forward as a main contributor to secure attachment development (Ainsworth et al., 1978). Therefore, the study’s first research aim was to investigate whether changes in parental sensitivity can differentiate between children’s attachment development over time. Additionally, biological dispositions can contribute to attachment development and interact with environmental factors such as parenting (Pappa et al., 2015). Oxytocin is a neuropeptide that often has been linked with attachment development (Feldman, 2012). Therefore, the study’s second research aim was to investigate whether changes in parental sensitivity interact with changes in oxytocin receptor (OXTR) gene methylation in predicting attachment development over time. 599 children (10 – 12 years) and their parents participated in a within-subjects longitudinal study over three waves. Children completed attachment measures and provided saliva for OXTR methylation extraction, and parents completed a questionnaire on sensitive parenting in each wave. Results show that increased parental sensitivity was linked with increased attachment security and decreased attachment insecurity. Increased OXTR gene expression was associated with increased attachment security and decreased attachment insecurity, independent of parental sensitivity. Only for children with decreased OXTR gene expression, increased parental sensitivity was associated with increased secure attachment.
During adolescence, experiences with peers can have a strong impact on youth well-being. Adolescents who are exposed to negative peer experiences (peer victimization) are at increased risk for developing a wide range of mental as well as physical health problems. Building on psychoneuroimmunology research, in this talk, I will discuss the possibility that negative peer experiences may activate inflammatory pathways which potentially can increase the risk for poor health outcomes. Novel findings will be presented about (a) how a history of peer victimization may sensitize acute inflammatory responses to subsequent stressors, and (b) how these effects may be moderated by parasympathetic nervous system activity, as indexed by high-frequency heart rate variability (HF-HRV). These research questions are examined in a sample of 83 adolescents (Mage = 14.89) who were exposed to a standardized laboratory social stressor. Continuous electrocardiogram recordings were taken before and during the stress task, and four key inflammatory markers were assayed from dried blood spots collected just before and 50 minutes post-task. Results suggest that peer victimization predicted stronger inflammatory responses (especially tumor necrosis factor-α responses) to the laboratory stressor, but only among adolescents who also exhibited low HF-HRV reactivity to the stress task. Consistent with the cholinergic anti-inflammatory pathway, findings highlight how the interplay between peer experiences and PNS activity may regulate immune system functioning, with possible consequences for well-being.
S17.3 – Parenting and externalizing problem behavior throughout adolescence: A multidimensional and multi-informant approach

Martijn Van Heel¹, Patricia Bijttebier², Hilde Colpin², Luc Goossens², Wim Van den Noortgate², Karine Verschueren², & Karla Van Leeuwen²

1 – Vrije Universiteit Brussel, Belgium
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A multitude of studies linked parenting to adolescent problem behavior. However, few studies span across multiple stages of adolescence and take into account the role of both mothers and fathers. In two longitudinal studies we investigated the associations between five maternal and paternal parenting dimensions (support, proactive control, punitive control, harsh punishment, psychological control) and rule breaking/aggressive behavior. Study 1 used a person-centered approach to identify subgroups in parenting dimensions, whereas Study 2 used a variable-centered approach and focuses on different aspects of parental control and adolescent personality.

Both studies used data from the STRATEGIES project, entailing six yearly waves of questionnaire data from adolescents (NW1=1,116), mothers (NW1=747) and fathers (NW1=645). Study 1 used latent class growth analyses for each of the five parenting dimensions for mothers and fathers separately and included the observed subgroups in conditional growth models of externalizing problem behavior. Study 2 used random intercept cross-lagged models for three parental control dimensions, adolescent personality and problem behavior.

Study 1 showed subgroups for support, proactive, punitive, and psychological control, which were linked to differences in adolescent externalizing problem behavior at age 12, but not with its development across adolescence. Study 2 showed a reciprocity between adolescent personality and problem behavior, but also suggested distinct roles for proactive, punitive, and psychological control in this interplay.
The goal of the present contribution is to give an overview of the SAFE-SORRY research project, which focuses on the phenomenon of overprotective parenting (sometimes labeled “helicopter parenting” or “overparenting”). Past research has shown that overprotective parenting may put adolescents and parents at risk for mental health problems, including anxiety and depression. Although past research offered some insights into the causes of overprotection, thereby identifying a number of parent-related and child-related determinants, there is little systematic research on the societal, economic, and cultural causes of overprotective parenting.

By bringing together theories from multiple disciplines (including developmental psychology, social psychology, sociology, economics, and gender studies), the aim of the SAFE-SORRY project is to test whether overprotection is rooted in parents’ context-related representations, such as their perceptions of societal expectations about how parents ought to raise their children. Second, we aim to examine whether specific characteristics of the cultural context shape these representations and intensify their tendency to engage in overprotective parenting. Third, we aim to identify parental risk and resilience factors, which explain why some parents are more susceptible to these socio-cultural pressures. To address these research goals, we will adopt a multi-method approach, relying on longitudinal, experimental, observational and cross-cultural research.
Impaired health and organizational effectiveness can be due to conflicts between co-workers, for which the unique features of startups form a fertile ground. However, conflicts are not always detrimental for health and effectiveness; they are inevitable for the development of highly effective teams, such as startups, that need to come to shared decisions on high-stake issues.

This symposium explores individual and team factors critical to understanding both positive and negative outcomes of conflict in startup team management teams (STMTs). We present complementary approaches used to investigate conflict dynamics and outcomes for STMTs, as well as regulatory efforts (stress coping, conflict and communication behavior) to manage it. We investigate processes and outcomes both at the individual and at the team level. While constructive controversy focuses on the cognitive side of decision making, often personal emotions drive the team dynamics. The research on role conflict and couple dynamics is of special relevance here.

M. Euwema proposes a new theoretical framework predicting different types of role conflict in a unique sample of only female founders. H. Aaldering and G. Kozusznik describe how conflict coping can mitigate conflict escalation, and physiological effects of conflict, respectively. Finally, K. Koek, uses an analogy of startup founders being a romantic couple and explores how communication patterns can predict STMT flourishing or a tragic ‘divorce’. This symposium offers novel approaches to possible intervention targets to improve conflict management in STMTs.
Female entrepreneurs, both solo and as entrepreneurial teams, often combine various professional roles (e.g., as owner or manager) with their private relations. Particularly in start-up teams, the role-relations differ, in terms of leading or following positions.

Based on role theory and conflict theory, we developed a new theoretical framework, the Women Entrepreneurial Cubicle, which predicts different types of role conflicts, based on the positions on the three most prominent and different roles: ownership, management, and personal relation. For example, two sisters start a business with equal shares, however one of them is acting as CEO, and puts more hours in the business. Such inequalities create role-tensions. Secondly, the cubicle focuses on the specific types of founder-relations. That is: what type of personal relation exists between the founders: intimate partners, family members, or not a close personal relation.

As this is a novel model, the current study is explorative. We used a qualitative study among 40 start-ups all led by women (solo founders, and start-up teams with the different relational types). 65 interviews were conducted and analyzed, and results will be presented.

Novelty: the Cubicle is a new theoretical framework. The sample is unique, with only female founders, in different types of relationships. Results are demonstrating the usefulness of the Cubicle, both for further theory development, as well as for educating and coaching female founders.
S18.2 – Preventing conflict escalation in startups: How to make sure that a task conflict does not become a relationship conflict

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Co-founders of startups are often acquaintances or even friends, full of energy and excitement about their new business idea. However, neither excitement, nor mutual ideals and not even friendship can prevent conflicts to occur in a startup team. While conflicts are unavoidable and sometimes even important for innovation and performance, they more often than not spiral out of control and affect the relationships within the team. Friendships may even be ruined, and productivity and satisfaction of and within the team suffers as a result. Here, we show in two field studies among startup teams the mitigating role of problem-solving conflict behaviors and a problem-focused coping style, both on the individual and on the team level, in preventing task conflict to spiral into relationship conflict. We additionally show how avoiding and a disengagement coping style rather amplifies such conflict escalation. Our findings are robust in two different samples with two cross-sectional and one longitudinal design(s). The implications on how to harbor constructive conflicts, yet prevent escalation into relationship conflicts, will be discussed.
S18.3 – You make me sick: Conflict behavior and gastrointestinal symptoms in startup top teams

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The unique features of startups make top management teams (STMTs) a fertile ground for interpersonal conflict, one of the most salient work stressors. Long-term stress is one of the main factors that has an effect on exacerbation and severity of gastrointestinal symptoms (GI), such as gastric acidity, diarrhea or pain in the abdomen. Research shows that not employing constructive coping strategies in stressful situations (e.g., conflict behavior in conflict situations) can lead to an increased physiological symptom severity. Problem-solving conflict behavior is associated with most beneficial outcomes, whereas avoiding conflict is generally considered to be dysfunctional.

The purpose of this work is to uncover patterns of GI symptoms over time and to investigate whether conflict behavior (i.e., problem-solving, avoiding) relates to GI symptom severity over time. To this end, we applied Latent Class Growth Analysis to the data of 107 STMT members who completed weekly surveys in 11 consecutive weeks.

The results uncover two groups of STMT members: Pattern 1 – STMT members with low levels of GI symptoms and reducing over 3 months; and Pattern 2 – STMT members with high levels of GI symptoms that intensify over time. They also show that avoidance conflict is a predictor of belonging to the Pattern 2.

This study sheds light on the physiological outcomes of STMT conflict and it suggests that managing conflict in high-performing STMTs is essential to ensure health and well-being over time and, which in the long run, is essential for a sustainable performance of the STMT.
Between 50 and 95% of new businesses fail in their first years, conflicts between co-founders being one of the top reasons for their failure. Founders of start-up companies typically have strong and close interpersonal relations, comparable even to intimate relationships. Continuing with the analogy of start-up founders as a married couple, analyzing the communication patterns between founders might be a strong indicator for the likelihood that the start-up will remain alive and flourishing, or will end in a tragic ‘divorce’. Especially relevant for this purpose is Gottman’s (2015) relational communication conceptualization of adaptive and maladaptive communication behaviors. Therefore, we conduct research into translating the Gottman method for couples therapy to the startup context. In this qualitative study, we translate the Gottman method for couples therapy to the startup context. We carry out semi-structured interviews with STMT members and explore communication behavior patterns present in the STMTs. We especially focus on the “Four Horsemen” maladaptive behaviors and we analyze their outcomes for team effectiveness and well-being. We discuss the implications both for theory development as well as for professional practice.
Like in many European countries, large achievement gaps plague Flemish education: As compared to ethnic majorities, ethnic minoritized adolescents face worse educational outcomes such as lower performance on standardized tests (up to 2 years of schooling) and higher school dropout (up to 45%). These gaps cannot be explained by socio-economic disparities, specific ethnic backgrounds, generational status, home language or even IQ. However, since these structural inequalities are also manifest in terms of school belonging and well-being, recent research has turned to studying school cultures in search for the psychological mechanisms underlying both types of gaps. In this invited symposium, we bring together four large-scale studies that each document how both majority and minority pupils’ outcomes are affected by their school culture, and especially by how their school deals with ethnic cultural diversity. Highlighting the importance of school culture, Gulseli Baysu draws on PISA data of 66 countries to show how discriminatory school climates affect standardized math and reading scores and Loes Meeussen shows how Flemish schools’ colorblind versus multicultural climates impact a very wide range of outcomes; both do so for ethnic majority and minority pupils. Inspiring solutions, Caroline Deltour shares first results of an intervention targeted at improving school cultures and Noël Clycq suggests how both schools at large and minority pupils themselves may benefit from the insights and practices emerging in ‘supplementary schools’ organized by ethnic minority communities.
Experiences of ethnic discrimination in school damage minorities' academic adjustment and achievement. Few studies, however, document how a discriminatory school climate may potentially affect pupils. The current study aims to investigate to what extent adolescents' perceived discriminatory climate in school is (negatively) associated with their academic performance and which psychological mechanisms may account for this link. We investigate this by using the 2018 round of the PISA including standardized performance scores in math and reading from 445,534 adolescents (aged 15-16, M = 15.81, SD = .29; 50% girl, 50% boy) in 16,002 schools across 60 countries. As expected, we found that a discriminatory school climate, as perceived at both the individual and school levels, was associated with lower math and reading scores for all pupils. This link held true across multiple robustness checks and for both ethnic minority and majority pupils, although minorities perceived higher levels of discriminatory school climates. Moreover, students' sense of belonging and value of school partially accounted for the link: when pupils perceived more of a discriminatory school climate, they reported less belonging and attached less value to school, which, in turn, was associated with lower performance. As such, the current research provides the first large-scale multi-country evidence that schools' ethnic and racial climates affect the standardized test-scores of both majority and minority pupils and offers novel insights into the psychological mechanisms that may account for this link.
(Inter)national data show persistent school belonging and achievement gaps between pupils with and without migration backgrounds. These structural inequalities were exacerbated during the covid-19 pandemic, when schools had to close and classes moved online. Building on research showing that school diversity approaches are an important factor in widening or mitigating ethnic belonging and achievement gaps, the current study investigated whether teachers’ perceived diversity approaches during covid school closure impacted pupils’ daily schoolwork engagement, school belonging, and (mental) health. To this end, 904 Belgian high school students completed an online survey in Spring 2020. Results showed that a perceived colorblind approach, with teachers ignoring cultural differences, negatively related to pupils’ day-to-day schoolwork engagement and school belonging. Conversely, a perceived multicultural approach, with teachers recognizing and utilizing cultural differences in their classes, positively related to pupils’ class engagement, school belonging, and mental and physical health. Importantly, these effects held for pupils with and without a migration background, and above and beyond general teacher support. Together, these results contribute to the literature on educational diversity approaches by evidencing their impact on understudied day-to-day engagement and health outcomes. They also add to our knowledge on education during covid, inspiring teachers to not only offer general support to pupils, but also embrace and value the cultural diversity in their classrooms.
Positive Behavior Interventions and Supports is a framework for establishing a positive school culture with tiered levels of social and behavioral support. Positive SWPBIS effects on students’ behavior are well documented in the USA. As the program is largely spreading, very few comparative studies showing its efficacy on students outside the USA are available. In addition, there is limited work examining SWPBIS effects on school climate from all stakeholders’ point of view and using comprehensive questionnaires including the three main components of school climate (engagement, safety, and environment). Currently, there is no consensus to define school climate in the scientific literature. It is often referred to as shared beliefs, values, and attitudes that shape interactions between students, teachers, and administrators. Nevertheless, researchers underline the importance of interpersonal relationships as one of the fundamental dimensions of school climate. Although the definitions differ, the major role of school climate on students’ behavior, academic success and well-being is regularly highlighted. Using a quasi-experimental design, the impact of SWPBIS implementation on school climate was investigated in elementary and secondary schools, mostly high-need schools of French-speaking Belgium (n intervention schools = 4, n control schools = 5). The main characteristics of the framework and findings from the study will be presented. Links between components of SWPBIS and dimensions of school climate will be discussed.
Throughout the world many education systems struggle with (large) performance inequalities between students with and students without a migration background. Despite often huge investments by policy makers, inequalities remain strong. At the same time, in these education systems an Achievement-Motivation (or Achievement-Aspiration) paradox is present: ethnic minority and migrant students often have (very) high educational motivations and aspirations, but this is not strongly correlated to their educational performance. Research shows these high aspirations are seldom recognized by educators, and more generally the latter have difficulties to build upon the resources minority and migrant youth bring into the mainstream school context. Given these enduring inequalities and the high aspirations in minority communities in general, it is no surprise that bottom-up educational initiatives are taken by community representatives. These initiatives can take many forms and frequently communities set up ‘supplementary schools’. These schools are organized when the mainstream schools are closed and are therefore sometimes called ‘weekend schools’. Research shows that such schools establish a curriculum and develop a network of teachers and other practitioners to support minority youth to become successful. This success (and support) is focused on three key areas: the qualification of youth and their educational performance, the socialization of youth and their broader knowledge of cultural heritage and sense of community, and their individual empowerment by supporting self-confidence, well-being and identity development. While up until now little is known of the impact of these initiatives, it is clear that many minority communities believe in the power of supplementary schools in supporting their youth. Mainstream schools can benefit not only from the various resources present in minority communities, but also from the insights and practices emerging in supplementary schools.
Acute pain perception is not a direct readout of the nociceptive stimulus, but the results of inhibiting and facilitating factors. The same inhibiting and facilitating factors are believed to be involved in the predisposition, development and maintenance of chronic pain. In this symposium we will tackle the topic from different perspectives and experimental approaches, all having in common a translational view. First, we will discuss how movement modulates pain, what is the behavioral, psychophysical and neurophysiological evidence for it, and what moderates the effects. Second, we will examine the role that overgeneralization of pain-related fear and avoidance have in the etiology and maintenance of chronic pain with a focus on differences between patients and healthy participants. Third, we will delve into the concept of central sensitization and whether its development can be modulated by psychological factors. More specifically, we will present research investigating the role of fear, expectations, learning, cognitive load and working memory in the increase or decrease of experimentally induced pain hypersensitivity.
Movements are typically perceived as triggers of pain or pain exacerbation by people with chronic pain. This often leads to the acquisition of fear of pain-related movement, enhanced attending to pain-relevant information, and consequently, avoidance behavior. On the other hand, pursuit of daily life goals often requires performing movements despite pain. In addition, performing movements and physical activity is a central component in clinical interventions such as graded exposure. However, surprisingly little is known about the effects of movements on pain processing. In this talk, I will argue that attention and sensory attenuation mechanisms might result in both enhanced and suppressed pain processing when moving, and I will discuss potential moderators such as motivation. I will present supporting experimental evidence combining behavioral, psychophysics, and neurophysiological approaches. First, I will show that painful stimuli presented at a moving body part are substantially suppressed and that this is not modulated by the threat value of pain. Second, I will discuss several experiments showing that both anticipating and performing movements signaling pain enhance somatosensory processing at pain-relevant body locations, but that this effect is not different between people with and without chronic pain, and that this effect is not modulated by the reward value of the movement. Finally, I will discuss theoretical and clinical implications of these findings.
Accumulating evidence shows that pain-related fear is often more disabling than the pain itself, and contributes to the transition from acute to chronic pain disability. Growing evidence suggests that pain-related fear is acquired via associative learning. In the clinic, however, spreading of fear and avoidance is observed beyond movements/activities that were associated with pain during the original pain episode. From an associative learning perspective, one mechanism accounting for this spreading of fear is stimulus generalization. We propose that overgeneralization may play a role in the etiology and/or maintenance of chronic pain disability by spreading of undesired protective behaviors such as avoidance. In this talk, I will present a series of experiments showing (1) differences in generalization of pain-related fear and pain-expectancy between chronic pain patients and healthy pain-free controls, (2) that these protective responses persist despite corrective feedback in patients but not in healthy controls (reduced extinction), (3) that patients also demonstrate impaired selective learning in other conditioning paradigms (e.g., blocking procedure), and (4) that overgeneralization of instrumentally acquired pain-related avoidance behavior also exists in people with high levels of trait anxiety and chronic pain.
Central sensitization (CS) is a popular phrase in the pain literature. Unfortunately, CS is defined, and as a consequence operationalized, in many different ways, which hampers scientific progression. The first aim of my presentation is to critically discuss the different definitions of CS. The second aim of my presentation is to discuss the available experimental evidence that psychological factors are sufficient by themselves to modulate the development of CS. Although it is widely believed this is the case, a review of the literature strikingly reveals that the number of experimental studies is low and that the answer is not straightforward. Elucidating the role of cognition in modulating and/or maintaining CS is important, in particular for pain treatment.
The contribution of cognitive and emotional factors to the perception of acute painful stimuli has been thoroughly investigated, whereas it remains unclear whether the development of secondary hyperalgesia is under the influence of similar top-down facilitating and inhibiting factors. Moreover, the exact conditions and mechanisms necessary for such (potential) modulatory effects to appear remain elusive. This talk will focus on the role that cognitive load and working memory have in the development of secondary hyperalgesia induced in healthy volunteers using experimental models such as repeated electrical stimulation of the skin. The results of several experiments from our lab, both published and unpublished, will be presented, and critically discussed. Specifically, I will show data on the role that working memory and cognitive load may have in reducing secondary hyperalgesia; discuss the robustness of such effects, as well as the potential mechanisms through which they may operate. Existing evidence on how gender and individual differences interact with cognitive modulations as well as the interplay between cognition and emotions will be also examined.
The recent pandemic of Covid 19 and related perceptions and attitudes toward sanitary measures revealed, among others, that individuals’ propensity to endorse conspiracy beliefs is not a rare phenomenon but can easily be attested even in modern, developed, and highly secularized European countries. Yet, several questions, from within personality, social, and cross-cultural psychology, have been understudied and/or remain unanswered. The present symposium will focus on four critical questions and provide cross-sectional, experimental, and cross-cultural evidence from four studies in Belgium, France, and the USA: Are the different conspiracy beliefs psychologically all the same, in terms, e.g., of the respective underlying personality characteristics (Saroglou & Gerbaux)? Does propensity to believe in conspiracy theories equally predict distrust of all actors involved with the management of the pandemic, be these actors from the political, scientific, or medical domain (Nero et al.)? Does conspiracy belief constitute a specific form of outgroup blaming following a perceived group threat, and, if yes, may it be amplified by participants’ narcissism (Bertin et al.)? Finally, can differences in conspiracy beliefs explain, even uniquely with respect to other cultural and economic factors, cross-cultural differences in endorsing Covid 19-related sanitary measures (Cubeddu & Saroglou)? The four presentations will provide complementary evidence on the very nature of conspiracy belief and the extent and limits of its role in shaping social and health-related attitudes and behavior.
Conspiracy beliefs are related to and predicted by a variety of psychological characteristics, i.e., cognitive, emotional, relational, self-concept-related, and ideological. Yet, it is not clear whether all conspiracy beliefs are similar, in terms of the underlying psychological factors and processes. In the present study, we investigated among 239 Belgian French-speaking adults (online survey during the second Covid lockdown) various beliefs using the Conspiracist Beliefs scale (Betherson et al.’s, 2003), as well their similar or different associations with relevant individual differences. We identified four conceptually and empirically distinct conspiracy beliefs, i.e., ones referring to (a) secret groups, (b) malevolent governments, (c) dangerous technoscience, and (d) aliens. The four conspiracy beliefs showed striking similarities: they were all unrelated to dogmatism and insecure attachment but were all related to low analytic thinking, high slippery slope thinking, and (except conspiracy regarding secret groups) high religiosity. Nevertheless, notable and meaningful differences were also observed. Irrationality, measured as endorsement of nonsense statements, was related only to conspiracy regarding malevolent governments and technoscience; low belief in people’s benevolence was characteristic of only conspiracy regarding secret groups; and need for closure was positively related to only conspiracy of aliens. Different conspiracy beliefs seem to reflect specificities in thinking regarding the rationality-irrationality continuum.
Conspiracy mentality is associated with reduced trust in political, medical, and scientific institutions – but not in the medical personnel

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In a pre-registered work, we examined the relations between conspiracy mentality (i.e., the individual susceptibility to endorse conspiracy theories) and trust in actors of the COVID-19 crisis: 1) political institutions, 2) scientific and medical institutions, and 3) the medical personnel. The two former groups have played a direct or indirect role in decisions related to public health measures, the latter has not. We expected these relationships to be negative and mediated by the belief that the pandemic is instrumentalized by authorities for secret agendas. In a study conducted with a Belgian (N = 1,136) and a French (N = 374) convenience samples, conspiracy mentality predicted low trust in (1) political institutions and (2) scientific and medical institutions. These relations were partly mediated by belief that the pandemic is instrumentalized by authorities. Distrust in political, medical, and scientific institutions were highly interrelated, suggesting that these groups may be viewed as part of a supra-ordinate category – the “Elites”. By contrast, we found only a small negative (Belgian sample) or a null (French sample) relationship between conspiracy mentality and (3) trust in the medical personnel. Trust in the medical personnel was unrelated to the belief that the pandemic is instrumentalized, and only weakly related to distrust in political institutions. Our results suggest that conspiracy theories believers may not distrust all actors involved in the management of the pandemic, but only those tied to decisions pertaining to public health measures.
Conspiracy beliefs in times of crises are explanations attributing the suffering of the ingroup to the secret action of outgroups, i.e., outgroup blaming. Yet, the causality between diffuse threats and conspiracy beliefs, necessary to qualify conspiracy beliefs as outgroup blaming, remains to be tested. Furthermore, we should differentiate conspiracy beliefs from a different form of outgroup blaming, scapegoating. Across four studies in Belgium, France, and the United States (total N = 2652), we investigated whether group relative deprivation, in the context of economic crises, increases outgroup blaming, and, in addition, whether this link is moderated by national narcissism, i.e., a defensive identification rooted in a perceived lack of recognition. We replicated the previously found cross-sectional link between group relative deprivation and conspiracy beliefs about a specific outgroup, i.e., immigrants (Study 1), but failed to confirm the causality (Study 2), except when participants’ national narcissism was high (Study 3). In a final Study 4, induced national narcissism and group relative deprivation, distinctively, but not interactively, increased conspiracy beliefs. By contrast, scapegoating was neither affected by group relative deprivation nor by national narcissism, highlighting the specific attractiveness of conspiracy narratives. We discuss functions of conspiracy beliefs for national narcissists and the potential consequences of such attributions during crises.
A growing body of research points to the influence of cultural factors on attitudes toward vaccination and sanitary measures related to Covid 19. In parallel, in Belgium, especially Brussels, differences between ethnic communities regarding the above attitudes were frequently interpreted as due to socioeconomic differences and rarely as due to cultural factors. In this study, we investigate (online survey; expected N > 300 adults) the above attitudes and relevant individual differences, including endorsement of conspiracy beliefs, among (1) native French-speaking Belgians and (2) Belgians of Moroccan-Turkish origin. By integrating indications from distinct bodies of previous research and theory, we hypothesized that lower vaccination rates and lower compliance with sanitary measures among the minority compared to the majority group are accompanied, and possibly explained by, beyond socio-economic differences, certain cultural differences. These include beliefs (higher conspiracy beliefs and religiosity), personality and self-concept (higher masculinity and higher external locus of control), morality/values (higher sensitivity to pathogen disgust and lower performance orientation), and style in interpersonal relationships (higher physical contact with same-sex proximal people). We also expect differences on beliefs (conspiracy, religiosity) to play a unique role as predictors. Finally, we expect the effects to be stronger among those of the ethnic minority with lower acculturation to the Belgian culture.
S22 – Cognition and neuroscience

June 3rd 14:45– 16:05

Room: PSI 91.93

Flash Talks

Chair: Kobe Desender\textsuperscript{1}

1 – KU Leuven, Belgium
S22.1 – A multi-level investigation of sensory sensitivity and responsivity in autistic adults

Laurie-Anne Sapey-Triomphe\textsuperscript{1,2}, Joke Dierckx\textsuperscript{1}, Jaana Van Overwalle\textsuperscript{1,2}, Sofie Vettori\textsuperscript{3}, \& Johan Wagemans\textsuperscript{1,2}

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Atypical sensory processing is a core symptom of Autism Spectrum Disorder (ASD). Here, we aimed at better characterizing visual sensitivity (i.e., ability to detect a sensory stimulus) and responsivity (i.e., response to a sensory stimulus) in ASD at the self-reported, behavioral and neural levels. Participants were 24 autistic adults and 25 neurotypicals (NT). At the self-reported level, they completed three questionnaires assessing sensory sensitivity and responsivity. At the behavioral level, they took part in a series of tasks measuring sensory sensitivity (i.e., detection threshold) and responsivity (i.e., threshold at which they felt uncomfortable) for contrast and spatial frequency. At the neural level, we used fast periodic visual stimulation and electroencephalography to assess detection thresholds. Finally, participants completed the Intolerance of Uncertainty scale and the Trait Anxiety Inventory. The ASD group showed a higher self-reported sensory sensitivity and responsivity than NT. The ASD group had higher thresholds for behavioral detection and for reports of being overwhelmed than NT for spatial frequency, not for contrast. In the ASD group only, higher self-reported sensory sensitivity and responsivity were associated with more intolerance of uncertainty and anxiety. At the neural level, detection thresholds in contrast or spatial frequency did not differ between groups. To conclude, this multi-level approach sheds light on the mechanisms underlying sensory issues in ASD, ranging from their difficulties in their daily-lives to co-occurring issues.
In recent years, cognitive control training has gained momentum as an intervention to remediate cognitive impairments and decrease depressive symptoms. One promising operationalization to train cognitive control is the adaptive Paced Auditory Serial Addition Task (aPASAT). In this systematic review and meta-analysis of aPASAT training, the efficacy of the intervention and potential moderators were examined. Online electronic databases were searched for studies examining aPASAT training for depressive symptomatology or rumination. Nineteen studies (n=1257) were included, comprising of depressed patients, remitted depressed, at-risk, and healthy participants. We found small significant effects directly after training for both depressive symptomatology and rumination, with similar effect sizes at follow-up. Subgroup analyses suggest a significantly higher mean effect of aPASAT training in non-healthy populations for rumination immediately following training, but not for depressive symptomatology. The amount of training sessions did not moderate effects of CCT. It is currently unclear how many sessions are required for sustained effects due to heterogeneity in training dosage and absence of sufficient trials. Our results suggest that aPASAT training may be most effective for at-risk, remitted and clinically depressed populations. The effect sizes resulting from this meta-analysis could be used to adequately power future research, which could investigate a dose-response relationship and examine potential treatment gains when combining CCT with other antidepressant interventions.
A recent framework about cognitive control and multitasking based on computational models predicts that if tasks share fewer representations, multitasking capacity should increase. As a result, performance decrements during multitasking should decrease or multitasking might even benefit performance. To study this theoretical prediction, we developed a cognitive-motor dual task, where we can assume that the two tasks rely at least partially on separate rather than shared representations. Specifically, participants completed a numerical Stroop task where they had to indicate the numerically largest of two numbers which also differed in physical size, leading to congruent (numerically largest is physically largest) and incongruent (numerically largest is physically smallest) conditions. Participants responded by moving the computer mouse to a circle next to the number. Crucially, these circles were either large (requiring low motor control) or small (requiring high motor control). This resulted in a design in which high and low cognitive control conditions are combined with high and low motor control conditions. The task was administered in children (N = 59), young adults (N = 137) and older adults (N = 193). In all developmental groups, we observed that participants exerted cognitive control more efficiently (i.e., smaller congruency effects) on trials that required high versus low motor control. These findings demonstrate that the concurrent exertion of motor control may facilitate – rather than hamper – the exertion of cognitive control.
As humans, we are immersed in a dynamic environment where many experiences are perceived through the complex interaction of our senses. In particular, sensory signals convey emotional experiences and allow others to interpret affective information. However, the foundational role the senses play in driving representations of affect remains poorly understood. We aim to assess whether the brain representation of emotions is modality independent and shared across individuals lacking visual and auditory experience. Sighted individuals provided ratings of their moment-by-moment emotional experience during an audio-visual (n=22), an audio-only (n=20) or video-only (n=20) version of "101 Dalmatians". Participants chose between 15 emotion categories to describe their affective state throughout the movie (e.g., amusement, relief). Brain activity was measured in 30 sighted, 11 congenitally blind and 9 congenitally deaf individuals in the fMRI. Voxel-wise encoding measured the association between brain activity and emotional experience. vmPFC and pSTG were significantly associated with the affective ratings across groups and modalities. In the audio stimulation, the activity of vmPFC and STG was associated with emotional reports, whereas OFC was involved to a lesser extent. In the video-only condition we found an association between the activity of vmPFC, STG, and visual cortex with the affective experience. Altogether, these findings indicate that affective experiences are encoded in vmPFC and pSTG regardless of the sensory modality and independently from visual and auditory experience.
S22.5 – A brain pattern of high integration and low segregation is recurrently observed after psilocybin administration

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Psychedelic drugs have been used throughout history as a means of altering conscious experience and nowadays as therapeutic tools in clinical context. Psilocybin is such a psychoactive substance, which induces profound distortions in subjective experience typically accompanied by increased brain connectivity as revealed by stationary connectivity analysis. Here we study whether and how the brain reconfigures in more functional brain states and what the inter-state dynamics look like under psilocybin. In a double-blind, placebo-controlled, parallel-group design, we utilized ultra-high field (7T) fMRI where participants were randomized to receive a single dose of psilocybin (0.17 mg/kg, n=22) or placebo (n=27). Connectivity analysis revealed that, compared to placebo, there was an overall increase in the whole-brain connectivity after usage of psilocybin. This effect was related to an increased connectivity between visual network and default mode and executive control networks. Time varying connectivity further showed that a state of global cortico-cortical positive connectivity re-occurred more often in the psychedelic state. Inter-state dynamic analysis showed that pattern transitions were more probable in the psilocybin group, but the preferred pattern remained this overall positive connectivity pattern. This was proved by observing the significantly higher “ignition” power of cortical regions in psychedelic state which showed their unusually higher tendency to make functional connections with each other.
Vocal expressions of emotion are vital information for interpersonal communication. How the brain discriminates separate vocal emotions remains however poorly understood. We relied on EEG frequency tagging recordings to tag neural responses to specific emotion expressions. 24 participants listened to heterogeneous emotional sounds presented periodically to elicit a brain response at the same frequency in the EEG spectrum at 2.5 Hz. Importantly, sequences were created so that a specific emotional category (e.g., fear) appeared at each 3rd sound (0.83 Hz) which elicits an additional response only if the brain discriminates a specific emotional category (e.g., fear) from other emotional categories (e.g., happy, disgust etc) and generalizes across heterogeneous exemplars of “fear”. Stimuli were matched for harmonicity-noise ratio, center of gravity, pitch and envelope to control for low-level acoustic features. A scrambled version of the stimuli was introduced with identical spectral content but disrupted intelligibility. We found a strong response at 2.5 Hz, corresponding to the rate of sound presentation in all sequences. Crucially, we observed a peak in the EEG spectrum at the emotion presentation rate (0.83 Hz) in the intact but not in the scrambled sequence. Our results indicate that the fast periodic oddball auditory paradigm is a promising indicator of the brain’s ability to categorize non-verbal vocal emotion expressions objectively (behavior-free), rapidly (in few minutes) and robustly (high signal-noise ratio), making it suitable for testing infants or clinical populations.
Effective social communication depends on the integration of emotion expressions coming from the face and the voice. Although there are brain regions that respond more to multimodal than unimodal emotion expressions, these activations could either reflect the activity of multimodal neurons or the summed responses of visual and auditory neurons that coexist in the same region. Multi-input frequency tagging of electrophysiological (EEG) brain responses might reveal a unique non-invasive technique to investigate whether there are neuronal populations that simultaneously process and integrate facial and vocal emotion expressions. We acquired EEG recordings while participants attended to dynamic fearful facial and vocal expressions tagged at different frequencies (Fv, Fa). We were not only able to observe responses at the facial and vocal emotion presentation frequencies, but also at intermodulation frequencies (IMF) arising at the sums and differences of the harmonics of the stimulation frequencies (mFv±nFa) indicating integration of the visual and auditory emotion information into a unified representation. These IMF were not present in the signal and therefore arise only if neuronal populations integrate signal from the two sensory streams. Interestingly, IMF responses were absent in a control condition with mismatched facial and vocal emotion expressions. Our results provide for the first time a direct and non-invasive evidence in support for the existence of neuronal populations that simultaneously process and integrate emotion information from the face and the voice.
Abstracts

Poster Session 1

Thursday June 2\textsuperscript{nd}  
17:20 – 18:50
P1.1 – Development of early metacognition: A longitudinal study

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Keywords: metacognition, cognitive development, longitudinal design

Metacognition was long assumed to emerge relatively late in children development. Recent studies, however, have suggested that even preverbal infants can access their internal states, albeit not explicitly. The aim of the present study was to longitudinally document the evolution of both implicit and explicit metacognitive abilities in children aged from 2.5 to 3.5 years. Sixty-seven children were presented with a forced-choice recognition test at age 2.5 (T0) and at 1-year follow-up (T1). During this test, children were asked to provide a retrospective confidence judgment following each memory decision (explicit judgment) and had also the opportunity to ask for a cue to help them to decide between the two options (implicit judgment). Results revealed that 2.5-year-old children performed at chance for both the explicit and the implicit measure of metacognition, indicating their inability to discriminate between correct and incorrect memory responses. While our longitudinal data revealed a significant improvement in both explicit and implicit metacognition between T0 and T1, only the accuracy of participants’ implicit judgment was higher than chance at age 3.5. Regression analyses revealed that the accuracy of children implicit judgment at T0 uniquely predicted the accuracy of their implicit judgment one year later while the accuracy of children’s explicit judgment at T0 only predicted explicit metacognition at T1. Our data support an early use of implicit metacognition for memory – around the age of 3.5 – while confirming the later development of explicit metacognition.
P1.2 - Student replications of the survival memory effect demonstrate the dance of the p-values

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Keywords: replication, survival memory, p-values

We aimed to investigate whether methodology classes in the psychology undergraduate curriculum can be used to train students in open science and critical thinking while fact checking science at the same time. To this end, we had undergraduate students perform replications of studies they encounter in their curriculum as part of their methodological training. Replication constitutes a natural and constructive way to introduce open science in an earlier stage of the curriculum than is customary. By targeting studies that feature prominently in their curriculum, students develop a critical attitude, which is one of the primary aims of any academic education. By conducting the replications that working researchers don’t undertake, students actively engage in the production of academic knowledge. We report the results of 41 well-powered replications of the survival memory effect, according to which words that are judged for their relevance to a survival scenario are remembered better than words that are processed differently. While numerous studies have provided evidence for the idea that our memory is adaptive (i.e., evolved to help retain fitness-relevant information), the student replications yielded widely different results, effectively demonstrating the so-called dance of the p-values whereby repetitions of an experiment yield very different p-values. We discuss the feasibility and value of having students replicate studies as part of their methodological training and the implications of this exercise for the survival memory effect.
P1.3 – Socio-cognitive and emotional determinants of edible insect consumption in the Kongo Central province (D.R. Congo)

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Keywords: entomophagy, theory of planned behavior, emotions

The consumption of edible insects represents an important challenge for the future of balanced nutrition in the world. However, there are still psychological barriers that prevent its consumption, which is highly detrimental when other sources of animal proteins are scarce, which is the case in DRC. One study conducted in 2019 showed that consumption of insects was low in the province of Kongo Central. The aim of the present research was to better understand the determinants of low consumption in that province. We used focus groups in order to understand the determinants of low consumption in a more open answer format. The topics of discussion were organized on the basis of the theory of planned behaviour, with additional questions on habits, emotions, and demographic dimensions. Twelve focus groups were conducted in three environments (town, city and village) with a total of 146 participants in 2020 and 2021. Consumption was low in towns due to availability issues (perceived control); very low in the village due to the negative influence of the three tribes (subjective norms); and very high in the city due to availability (perceived control) and positive evaluation of insects’ taste (attitudes). Regarding emotions, only fear was reported but quite rarely. Eating edible insects was a habit only in cities, especially among two tribes. These results will help to implement interventions to increase insect consumption in towns and villages of that province, based on existing validated interventions such as nudging.
P1.4 – Neural compensation in manifest neurodegeneration: Evidence from social cognition in frontotemporal dementia

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Keywords: bvFTD, social cognition, MVPA

Background: The clinical manifestation of neurodegeneration is determined by the interaction between the neurobiological impact of the disease and the compensatory capacity of the nervous system. The present study aimed to investigate whether neural functional compensation of social cognition can be observed in the manifest neurodegenerative disease stage. Methods: The study was performed in 19 patients with behavioral variant frontotemporal dementia (bvFTD) and 20 controls. We defined the social perception network by comparing perception of faces vs scrambled stimuli and subsequently performed ROI analyses consisting of group comparisons on the response amplitude, on support vector machine (SVM) classification accuracy, and on neural response pattern similarities. We also investigated group differences in response amplitude and diagnostic neural patterns outside task relevant regions, via voxel-wise whole brain and searchlight analyses and followed these up with similar ROI-analyses as in the social perception clusters. Results: Significant group effects were observed only outside task-relevant regions, converging in the caudate nucleus, a node of the semantic appraisal network. This area showed a diagnostic neural pattern as well as hyperactivation and stronger neural representation of facial expressions in the bvFTD sample. Discussion: These combined findings reveal converging support for compensatory processes in clinically manifest neurodegeneration, complementing accounts that clinical onset synchronizes with the breakdown of compensatory processes.
The execution of silent articulatory lip or tongue movements is known to affect the perception of corresponding (lip or tongue related) speech sounds. This finding is often considered as a piece of evidence that speech perception is supported by motor articulatory resources (the motor interpretation). However, the execution of silent articulatory movements involves also the auditory/phonological system, to which articulatory representations are connected in the service of speech motor control. Hence, the reported effect could be a by-product of the activation of auditory/phonological rather than motor representations (the auditory interpretation). To discriminate these two interpretations, we tested the effect of the execution of both speech-related (experiment 1) and non-speech-related (experiment 2) lip movements on the perception of lip-related and non-lip-related speech sounds. Both lip movements mobilize lip motor representations, but only the speech-related lip movements activate auditory/phonological representations. Therefore, if the motor interpretation is true, both types of lip movements should affect disproportionately the perception of lip-related speech sounds (vs. non-lip-related speech sounds). In contrast with this prediction, and in line with the auditory interpretation, the results indicated that only the execution of speech-related lip movements (experiment 1) interfered significantly more with the perception of lip-related than non-lip-related speech sounds.
P1.6 – The effects of transcutaneous vagus nerve stimulation on pupil size: A parametric study

Emma De Schuyteneer¹, Martina D’Agostini¹, Andreas M. Burger¹, Mathijs Franssen¹, Stephan Claes¹, Andreas von Leupoldt¹, Peter R. Murphy², & Ilse Van Diest¹

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Keywords: transcutaneous auricular vagus nerve stimulation, pupil size, stimulation parameters

Transcutaneous auricular vagus nerve stimulation (taVNS) is a non-invasive technique electrically stimulating the afferent fibers of the vagus nerve. taVNS has been tested as a potential treatment for drug-resistant epilepsy and depression. taVNS is hypothesized to achieve such beneficial effects by enhancing central noradrenergic activity. Pupil size is considered a reliable biomarker of noradrenergic activity and can thus be used to test the working mechanism of taVNS. However, evidence for a noradrenergic mechanism of taVNS is mixed at best. A potential reason underlying the mixed results might be the use of suboptimal stimulation parameters. The goal of this project is to investigate the effect of taVNS on pupil size as a function of stimulation parameters. Forty participants will be included in a two-day crossover study and receive the stimulation on two locations of the left ear in a counterbalanced order: the cymba concha (taVNS) and the earlobe (sham). Short bursts (5s) of seven stimulation settings, varying as a function of pulse width and intensity, are administered 16 times in separate blocks while measuring pupil size. We hypothesized that higher stimulation settings will lead to a greater increase in pupil dilation in the taVNS condition compared to sham. The data collection is almost complete. The results of the study will be presented at the BAPS meeting. The results will inform about the underlying working mechanism and parameter settings of taVNS. This information is crucial to lead taVNS into clinical practice.
P1.7 – Exploring the limits of a rodent model of vision using deep neural networks

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Keywords: rat vision, deep neural networks, two dimensional stimulus space

Previous research using rats as a model for vision concluded that rats are a useful model for high-level visual perception in humans. The present study challenges this assertion based on the observation that the classification behaviour of rats can be explained by early layers of a deep neural network (DNN). Moreover, rats generally perform either perfectly or at chance, indicating that they are either not being challenged sufficiently, or too much. In this study, we created a novel two-dimensional stimulus set that varied continuously along concavity and alignment to rectify both of these problems. In a separate pilot experiment, these stimuli were presented to rats in order to explore whether they can learn the task and whether they are biased toward concavity, and alignment, or are not biased. We found that the animals were able to successfully learn the task, but were biased towards alignment. Consequently, the difference in the concavity dimension was increased. A further test indicated that, after this increase in the difference in concavity, the animals were now able to use the concavity dimension. When using these stimuli in a subsequent test one animal was able to do the task and was no longer biased, but the other animal was no longer able to do the task. To explore possible explanations for this, all trial combinations were presented in a final session. We found that the rats were able to the task. Theoretical implications and avenues for further research are considered.
P1.8 – Perceptual extrapolation of body movements is driven by internal models of others’ body

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Keywords: Cognitive psychology, Biological motion perception, Predictive perception

After a moving object has disappeared, people typically mislocate its final position to where it would have been if it had continued to move for a few milliseconds. This “representational momentum” (RM) is reduced for body movements that would have been biomechanically difficult to continue along the same trajectory. This has been considered compelling evidence that perception of body movements is supported by motor simulation and tuned by the body abilities of the observer. The two studies reported here tested the alternative hypothesis that body movement perception is tuned to the body abilities of others, learned through visual experience. In Experiment 1, we first used two pictures to familiarize participants with the maximal amplitude of arm movement of a flexible and a rigid actor. Then, they performed a RM task in which they watched video-clips depicting the actors performing either a movement of maximal amplitude (80% of trials) or of an intermediate amplitude (20%), that is, a movement that would have been easy to continue for the flexible actor, but impossible for the rigid actor. Before the start, participants were told to pay attention to the identity of the actor, which could help them solve the task. In Experiment 2, there was no such instruction, nor any familiarization phase. Although the intermediate movement was identical for both actors, the RM was consistently larger for the flexible actor. This indicates that perceptual extrapolation is shaped by knowledge of actor-specific biomechanical abilities.
P1.9 – The effect of fear learning on habituation of non-painful visceral stimuli

Lauren Pattyn¹, Jonas Zaman¹, Lukas Van Oudenhove¹, & Ilse Van Diest¹

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Keywords: visceral perception, fear learning, habituation

As a cardinal symptom of most functional gastrointestinal disorders (FGID), visceral pain and discomfort are very common and disabling. Unfortunately, such symptoms remain poorly understood and hard to treat. There is a general consensus that fear of gastrointestinal sensations may play an important role, but the mechanisms underlying such fear as well as its impact on visceral symptom perception are still poorly understood. In this study, we investigated if and how acquired fears of a non-painful visceral stimulus influence its perceptual habituation, as a previous study found indirect evidence for such a relationship. Fear learning-induced disrupted perceptual habituation processes to visceral sensations may explain observed gastrointestinal hypersensitivity in FGID. In the study, an experimental group (n= 40) and a control group (n= 40) both received 126 identical non-painful electrical stimulations at the distal esophagus. It was hypothesized that the recurrent stimulus presentation would lead to perceptual habituation. In the experimental group, fear learning was established by pairing the non-painful stimulus with a painful visceral stimulus. It was hypothesized that fear learning would disrupt the perceptual habituation process of the non-painful stimulus (compared to the control group). This effect was measured with a self-report of stimulus intensity and ERP amplitudes. Startle EMG and Skin conductance response were used as indexes of fear learning. Alongside the design of the study, the preliminary findings of the self-reported measure will be presented.
P1.10 – A day that America will remember: Flashbulb and collective memory representations of the Capitol riots

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Keywords: collective memory, flashbulb memories, inter-subject similarity

This study investigates the effect of collective identity on inter-subjects similarity of representations in memory for a public event. Here, we assessed the memories of the Capitol riots which happened in Washington on January 6th, 2021. Seventy Belgian and seventy-nine American citizens took part to an online study, in which they freely recalled the unfolding of Capitol riots and answered questions regarding their memory. Inter-subjects similarity of recalled details were analyzed using a schematic narrative template (i.e., the event, the causes and the consequences). The results revealed that representations of the event and its causes were significantly more similar among Belgian relative to American participants, whereas Americans’ representations of the consequences showed significantly more similarity than Belgians’ ones. Also, as expected, Americans reported more flashbulb memories than Belgians. Together, the findings suggest that the content of a memory for a public event shows similarity across individuals and is influenced by their sense of national/collective identity.
The interest in music is almost universal in human culture. In addition, music is a domain in which a substantial minority of persons acquire expertise. This study focused on the question whether experts in music can distinguish tone pitch better than non-experts, especially tones that differ in timbre. From previous research it was expected that a difference in timbre will have less influence on the performance of experts. In addition, stimuli properties such as scale degree and pitch were taken into account. The 105 participants (53 novices, 52 experts) performed an online experiment in which they heard a series of tone pairs, each preceded by a contextual chord (piano chord D). They rated the tones by indicating whether the second tone sounded higher or lower than the first. The two succeeding tones were in a same or different timbre obtained by using same or different instruments within the same pair (piano, guitar or saxophone). The tone distance within the same pair was between 0.5-1.5 tones up or down. The results showed that in general experts score better, that trials with different timbres were more difficult, that more distance between the tones led to better performance and that the scores were better in trials where the comparison was made with tones that are important within the context chord. No interaction effects were found between the above findings and the factor expertise, which rejected our hypothesis that experts are less influenced by timbre differences.
Cued Speech (CS) is a visual communication system designed to facilitate oral speech perception in hearing impaired people (HI). Manual gestures positioned around face code phonemes that would be ambiguously perceived through lipreading only. Visual information delivered by manual gestures combined with lipreading enables speech perception without sound. Nevertheless, audiovisual speech perception is possible when the auditory input is available through a cochlear implant, for example. In the present study, we used an Event Related Potential (ERP) paradigm to investigate the effect of CS perception on auditory processing in subjects that were either naive or experts in the system. Participants were presented /pa/,/ta/,/ka/ syllables in unimodal audio-only (A), visual-only (Lipreading only or CS-gesture only or both ) and in bimodal conditions (Audio-Lipreading; Audio-CS gestures; Audio-Lipreading-CS gestures). We compared the amplitude and the latency of the auditory N1 and P2 in unimodal with respect to bimodal conditions within both groups. In both groups, the amplitude of N1 was significantly decreased in bimodal conditions showing lipreading and manual gestures . However, the presence of manual gestures similarly modulated the amplitude of P2 only in the group of CS experts. These results suggest that lipreading interacts with auditory processing at speech pre-representational stage (N1 time-window). Contrastingly, CS information would interact with auditory processing within the phonological extraction stage (P2 time-window).
In cognitive psychology, we typically observe slowing after participants committed an error. However, recent studies suggest that this is not the only behavioral response to sub-optimal outcomes. Our labs could show that participants speed up after losing compared to winning in gambling tasks. In some theoretical frameworks, this speeding is seen as an 'impulsive action'. Thus, in this study we wanted to explore the possible relationship between this 'impulsive action' as a behavioral measure and self-reported measures of impulsivity traits, through the UPPS-P questionnaire. For this, we used correlational and network analyses in an aggregated database including several samples (N = 1286) in order to explore the potential relationships between post-loss speeding and UPPS-P scores (by combining trait versus item-based analyses). We found that participants who start the next trial faster after a loss compared to non-gambles and wins (post-loss speeding) did not self-report higher measures of impulsivity in everyday life, neither at the trait or item-based levels. Given the very large sample, this null finding indicates that our behavioral measure of post-loss speeding and impulsivity as defined in the UPPS-P framework do not capture the same underlying constructs. Implications for personality research will be discussed.
In noisy backgrounds, listeners perform the auditory scene analysis: they parse the different auditory streams, and selectively focus on one stream as it unfolds over time. Here, we present a replication study aimed at uncovering the neural signature of auditory stream segregation in healthy adults. Nine normally-hearing adults were included in the study. Participants were presented with sequences of sounds consisting in stochastic variations of figures and backgrounds – i.e., figure-ground stimuli (Teki et al., 2011). The difficulty level was parametrically varied by changing the duration and coherence degree of the figure within the sequences. Recently, these figure-ground sequences have been shown to elicit distinct “signature” EEG responses, including the object-related negativity (ORN), which reflects the processing concurrent auditory objects. In addition, participants were presented with a consonant identification task, where the consonant was presented in quiet, in the presence of one interfering talker, and in the presence of speech-shaped-noise. Overall, our results replicate existing data showing that the object-related negativity is modulated by the stream segregation task difficulty: better performance is accompanied by larger ORN amplitudes. There is no significant correlation between the amplitude of the object-related negativity and intelligibility in noise. The results will be discussed in line with recent data from our laboratory showing that perception of speech in noise develops from childhood until early adulthood.
P1.15 – ConNEcT: An R package to build contingency measure-based networks

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Keywords: dynamic network, binary time series, family interactions

Dynamic networks are valuable tools to depict and investigate the concurrent and temporal interdependencies of various variables across time. Although several methods for computing and drawing dynamic networks have been developed, methods that allow investigating the pairwise associations between a set of binary intensive longitudinal variables are still missing. To fill this gap, we developed a method that yields contingency measure-based networks (ConNEcT). The ConNEcT-approach consists of four steps that can be applied separately or together: Visualization of the data, calculating of the contingency between the variables, applying a non-parametric permutation-based significance test that corrects for the inherent serial dependence in time series, and finally the visualization of these investigations in a network figure. The software to conduct the different steps is also available in an R-package. We provide an overview of all available ConNEcT features and showcase their usage with psychopathological symptom reports, and data from attachment-related mother-child interactions and affective (triadic) family interactions.
Appetitive and motivational deficiencies are common among depressed patients. Anhedonia is defined as a reduced motivation or ability to experience pleasure, whereas learned helplessness refers to a diminished perception of control over aversive events. We propose that these two deficits are more connected than previously thought. Specifically, we hypothesise that controlling aversive events is inherently rewarding, and anhedonia also affects this form of reward. Consequently, this leads to reduced motivation to engage in behaviours aimed at controlling aversive events. However, the first question that must be answered is whether the relief feeling experienced during omissions of aversive events is indeed a form of reward. In this experiment, we test the hypothesis that relief is processed in the same way as a reward. For that purpose, we use a novel experimental design to compare the pattern of behavioural and physiological reactions during omissions of expected threat (relief) to the receipt of reward.
Keywords: psychological contracts, network theory

While decades of research have found that psychological contracts (PCs) play an important role in understanding employee behavior at the workplace, it seems that the majority of this research fails to accurately capture the exchange relationships on which PC theory is built. Instead of using latent factors (e.g. transactional and relational PC types), or artificially disconnected scales, we propose to study an individual’s psychological contract (iPC) as a network in which specific contributions are exchanged for specific inducements. To test the validity of this approach, we test three important network characteristics (density, balance, and reciprocity) in terms of their convergent, predictive and incremental validity across a sample of full-time ($n = 278$) and part-time employees ($n = 277$). With the exception of balance, we found that both density and reciprocity showed good convergent validity compared to traditional measures of reciprocity and balance, and seemed to be predictive for four important work outcomes (job satisfaction, affective commitment, feelings of violation, and turnover intentions), even showing incremental validity on some aspects. Balance on the other hand did not perform as expected, showing low convergent and predictive validity, calling into question the importance of balance within the PC.
Speech perception is a multisensory process. In cocktail party scenarios, when one is trying to follow a single speaker among multiple concurrent ones, humans can exploit visual input (lip movements) towards improved speech comprehension. Previous studies have shown that somatosensory stimuli can also provide an aiding role in speech-in-noise (SiN) perception. However, studies investigating the potential of tactile stimulation to improve SiN comprehension at the cocktail party remain scarce. Thus, the current study aims to investigate whether the vibratory presentation of the low-frequency, amplitude modulations (temporal envelope) of the speech signal can improve SiN recognition in a multitalker background. The speech envelope has previously been shown to be essential for speech comprehension in adverse listening conditions. To this end, we have developed an ongoing study where participants receive palm tactile stimulation through a vibratory system while listening to sentences from the French Intelligibility Sentence Test (FIST) embedded in a multitalker background noise. The participants’ comprehension is evaluated through their ability to reproduce the sentences. Preliminary results indicate a significant effect of bimanual stimulation on SiN comprehension compared to purely auditory (stimulation-free), or unimanual stimulation conditions. Our results provide preliminary evidence for the potential of tactile, vibratory-type presentation of speech envelope-derived information to benefit SiN perception in cocktail party auditory scenes.
Healthy aging is classically associated with changes in episodic memory performance and related brain activity. We investigated here if lower performance in older is related to less similar neuronal traces between the stages of encoding and retrieval of information. 53 young (age: 23.64 + 3.07) and 63 healthy older (age: 66.24 + 4.4) subjects underwent an episodic memory task for object pictures in an fMRI scanner, with incidental encoding and yes-no recognition procedure. Representational Similarity Analyses (RSA; a Multivariate Pattern Analyses approach exploring neuronal activity by employing voxel-by-voxel variability) was employed to assess pattern similarity activity between age groups and encoding/recognition conditions. Encoding-Retrieval Similarity maps were computed for each participant at the item level (comparison of encoding and retrieval for a given item) and at the set level (comparison of each item to the average of all remaining items). Behavioral results indicates lower performance on response accuracy and reaction time in the older group (p<0.05). At the brain level, larger encoding-retrieval similarity at the item level is observed in occipital areas bilaterally and left fusiform gyrus for the young group by comparison to the older one (p<0.001 corrected at cluster level). Since the item level measures the specific reactivation of individual pictures, these results can be interpreted as less specific episodic memory traces for visual characteristics of objects in healthy aging.
P1.20 – The role of videogames rewards on problematic gaming behavior

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Keywords: Problematic Gaming, Game Rewards, ADHD, Social Competence, Adolescents

Background: Rewarding characteristics in games may the transition from recreational to more problematic gaming behavior. This research explored the association between rewarding elements in videogames and adolescents’ problematic gaming behaviors and evaluated the extent to which individual vulnerabilities amplify this relationship.

Method: In a two-cohort design the impact of rewarding elements (e.g., random rewards, contingencies rewards, social rewards, and meta-achievements rewards) on adolescents’ problematic gaming was investigated (C1=2708, C2=1616 secondary school students). Results: Results revealed that random rewards, social rewards, and contingencies rewards were associated with adolescents’ problematic gaming in both cohorts. Games including these reward types were associated with an increased risk for problematic game play. Moreover, results indicated that the association between contingencies rewards and problematic gaming behavior was stronger for adolescents with attention deficit hyperactivity symptoms, while the association between social rewards and problematic gaming was amplified for adolescents with social problems.

Conclusion: The findings illustrate that certain rewarding elements in games are associated with more problematic gaming behavior, particularly among adolescents with ADHD and social problems. Knowledge about who is at risk for developing problematic gaming behavior in relation to what kind of rewarding elements are present in games can contribute to a more tailored advice both in prevention efforts and clinical treatment.
P1.21 – Individual variability in memory performance in aging: A study of associated cognitive reserve factors

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Keywords: memory, cognitive reserve, aging

Background – Cognitive reserve (CR) is described as the compensatory processes that our brain uses to cope with aging or different brain diseases. CR allows older people to maintain good cognition. This reserve is often studied via intelligence, hobbies or professional level. Aims – This study investigates the relationship of several factors of cognitive reserve (education, occupational attainment and leisure) with episodic memory by distinguishing between strategic memory assessed via a recall task and more automatic memory assessed via a recognition task. Methods – Sixty Belgian adults aged from 55 to 96 years old participated in this study and completed verbal recall and recognition memory tasks. They also completed a Cognitive Reserve Index that included questions about educational background, work history, and leisure activities. Results – Multiple regression analyses showed that recall and recognition scores were significantly predicted by the number of years of education, the degree of responsibility of the last occupation, and the number of current and past leisure activities. But the frequency of leisure activities was not significantly associated with memory scores. Conclusion – The variability of memory performance in the elderly seems to be associated with characteristics of their past and recent lives that constitute cognitive reserve.
P1.22 – The effect of bouncy bands on visuospatial working memory in children with ADHD

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Keywords: ADHD, bouncy band, working memory

Bouncy bands (rubber bands attached to the legs of a chair) are advertised to help children with ADHD focus. Since research supporting this claim is sparse and schools are increasingly using them in classrooms, more research is urgently needed. A positive effect on children with ADHD could be expected, as hyperactivity in these children has been argued to have a functional role by increasing arousal levels, allowing them to stay focused. Indeed, some studies show that higher activity levels are associated with better working memory in children with ADHD, but with decreased performance in their typically developing peers. Bouncy bands allows children to move without bothering classmates or distracting themselves and could be a useful tool.

Fourteen children with ADHD and 15 typically developing children (7–12 years old) performed a visuospatial n-back task with a 1-back and a 2-back block in two conditions: once with the bouncy band and once while asked to sit still (the baseline condition). A significant Group x Condition interaction was found, due to children with ADHD responding faster and more accurately in the bouncy band condition compared to the baseline condition, and their typically developing peers showing an opposite effect, responding slower and making more errors in the bouncy band condition relative to the baseline condition. These preliminary results show positive effects of the bouncy band on visuospatial working memory in children with ADHD in our small sample, warranting further research of the effect of a bouncy band on performance in children with ADHD.
P1.23 – Impact of childhood sexual abuse on resilience and sense of parental competence

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Keywords: sexual abuse, parenting, resilience

This study aims (i) to better understand the effect of childhood sexual abuse on parenting and (ii) to study how co-occurrence of several types of abuse in addition to sexual abuse can affect the resilience and the sense of parental competence. The sample consists of 1904 French-speaking mothers aged 20 to 79 years old recruited through advertisements on social media. They completed four online questionnaires: a sociodemographic questionnaire, the Childhood Trauma Questionnaire Short-Form, the Connor-Davidson Resilience Scale and the Parenting Sense of Competence scale. The statistical results shows that resilience and sense of parental competence are lower when other types of childhood maltreatment accompany sexual abuse. Therefore, the impact of childhood sexual abuse on the resilience and the sense of parental competence is indirect and mediated by other forms of childhood maltreatment (physical abuse, emotional abuse, physical neglect and emotional neglect). Furthermore, resilience emerges as an important protective factor that reinforces the sense of parental competence. These results suggest that factors influencing the sense of parental competence are not explained by the sexual abuse itself, but must also take into account the family context during childhood and the individual's ability to withstand adversity and bounce back from difficulties.
P1.24 – Does age matter? Age related effects in cross-modal selective attention

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Keywords: sexual abuse, parenting, resilience

The presence of an asymmetric congruency effect between auditory and visual stimuli (the visual dominance effect) when switching between these two modalities within one block has been highlighted in the past literature: for incongruent trials, attending to an auditory target with a concurrent visual distractor leads to lower performance than the reverse mapping. However, the impact of aging on these variable has been widely under-studied. Interestingly, aging brings some specific impairments, notably with regards to stimuli modality, task-switching, and working memory. To our knowledge, no study ever investigated the role of aging in multimodal tasks-switching. In our experiment, we exposed younger and older participants to unimodal cues followed by a bimodal lateralized stimulus. In mixed-blocks, the cue modality varied from trial to trial. Participants performed a spatial judgment task and must indicate manually the location of the relevant stimulus. The cue modality indicated the target stimulus: the cue and the target stimulus always were in the same modality. Results show main effects of congruency (i.e., worse performance in incongruent than in congruent trials), modality (i.e., worse performance in auditory than in visual trials) and transition (i.e., worse performance in switch than in repeat trials). Plus, decrease of performance in incongruent trials depending on the modality of the target, as well as a general slowing for elderly, have been observed. The preparatory reduction of alternation costs for older compared to younger participant is discussed.
Participation in extracurricular leisure activities among primary school pupils: Effects of ethnic-cultural background, gender and school diversity

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Keywords: belongingness, inclusion, participation

Participation in sports and other leisure activities can be an effective tool to enhance feelings of societal belongingness and inclusion among minority group members. Through a survey administered to N = 8,444 pupils, the present study compared minority pupils' (Middle Eastern and Eastern European youth) and majority pupils’ involvement in a broad array of sports activities, other (non-sports) extracurricular leisure activities, and youth organizations. Corroborating previous research, our study revealed lower participation rates for minority (compared to the majority) pupils for all categories of leisure activities under study. For sports activities, this gap was particularly pronounced for female (compared to male) pupils. Furthermore, school diversity had an invariable negative effect on participation rates in all activity categories. A noteworthy finding was that the difference in participation between majority and ethnic-cultural minority groups was sports dependent. We also obtained definite differences in participation rates between the Middle Eastern and Eastern European groups.
Empathic accuracy (EA), the ability to correctly infer the perceived content of someone else’s thoughts and feelings during an interaction, contribute to communication between individuals. Accurately understanding what a partner is thinking or feeling, especially a romantic partner, can lead to better relationship outcomes such as increased feeling of closeness, better support, and relationship satisfaction. Although EA is influenced by age and context, EA has mainly been studied in adult individuals and mostly in couple relationships. The focus has been less on younger individuals and different relationships such as the parent-child or parent-adolescent relationship. Following PRISMA norms, a systematic review was conducted to synthesize the existing literature on EA in children (0-18) and parent-child (0-18 years old) relationships. The aim of this study is to determine both individual and parent-child relationship outcomes associated with EA for children (0-18). Characteristics of the samples and design of studies, investigating EA in children and parent-child relationships have been collected. Five electronic databases (ScienceDirect, Scopus, Wiley Online Library, PubMED, ProQuest) were searched using two categories of keywords: concept-related (empathic accuracy) and population-related (children, adolescents, or parent-child relationship). Studies published until 2022 were included if 1) they studied empathic accuracy in children aged 0-18 and/or parent-child relationships and 2) were original studies published in peer-reviewed journals written in English.
Body awareness (BA) is a multifaceted construct defined as attending to and being aware of body sensations. It can be adaptive or maladaptive depending on the attitude with which one pays attention. Adaptive BA is characterized by a mindful attitude and has been associated with increased subjective wellbeing and reduced psychological symptom severity. Despite its crucial role in mental health and psychological interventions, to our knowledge, there are no questionnaires measuring adaptive BA created specifically for adolescents and young adults. Hence, the objective of this research was to develop a short BA self-report measure tailored to young people (ages 14-24). To achieve this aim, we: (1) conducted focus groups with youth and psychologists working with this age group, to gain insights into the dimensionality of BA in this population, (2) drafted a questionnaire and pilot tested it to assess item comprehension (N = 30), (3) pre-tested the questionnaire with Exploratory Factor Analysis (N = 454), and (4) validated the questionnaire with Confirmatory Factor Analysis (N = 761). The research resulted in a 22-item questionnaire called the Mindful Body Awareness Questionnaire (MBAQ) which consists of three dimensions: equanimity (i.e., relating to body sensations in a non-judgmental, open, and non-reactive way), listening (i.e., approaching body sensations and considering them important sources of information), and non-avoidance (i.e., facing unpleasant body sensations). The MBAQ may be a useful measure for researchers who would like to study adaptive BA in youth.
A recent meta-analysis investigating 108 studies with more than 28,000 participants confirmed an association between observed parental sensitivity and child internalizing and externalizing problems. Most studies were, however, either cross-sectional or longitudinal, precluding conclusions about causality. In our study, we will use Mendelian randomization (MR) to investigate the causal effects of observed maternal sensitivity on child behavior problems. MR makes use of measured genetic variants related to parental sensitivity to assess the causal effect of sensitivity on child behavioral problems. We will apply this technique using data from the Generation R Study (GenR), a population-based prospective cohort study based in the Netherlands aimed at discovering early environmental and genetic causes of development and health. In this study, polygenic scores based on genotyped DNA data, observed maternal sensitivity and parent-reported child behavioral problem data are available from N = 1,354 mothers and their children. Maternal sensitivity was observed at the age of 3/4 using two tasks (building a tower and etch-a-sketch) and coded using the revised Erickson scale (mean ICC of .77). Children’s behavioral problems at age 6 were measured using the Child Behavior Checklist (CBCL). The polygenic score of maternal educational attainment will act as a strong genetic instrument, as it is associated with maternal observed sensitivity in our sample. We will then examine the causal effect of observed maternal sensitivity at the age of 3-4 on children’s behavioral problems at 6 years.
Fatigue constitutes an important symptom in several diseases. Often, fatigue is not effectively alleviated by pharmaceutical treatments. Meditation could be an alternative non-pharmacological intervention. This review synthesizes data from randomized control trials (RCTs) that explored the effect of meditation-based interventions (MBI) on fatigue in pathological conditions, and provides quantitative estimates of the effects reported. Eight databases were systematically searched for eligible studies from inception to April 2020. Thirty-four RCTs met eligibility criteria, with 32 included in a meta-analysis, taking into account three moderators: kind of control group, pathology, and MBI type. The analyses on each moderator indicate that MBI significantly reduced fatigue compared to passive, but not active control groups. When the effect of each modality of a moderator is assessed separately, we still notice an effect by comparison to the passive control group. However, there is now a significant effect of mindfulness interventions, but not of compassion or remotely-delivered interventions; and positive effect of MBI was observed on fatigue in cancer and, to a lesser extent, in multiple sclerosis patients. In conclusion, MBI seem to reduce fatigue. However, it remains to identify which aspects of the treatment are the most effective and to assess its specific effects on different types of fatigue (i.e., physical and mental).
P1.30 – Novel research design: The effect of non-invasive brain stimulation (NIBS) on alcohol use disorders (AUD)

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Keywords: substances, tDCS, alcohol

Every year, alcohol causes 3 million deaths worldwide. Even though a lot of treatments already exist, many of them are characterized by a high percentage of drop-out or relapse. Transcranial direct current stimulation (tDCS), a NIBS, is receiving increased attention as a possible new addiction treatment. However, little consensus exists in the concrete parameters (e.g. montage, current, intensity). Moreover, a lot of tDCS research focuses on subjective outcomes, like the report of craving, which are more prone to different biases and fluctuations. In this study, we aim to investigate the effect of HD-tDCS, a more focal stimulation variant, on AUDs. Using this intervention, stimulation can be restricted to one hemisphere, controlling for possible inhibition effects of the cathode. A between-subject design will be carried out, including 70 patients with an AUD. Participants will receive 5 sessions of either real or sham right anodal HD-tDCS over the dorsolateral prefrontal cortex (dIPFC). Craving will be accounted for at baseline and after every stimulation session. Moreover, we will measure the activity of the brain in rest and during two inhibition tasks (Go/NoGo and cue reactivity task). This objective measure will be carried out both before (baseline) and at two time points after the stimulation, to measure effects on both the short and longer term. One month after the intervention, abstinence will be checked through a follow-up phone call. Through this study, we aim to describe positive effects of right dIPFC stimulation on craving, abstinence, and EEG measures.

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Keywords: dropout, online intervention, real-world data

Although there is an increasing awareness of the importance of mental health, unmet needs remain very high as access to mental health services are limited and waiting lists are often considerable. The proliferation of technology creates opportunities to address this issue: e-mental health interventions might be able to increase the access to effective mental healthcare, as frequently demonstrated in controlled research settings. However, when used in real-life settings, low levels of adherence and high levels of dropout are common. The current study aims to explore these issues using real-world data comparing dropout and adherence among three delivery formats of the online intervention tool depressiehulp.be. This Flemish website, which has seen widespread usage since it was launched in 2017, offers three types of interventions for individuals struggling with depression: (a) unguided self-help, (b) guided help based on chat sessions or (c) blended treatment based on a combination of face-to-face sessions with online work. Adherence and dropout in these three delivery formats will be analysed through ANOVA analyses and linear regression will be used for additional in-depth analyses. Gaining additional insight into dropout and adherence using data from a real-world online platform, while comparing different delivery formats, will help to obtain a more nuanced picture of the potential impact of online mental health interventions. It will also help to guide researchers and clinicians to further optimise use of e-mental health applications and to improve mental healthcare.
Augmented reality (AR) is a promising tool for use in phobia treatment. Prior research shows that AR can elicit fear for animals and small-scale studies suggest efficacy. While AR is mostly implemented on smartphone devices, head mounted devices (HMDs) can offer a more immersive experience and show promise for future implementation. This study, therefore, wanted to explore if an HMD has similar fear-inducing potential as a smartphone in behavior approach tasks (BATs). Subjective units of distress (SUDS, self-reported anxiety) were collected at each step, physiological data was continuously collected through the Empatica E4 wearable, and perceived realism was assessed using the Igroup Presence Questionnaire (IPQ) subscale after each BAT. Sixty-five first-year students of applied psychology were exposed to the holographic spider on both the iPhone 12 Pro and HoloLens 2. Results showed a gradual increase in self-reported anxiety in both conditions across the different steps of the BATs, $F(1.74, 109.46) = 107.91$, $p < .001$, and an interaction between condition and BAT difficulty, $F(3.38, 212.76) = 7.74$, $p < .001$. In line with this, skin conductance increased during the BAT, $F(1, 41) = 13.93$, $p = 0.001$. Experienced realism interacted with the SUDs in the BAT in the HoloLens condition, $F(38.88, 99.35) = 1.52$, $p = .05$. In conclusion, this study demonstrates that a holographic spider presented through a HoloLens 2 manages to elicit fear in a non-clinical sample. Current limitations, future suggestions for research, and implications for practice will be highlighted.
There is accumulating evidence in the literature that a number of long-term cognitive sequels are observed after infection by covid-19, more particularly for attention, executive functions, long-term memory, and cognitive fatigue. We aim to test the effectiveness of two different psycho-educational interventions on long-covid cognitive complaints and difficulties. The first one targets metacognition to teach appropriate behaviours and strategies preventing the impact of cognitive difficulties on daily living activities. The second one targets regulation of emotion and behaviour that may aggravate the perception of difficulties. Both interventions involve four sessions of 1h30 in clinical setting, as well as home exercises. Attribution to one intervention is randomised using a minimisation allocation procedure. Inclusion criteria are 18-70 years, at least 3 months after positive PCR for covid-19 and presence of cognitive difficulties. A neuropsychological assessment is performed before the intervention and at 2 months and 8 months post-intervention. This evaluation includes a battery of objective tasks (targeting long term memory, working memory, attention and executive functions) as well as questionnaires for cognitive complaints, fatigue, sleep and quality of life. The pre-intervention assessments of the first patients started mid-march. Data from participants included in the trial will be presented with quasi-statistical analyses. (clinicaltrials.gov : NCT05167266)
The use of Virtual Reality (VR) in mental healthcare is growing. Evidence-based research shows that VR applications can provide relaxing experiences, which can help people who experience stress. Previous studies suggest that a mere 5 minutes of such a VR experience can promote stress recovery. However, to widely implement VR within mental health-care, there should be more evidence-based low-cost alternatives. The current study, consisting of two parts, aims to explore whether low-cost alternatives are as relaxing as expensive VR headsets. In the first part, three low-cost VR alternatives will be tested: (a) BOBO VR Z6 (b) VR Shinecon GO2ED (c) VR Shinecon SC-GO6E. A 360° video of a natural environment will be displayed during the 5-minute VR experience. Before and after the experiment, participants’ mood will be assessed with the Profile of Mood States questionnaire. User experience will be assessed with the User Experience Questionnaire and the System Usability Scale. During the whole experiment the participants’ physiology (SC and HR) will be measured with an Empatica E4. The headset that provides the best results will be used in the second part of this study, in which it will be compared to an Oculus Quest 2. The same procedures to measure mood, sense of presence and physiology will be applied in this part of the study. Results of this study will show whether low-cost VR headsets can support relaxation in a general population with the aim of improving the accessibility of VR in healthcare. This study is ongoing and first results will be presented during the conference.
P1.35 – Self-regulation profiles in addictive behaviors among adolescents: A transdiagnostic approach

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Keywords: adolescents, addictive behaviors, transdiagnostic, self-regulation, dual-pathway perspective

Background: Dual-pathway models suggest that poor self-regulation (immature regulatory combined with strong reactive processes) is a factor underlying addictive behaviors among adolescents. This study examined whether there are different self-regulation profiles among community adolescents, and how these profiles are related to the presence, severity and comorbidity of different addictive behaviors. Methods: A community sample of 341 adolescents (13-17 years) was recruited. Participants self-reported on regulatory (inhibitory control) and reactive (reward and punishment sensitivity) processes and on different addictive behaviors (binge eating, tobacco, cannabis and alcohol use, gaming, gambling, pathological buying). Findings: A model-based clustering analysis revealed three profiles: ‘impulsive/under-controlled’, ‘anxious’ and ‘resilient’. The ‘impulsive/under-controlled’ had the highest prevalence and severity of cannabis use and the most severe alcohol use. The ‘impulsive/under-controlled’ and ‘resilient’ demonstrated the highest prevalence and severity of tobacco use; the ‘impulsive/under-controlled’ and ‘anxious’ showed the most severe binge eating. Adolescents with more than three types of addictive behaviors generally belonged to the ‘impulsive/under-controlled’ profile. The profiles did not differ for gaming, gambling and pathological buying. Discussion: Three meaningful self-regulation profiles were detected among community adolescents. The ‘impulsive/under-controlled’ emerged as the most vulnerable profile, especially for binge eating and substance use.
P1.36 – Long-term intranasal oxytocin therapy does not rescue reduced neural sensitivity towards expressive faces in autism

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Keywords: Autism Spectrum Disorder, face processing, oxytocin

Individuals with autism spectrum disorder (ASD) demonstrate difficulties in social behaviour and non-verbal communication. A crucial skill for human social interaction is the ability to quickly and accurately extract information from a person’s face. Frequency-tagging EEG is a novel tool to quantify face-processing sensitivity in a robust and implicit manner. We implemented this technique in an oxytocin (OT) clinical trial, to monitor the outcome of OT pharmacotherapy in ASD. In addition, we investigated endogenous OT levels of all participants. We hypothesised to observe reduced neural sensitivity for expressive faces in ASD, as well as reduced endogenous OT levels, and we expected that OT pharmacotherapy may enhance this neural response. Children with ASD (n=61, 8-12 years old) participated in a four-week multiple-dose randomized double-blind placebo-controlled OT trial. Age-matched neurotypical (NT) control children (n=39) participated in the baseline measurement. First, as expected, we demonstrated reduced neural sensitivity towards emotional faces in ASD compared to the NT control group, replicating previous findings of Van der Donck et al. (2019, 2020). Secondly, and strikingly, we found a further reduction of the neural sensitivity towards emotional faces post-treatment in the OT group compared to the placebo group. Thus, contrary to our hypothesis, we can conclude that OT pharmacotherapy does not rescue reduced neural responses towards expressive faces in ASD. At the conference, we will complement these findings with data on the endogenous OT levels.
P1.37 – The effect of stress on the behavioral and neural positivity effect in late-life depression

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Keywords: Emotion, Late-Life Depression, fMRI

The positivity effect (PE) refers that older adults tend to pay more attention or remember better positive information rather than negative information. Among the older population, Late-Life Depression (LLD) is one of the most prevalent disorders and is highly associated with stress. However, it's still unclear how LLD patients experience emotional events and how stress influences the process. We aim to investigate the effect of stress on the behavioral and neural positivity effect in LLD. We asked participants to watch emotional clips, including neutral, negative, and positive clips in an MRI scanner, recorded their stress-related physiological features by a wearable device, Chill Band+ from Imec, and measured their everyday feelings, including stress, affect, and interoception via ecological momentary assessment (EMA) on smartphones. The Inter-Subject Correlation (ISC) approach is implemented to investigate the similarity of brain activation when participants viewed emotional clips. The results reveal that older adults show a higher similarity of brain activation in emotion-regulation regions, including the prefrontal cortex (PFC) and anterior cingulate cortex (ACC) when comparing positive with neutral or negative clips, but not when comparing negative with neutral clips. LLD patients also show a similar trend as healthy older adults. Our results are consistent with the PE and suggest older adults have a more similar brain activation pattern in emotion-regulation regions while processing positive events, but not when processing negative events.
P1.38 – Influences of the alternative care environment and social support on UAM resilience’s and of post-traumatic stress symptoms – A Belgium study

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Keywords: unaccompanied minors, resilience, post-traumatic stress disorder

Unaccompanied Minors (UAM) in French speaking Belgium (Fédération Wallonie Bruxelles) are accommodated in three types of alternative care: collective centers, foster families and independent living. This research studies the influence of these alternative care environments on UAM resilience’s and post-traumatic stress symptoms. In addition, we analysed how these environment influence UAM perception of social support and how social support modify UAM resilience and post-traumatic stress symptoms. Participants (N=30) were all male UAM between 16 and 20 years old. They were divided into groups according to their living arrangements (collective centres N=10, foster families N=10, autonomous living N=10). They were recruited through their social workers and completed three questionnaires: CYRM-28 for the assessment of resilience capacities, the IES-R for the assessment of the presence of a post-traumatic stress disorder and the SS-A for the assessment of perception of social support. The statistical analysis showed that UAM hosted in foster families and autonomous living showed higher levels of resilience and lower levels of post-traumatic stress symptoms. The type of care did not show a significant impact on their perception of social support. Finally, it appeared that social support had a positive but small impact on post-traumatic stress recovery and, to a greater extent, on the resilience of these young people. These findings suggest that foster families and autonomous living should be encouraged as a type of care arrangement for UAM.
P1.39 – Exploring factors associated with severe cognitive fatigue symptoms in multiple sclerosis: A decision-tree approach

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Keywords: cognitive fatigue, mutiple sclerosis, decision-tree

Cognitive fatigue is one of the most disabling symptoms in multiple sclerosis (MS). Despite the abundance of identified risk factors, causes of severe fatigue symptoms remain unclear. The aim of this project was to explore whether different variables are associated with cognitive fatigue severity using decision tree analysis. Data from a total of 18 variables were collected in patients with MS (N1=19) as well as in healthy subjects (N2=20). A decision tree function, implemented in MATLAB, was used to identify the predictors of fatigue severity, assessed with the Fatigue Scale for Motor and Cognitive Functions (FSMC), in four variable clusters (demographic, psychological, cognitive, and cerebral). Interactions between variables in each cluster were also investigated. Results showed that level of education, presence of depressive affects and degree of sleepiness were associated with severe symptoms in MS. In addition, the interaction between depression and anxiety symptoms can be linked to severe cognitive fatigue in healthy subjects. All these variables showed significant correlation (p < .05) with FSMC. Unfortunately, the model seems unable to predict severe symptoms for new individuals (perror = 0.57), probably due to the small sample size used during training. To conclude, decision trees models seem to be a promising method to explore relationships between different variables likely to play a role in the occurrence of severe symptoms of cognitive fatigue.
The frustration of relational needs for autonomy, competence, and relatedness, is one of the driving forces of conflicts in couple relationships. To reduce need frustration and therefore, presumably, also couple conflict, partners must come to an accurate understanding of what the other partner’s frustrations are. Despite abundant research documenting, that empathic accuracy (EA), the ability to accurately infer another person’s thoughts and feelings, fosters conflict resolution, the link between EA and need frustration has never been directly investigated. Therefore, the present study aims to shed light on this link and hypothesizes that EA and need frustration are negatively correlated, more specifically, that higher empathic accuracy of one partner will be associated with lower need frustration in the other partner (partner effect). The investigation of EA and need frustration within the same person (actor effect) remained exploratory, thus no specific prediction was made. EA and need frustration were assessed in a sample of 155 couples, by means of videotaped conflict interactions and video-mediated-recall. An actor partner interdependence model revealed a negative association between EA and need frustration for women (actor effect for women), suggesting that women who correctly infer their partner’s thoughts and feeling, experience less frustration of their own relational needs. No significant partner effect, nor actor effect for men was found. These results are discussed in regard to their theoretical as well as practical implications.
P1.41 – Stress responsiveness and emotional eating depend on youngsters' chronic stress level and overweight

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Keywords: overweight, emotional eating, stress reactivity

The persistent coexistence of stress and paediatric obesity involves interrelated psychophysiological mechanisms, which are believed to function as a vicious circle. Here, a key mechanistic role is assumed for stress responsiveness and eating behaviour. Children and adolescents [n=137, 50.4% boys, 6-18y] were recruited from the general population or at an obesity treating hospital and underwent the Trier Social Stress Test for children. Four BMI/chronic stress groups (based on hair cortisol, Perceived Stress Scale and Children’s Depression Inventory), were compared in stress responsiveness (salivary cortisol and alpha-amylase, heart rate variability, state emotions, self-reported stress), trait emotional eating and state emotional eating (intake of snacks after stressor: savoury to sweet and low to high fat). Specifically those high in chronic stress level and overweight (partial $\eta^2 = 0.03$-$0.07$) exhibited increased stress vulnerability (stronger relative salivary cortisol reactivity and weaker happiness recovery) and higher fat/sweet snack intake, compared to the normal-weight and low-stress reference group. Stress responsiveness seems to stimulate unhealthy and emotional eating, i.e., strong cortisol reactivity was linked to higher fat/sweet snack intake ($\beta = 0.22$) and weak autonomic system recovery was linked to high total and fat/sweet snack intake ($\beta = 0.2$-$0.3$). Additionally, stress responsiveness acted as a moderator. As a result, stress responsiveness and emotional eating might be targets to prevent stress-induced overweight.
Self-Defining Memories (SDM) are autobiographical memories shaping individuals’ identities, characterized in four dimensions: specificity, meaning, content and affect (Blagov & Singer, 2004). Words convey various aspects of someone’s life including emotions (Boyd & Pennebaker, 2017). The latter plays a key-role as emotions-charged memories, as SDM, persist longer in memory than neutral memories (Kim et al., 2021).

Previous research suggested that ASPD and PPD offenders exhibit specific patterns of recalled SDM in comparison to non-offenders (Lanciano et al., 2018; Lavallée et al., 2020). Yet, no semantic analysis on emotional content has been undertaken with ASPD/PPD offenders using a naturalistic emotions production. Sample is composed of 69 male participants divided into three groups: ASPD (n = 17) and PPD (n = 19) offenders, and controls (n = 30). Participants recalled five SDM (Singer & Moffit, 1991), leading to the collection of 336 SDM (n ASPD = 81; n PPD = 62; n controls = 193). We compared the groups in terms of numbers and ratios of positive, negative, and not specified words recalled. High versus low-activation emotions were considered. We conducted Kruskal-Wallis analyses, followed with Dunn-Bonferonni correction. All groups pronounced more high-activation, particularly negative emotional words. Surprisingly, PPD pronounced more emotional, positive and high-activation emotional words than the other two groups. Conversely, ASPD pronounced more low-activation emotional words than the other two groups. Results will be discussed in regard with literature.
The roles of expectations and pain-related fear in placebo hyposensitivity and nocebo hypersensitivity: A pinprick evoked potentials study

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Keywords: placebo, nocebo, hypersensitivity

Although placebo and nocebo effects on acute pain have been studied extensively, little is known about their impact on symptoms of chronic pain, such as secondary hypersensitivity. The aim of this study is to examine whether experimentally induced hypersensitivity is affected by a verbal suggestion of a sham intervention. We will explore the roles of expectations as well as pain-related fear on the subjective reports of hypersensitivity and Pinprick Evoked brain Potentials (PEPs). Participants will be randomized into a control group, a placebo group, and a nocebo group. In each group, we will induce hypersensitivity to mechanical pinpricks using high frequency electrical stimulation (HFS). Before HFS, participants in the experimental groups will receive a placebo pill and will be told that it will amplify (nocebo group) versus reduce (placebo group) their pain perception during HFS. Next, participants will rate their pain expectancy and pain-related fear, followed by a recording of their skin conductance level as a proxy of pain-related fear. Hypersensitivity will be assessed by measuring the perceived intensity and unpleasantness of mechanical pinpricks before and 20 minutes after HFS. Meanwhile, we will record PEPs using electroencephalography, to assess the influence of expectations on PEPs. The findings of this study may help shed light on whether expectations can modulate the development of hypersensitivity, the contribution of pain-related fear, and whether this modulation can be observed at the level of cortical responses.
P1.44 – Application of the meta-aggregative approach to qualitative data synthesis to research on problematic alcohol consumption after bariatric surgery

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Keywords: meta-aggregation, alcohol, bariatric surgery

The value of qualitative studies in the field of health care is increasingly recognized. In the last years, several methods of synthesizing qualitative study findings have emerged. This poster presents the first steps applying one of these methods, the meta-aggregation (the Joanna Briggs Institute’s approach to qualitative data synthesis), to research on problematic alcohol consumption (PAC) after bariatric surgery. Several studies indicate an increase in alcohol consumption and alcohol use disorder rate after bariatric surgery (i.e., weight loss surgery). However, the mechanisms leading to postoperative PAC remain poorly understood. This current review aimed to explore bariatric patients’ perceptions of the mechanisms underlying a PAC after bariatric surgery. We searched for qualitative studies involving adult participants who had undergone bariatric surgery and had a PAC on different databases (MEDLINE, PsycINFO, Scopus and Google Scholar). Four studies meeting the review’s inclusion criteria were identified. A table of characteristics of included studies was developed. The different themes identified in each study were extracted. Two reviewers assessed the credibility level of the themes and the methodological quality of the included studies. The results of this review could provide a better understanding of post-bariatric surgery PAC, through the experience and discourse of those whom themselves suffered from it after their operation.
Biased information processing contributes to the risk and maintenance of emotion dysregulation and affective disorders such as depression. Prior research shows that an interactive attention training in which participants learn to unravel scrambled sentences ("life is my a party mess") in a positive manner ("my life is a party") facilitates modification of attention and interpretation biases and contributes to adaptive emotion regulation and reduced symptoms (i.e. depression, anxiety and stress) in non-clinical samples. In the current study, we aim to test the effect of psychoeducation in combination with a novel 10 day Online Contingent Attention Training (i.e. OCAT) on symptoms and emotion regulation in depressive patients. Because attention and cognitive control mechanisms prior (i.e. proactive control) and after (i.e. reactive control) negative stressors may play a role in the effects, the current study includes additional techniques to influence proactive control (i.e. psychoeducation, short motivational video). Participants (age 18 – 65) are recruited during their admission to a psychiatric hospital and are randomly allocated to one of the three conditions: a training condition (OCAT), a control condition (OCAT-sham), and a training condition with additional short motivational videos before each training session (OCAT+). All groups watch a psychoeducation video before the start of the training and symptom levels (i.e. depression, anxiety, and stress), emotion regulation, self-esteem, attention bias and treatment expectancy are assessed before and after the training.
P1.46 – What coping strategies best predict the general mental health of first responders?

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Keywords: First responders, coping strategies, general mental health

First responders are at increased risk to develop psychological distress (PD) due to significant exposure to potentially traumatic events (Benedek et al., 2007). Coping strategies (CS) are considered as key concepts in PD’s managing process. Overall, maladaptive CS are closely correlated with negative psychological experiences while so-called functional CS are associated with lower levels of PD (Douesnard & Saint-Arnaud, 2011). However, little research identifies most effective CS or coping’s modes according to professional situations (Nielsen & Knardahl, 2014). Contrary to misconceptions, individuals tend to use a plurality of CS in interaction (Eisenbarth, 2012). Including 140 French-speaking first responders (firefighters; paramedics; police officers), we investigated the combined effect of CS-type (Brief-COPE; Carver, 1989) on their general mental health state (GHQ-28; Goldberg, 1978). Through a backward multiple linear regression analysis, we set most protective and risk predictive CS face to PD and contributory effect of other unsignificant strategies in an interactional perspective. While literature mainly focuses its clinical recommendations on selection processes, preventive, pre-, peri- and post-immediate interventions (Kiss et al., 2009), CS also are key variables for long-term monitoring of these first-line workers. They are levers due to their modifiable and malleable properties according to situations encountered (Nielsen & Knardhal, 2014). Sketch-noting will be used to support this flash talk.
Bodily changes and their perception, which refers to the interoception, are central to many theories of emotion. Both help to constitute emotional experiences and behaviours. After a traumatic brain injury (TBI), a decrease in emotional experience has been often self-reported. Moreover, physiological reactivity and interoceptive awareness can be reduced after a TBI and can contribute to the emotional experience decreasing. In this study, the heart rate variability (HVR) will be employed as an index of physiological reactivity and heartbeat detection task for interoceptive accuracy. On the one hand, the HRV, which refers to the variation between heartbeats, is known as an index of emotional regulation. On the other hand, interoceptive accuracy plays a mediating role between the physiological emotional response and its subjective awareness. Objective: This study aims to investigate whether reduction of HVR, and alteration of interoceptive awareness are involved in the alteration of subjective emotional experience in people with TBI. Methods: two groups were formed; adults with TBI and control subjects. First, participants completed different subjective scales. Then, while cardiac variability is being recorded, participants were asked to perform a heartbeat counting task and next, watching film clips. After each film, participants had to provide an emotional assessment. Results: The data is currently being collected and will be exhibit in the poster. Our results would allow determining the involvement of HRV and interoceptive awareness in emotional experience after a TBI.
P1.48 – Work-related needs and occupational future time perspective of workers in transition to retirement, what links their well-being and job attitudes?

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Keywords: Transition to retirement, Occupational Future Time Perspective, Job quality

The main objective of this master thesis is to understand how to keep older workers in employment for as long as possible, based in particular on two theoretical concepts. Work-related needs, which refer to the perception that workers have of how the company where they work meets their needs in terms of job quality (according to the needs-supply fit theory). The Occupational Future Time Perspective (OFTP), which refers to employees’ perception of their future at work in terms of remaining opportunities, time, and limits. To achieve the main objective, two hypotheses are tested. These state that work-related needs (H1) and OFTP (H2) of older workers will differ according to which type of transition to retirement they most embrace. The sample for this quantitative study consists of 189 employed people aged 50 or older. The research participants are recruited through various social networks on which an online questionnaire has been distributed. In order to test the hypotheses, the statistical software Statistical Analysis System is used. The two hypotheses are partially confirmed. Depending on the type of end-of-career that they most embrace, older workers have some different work-related needs and perceive their occupational future time differently. Considering these two main theoretical concepts may therefore be an interesting avenue in the issue of older workers’ later working life.
When do managers provide autonomy to their subordinates? Insights from a theory of planned behavior based model

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Keywords: Work-related autonomy, Managers, The theory of planned behavior

Work-related autonomy promotes employee motivation, performance, and wellbeing. Yet, many jobs provide limited autonomy. To gain more insights on why such autonomy-deficient work continues to exist, we took a closer look at managers as they are assumed to be able to influence their subordinates’ autonomy. Using the theory of planned behavior, we examined factors that could predict managers’ intention to provide autonomy to their subordinates and their subsequent autonomy providing behavior. We conducted three focus groups with managers (N = 14) to elicit their salient beliefs about giving subordinates autonomy. Based on their responses, we developed a questionnaire which was assessed among 261 managers. Results showed that while managers’ attitude and perceived behavioral control were positively related to their autonomy providing intention and behavior, their perceived subjective norms had no relationship with it. Our findings suggest to the work design literature that managers’ may actively consider and influence their subordinates’ job characteristics (e.g., autonomy), and that the theory of planned behavior is suited for examining the factors that might influence managers’ work design intentions and behaviors.
P1.51 – The relationship between coworker/supervisor ostracism and organizational dehumanization: The moderating role of organizational embodiment

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Keywords: coworker/supervisor ostracism, organizational dehumanization, coworkers’/supervisor’s organizational embodiment

Given its detrimental consequences for employees and organizations, a growing research body has examined organizational dehumanization (OD) (i.e., employees’ perception to be used as tools by their organization). Although mistreatment from supervisors (e.g., abusive supervision) was found to be a key predictor of OD, coworker mistreatment is argued to also play a role. Namely, scholars suggested that workplace ostracism (i.e., employees’ perception that they are excluded at work) may foster OD. Since interactions with coworkers are the bulk of social contact at work, it is critical to examine their influence on OD. This study examines if coworker ostracism influences OD beyond supervisor ostracism and the mediating role of OD in the relationship between coworker ostracism and increased somatic strains, decreased work engagement, and increased turnover intentions, while considering supervisor ostracism. Since the extent to which employees rely on social interactions to form organizational perceptions depends on coworkers’/supervisor’s perceived shared identity with the organization (i.e., coworkers/supervisor’s organizational embodiment; COE/SOE), it also investigates if the relationship between coworker/supervisor ostracism and OD is stronger under higher levels of COE/SOE, respectively. A cross-sectional study (N=625) surveying online employees from various organizations was conducted. Results of SEM supported our hypotheses, except for the interactive effect of coworker ostracism and COE on OD that was not significant. Theoretical and practical implications are discussed.
When people collaborate on a task, they can increase their collective benefit by accurately sharing their level of decision confidence (Bahrami, 2010). Whenever they disagree, selecting the opinion of the most confident person can increase group performance. However, previous research in this domain has mostly focused on sharing of confidence, which is just one expression of metacognition. In the current work, we aimed to broaden the scope and examined how different metacognitive experiences drive collaborative behavior. To this end, we divided participants in groups of three. Two of them underwent a computerized task, and separately gave metacognitive judgements about their level of confidence, physical effort and satisfaction about reward. After performing the task, each participant received the other’s metacognitive ratings. Then, each participant had to indicate whether they wanted to give their own trial or the other’s trial to the third member of the group. The performance of this third person determined the chance of receiving a bonus. Participants were told that they would always have different trials. Results showed that participants integrated both their own metacognitive experiences as well as those of the other participant when deciding which trial to give to the third participant. Critically, we observed a clear qualitative difference in the way in which they did so. The results of our study demonstrate how people can decode and integrate other people’s metacognitive judgements into their own decisions.
P1.54 – Can people with SCA36 ‘Read the mind in the eyes’?

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5 – Complexo Hospitalario Universitario de Santiago de Compostela (CHUS), Spain

Keywords: spinocerebellar ataxia, cerebellum, social cognition

Spinocerebellar ataxia type 36 (SCA36) is a late-onset autosomal dominant cerebellar ataxia with primary incidences being in “Costa da Morte” (Galicia, Spain). Patients usually present with motor symptoms around the fourth or fifth decade of life, which are preceded by manifestations consistent with cerebellar cognitive-affective syndrome before. Due to previous literature showing that the cerebellum also plays an important social role, we hypothesize that social cognition is impaired in this disease. We used the “Reading Mind in the Eyes” Test, which is designed to assess recognition of complex emotions in human faces, on 21 patients in different stages of disease progression, determined by the Scale for the Assessment and Rating of Ataxia (SARA). SCA36 participants were matched in age (mean 57 ± 12 years), sex (12W/11M) and educational level with 21 controls. Patients seem to have more difficulties recognizing negative and neutral emotion valence images, even those in the preataxic stage before the first motor symptoms appear. Moreover, this impairment increases with the advance of the disease, correlating these values with the motor impairment measured with the SARA score. In conclusion, SCA36 patients seem to have difficulty understanding the mental states of others when relying on facial expressions. Although more studies are needed to further investigate this, our results suggest that social cognition could be impaired in spinocerebellar ataxias and other cerebellar disorders, being the sociocognitive measures as potential predictors of the progression of the disease.
P1.55 – Beyond representative democracy: What do people consider the optimal level of citizen involvement in decision making?

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Keywords: direct citizen involvement, local decisions, decisional weight

The present research uses an experimental approach to investigate what level of citizen and government involvement in local decision-making processes ordinary people consider optimal. Employing different research methods, across five empirical studies (total N = 1,470) we consistently found that, overall, the most preferred decision-making model is a model in which citizens and the government both have a decisional weight of 50%. Both higher and lower levels of citizen involvement negatively impact people’s evaluation. In addition to this overall pattern, however, our results show that there are three clusters (i.e., subgroups) within the citizenry, which each react differently to varying combinations of citizen and government involvement: A first subgroup (about 30%) prefers the government to outweigh citizens, a second subgroup (about 40-45%) prefers citizens and the government to both have an equal weight, and a third subgroup (about 30%) prefers citizens to outweigh the government. The present research thus illustrates that people do not react all alike to different levels of direct citizen involvement. What seems to be universal, however, is that—with exception of a very small percentage of people—all subgroups oppose a decision-making model in which either citizens or the government has complete decision control. Individual trait differences between the identified subgroups were also explored.
On the impact of the genocide on the intergroup empathy bias between former perpetrators, survivors and their offspring in Rwanda

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2 – Université Libre de Bruxelles, Belgium
3 – University of Rwanda, Rwanda

Keywords: Empathy for pain; Genocide; Trauma; EEG

Studying what factors influence the ability to resonate with the pain of others in the aftermath of a genocide and how this extends to the following generation is critical for understand better the perpetuation of conflicts. In the present study conducted in Rwanda, we recruited former genocide perpetrators, survivors and their respective offspring and investigated how their neural response to the pain of others is modulated when they visualized pictures of former perpetrators, survivors or their children. We further evaluated how the impact of the genocide and psychological factors associated with a trauma influenced the results. Results showed that the intergroup empathy bias, that is, a reduced neural response to the pain of the outgroup, is present for both individuals alive during the genocide and their offspring. We also observed that a higher number of stressors experienced during the genocide was associated with a higher reduction of the neural response to the pain of others, even towards the children of one’s own ingroup. Finally, we observed that a deliberate and free decision to reconcile is associated with a higher neural response to the pain of others. The results may be central for encouraging reconciliation in peacebuilding programs and for fostering empathic repair after a trauma.
P1.57 – A stenography of empathy: Toward a modelization of the empathic process

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Keywords: Psychology, Empathy, Emotion Regulation

During the past decade, empathy has gained popularity in the scientific world, and several researchers recommend promoting empathy skills in several fields of education. The current paper proposes a modelization of the empathic process: a stenography of empathy compelling scientific data and contemporary conceptions. In addition, the model is inserted into a thesis project focusing on empathy. This model involves an empathee (i.e., a target) and an empathizer (i.e., an observer) but is centered on the empathizer. We explain how the empathizer’s emotional experience follows different evolution paths, leading to adaptive (e.g., proper identification of empathee’s needs, proposing targeted help, or functional altruistic behaviors) and maladaptive responses (e.g., psychological distress, dramatizing, or overreacting). Finally, three clinical applications of our model are provided to display how empathy is related to specific symptoms of these three psychopathologies (i.e., burnout, psychopathy, and borderline personality disorders). We believe this new dynamic and sequential model would be helpful to explain how empathy works and propose tailored interventions on empathy skills, which is of great interest to clinicians, researchers, and education.
P1.58 – A neuroscience approach to prison experience: on the influence of prison on the sense of agency and empathy for pain among inmates

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Keywords: Sense of agency, Empathy for pain, Prison

At the end of the prison sentence, former inmates are expected to reintegrate the social system without committing further offences. However, past research and criminological data highlight that prison sentences are not an effective mean for preventing recidivism potentially demonstrating the negative influence of prison on people’s future decisions to act legally or against the law. I will present a study which aims to investigate, with a social neuroscience approach, the potential influence of the coercive and restrictive nature of prison on two neurocognitive processes related to decision-making among inmates: The sense of agency and empathy for pain. While previous results showed that prison can affect specific aspects of executive and emotional functioning among inmates and that coercive environments such as the military may reduce one’s own sense of agency, there is currently no study that has investigated the influence of prison on the neural mechanisms underlying sense of agency and empathy for pain. Our first results appear to corroborate our hypotheses that a closed detention regime, which is characterized by a permanent security regime, leads to an alteration of sense of agency and of neural processing of the pain of others. Although these results should be treated with caution as they consisted in only one group of inmates, they provide insights into how restrictions in action choices related to prison may affect cognitive processes directly associated with social behaviour and freedom to take control of one’s life.
P1.59 – Changes in sexuality and intimacy following adult sexual violence according to survivors: A qualitative interview study

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Keywords: Adult sexual violence, intimacy, sexuality, qualitative research

Studies have shown that experiencing adult sexual violence (ASV) affects survivors’ sexuality, including being associated with decreased sexual satisfaction, development of sexual dysfunction, and increased sexual risk behavior. However, there is limited qualitative work on survivors’ sexuality following ASV. The current study examined survivors’ unique experiences with intimacy following ASV. A sample of four male and ten female ASV survivors completed a semi-structured interview about the impact of ASV on their relational lives. A thematic analysis revealed themes including negative changes regarding sexuality, coping with the need for intimacy and the process of learning about and communicating about one’s own needs. Specifically, survivors express sexual difficulties and differ in their need for intimacy. How they have learned to fulfill their intimacy needs is an individual, ongoing and sometimes iterative process. This study illustrates the importance of considering the impact of ASV on sexuality.
Religion is positively associated with mental health outcomes in individuals who identify themselves as heterosexual. Indeed, religion is a protective factor against stress, anxiety, depression, and suicide. However, when focusing on sexual minorities, the effects of religion appear more inconsistent. Indeed, in one hand, religious sexual minority individuals have less suicidal ideation and higher levels of well-being compared to their non-religious peers. On the other hand, deleterious effects are also documented with higher risks to commit or attempt suicide for individuals who mature in religious context. Moreover, Mormon sexual minority individuals have higher levels of depression. One explanation for this apparent contradiction could be the internalized homophobia. Indeed, the religious social environment can hold anti-homosexual beliefs and, thus, contribute to an internalization of a form of homophobia in sexual minority individuals who belong to the religious community. Growing up in this religious context increases the level of suicidal ideation as well as the risk of attempting suicide. Additionally, the greater the internalized homophobia, the greater the depressive symptoms. With a sample of 356 Belgian participants, our research is part of a cross-cultural study. We will investigate the relationship between religion and psychological distress, i.e. depression, anxiety, stress and suicidal intent. We will also study the mediated effect of internalized homophobia on the above-cited relationship. Results are currently running and will be available in June.
P1.61 – The impact of nature exposure and crowdedness perception on children's prosocial behaviour

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Keywords: nature, prosocial behaviors, children

For both adult and youth populations, research suggests that prosocial behaviors are positively influenced by nature exposure. The aesthetic of vegetated spaces (i.e. their physical features), seems to play an important role in the impact of nature on prosocial behaviors. However, these spaces also include a whole "social" aspect due, for example, to the presence or absence of people. The present study examines the impact of nature and crowdedness perception on prosocial behaviors of children aged between 8 and 13 years, by randomly exposing participants (N = 66) to a picture of a vegetated/un-vegetated and low-/high- crowded environment. We assumed that children exposed to vegetated (vs. un-vegetated) environments and low-crowded (vs. high-crowded) environments would behave more socially. We also expected that the impact of vegetated environments on prosocial behaviors would be stronger when these environments were low crowded. Hypotheses were tested using an ANCOVA. Considering that data were collected during covid pandemic, we controlled for perceived lockdown constraints. Results show no significant impact of vegetation on prosocial behavior and no moderating effect of crowdedness perception. However, results show a main effect of crowdedness perception on prosocial behavior, with children in low-crowded condition showing more prosocial behaviors than children in high-crowded condition. This result underlines the importance of seeing vegetated environments as places meeting needs of isolation, and not solely as places of public gathering.
Abstracts

Poster Session 2

Friday June 3\textsuperscript{rd}
10:30 – 11:40
Between-item similarity strongly impacts working memory (WM) performance. In verbal WM, similarity effects have been shown through the phonological similarity effect, a well-replicated phenomenon. In this effect, between-item similarity increases item memory while also decreasing memory for order. Despite the importance of the effect of stimulus similarity for general theories of WM, the way similarity impacts WM performance in other modalities such as the visuospatial domain remains poorly understood. The aim of this study was to investigate the impact of visuospatial similarity for visual sequences of dots, each dot occurring at a different time point and in a different spatial location, ensuring maximal comparability with the sequential list presentation formats used for exploring similarity effects in the auditory-verbal modality. Thirty participants encoded visuospatial sequences of 7 dots. More similar lists were lists where the Euclidian distance between the locations of the different dots was reduced by a factor of 2.5 relative to the reference, dissimilar lists. At test, participants had to (1) reconstruct the order of the spatial locations (memory for order) or (2) recall the sequences from memory (item memory). We observed a beneficial effect of similarity on memory for item information and a deleterious impact on memory for order. These findings reproduce the typical similarity effect as observed in the verbal domain, and support theories considering that visuospatial and verbal WM are characterized by the same representational properties.
Cognitive flexibility broadly refers to the ability of reconfiguring our mind in a changing world. Recent theories suggest that people can efficiently up- or down-regulate cognitive flexibility by associating the need for cognitive flexibility to contextual cues in their environment. As a critical test of this hypothesis, we developed a new cued task-switching paradigm where participants switched between five different tasks in two different contexts that were associated to different switching probabilities. Across two experiments, we show that people were faster at switching in the high switching context, despite not knowing which task to switch to. Crucially, we studied whether the need for cognitive flexibility could be triggered by its associated context by using a test phase where switching probabilities were kept equal. While people showed no such transfer when tested on the first day (Experiment 1), they did after a four-day training phase (Experiment 2). Together, these results suggest that people can quickly adapt to varying switching probabilities, and this ability can be associated to, and triggered by, contextual features in one’s environment.
P2.3 – Cardiac responses to auditory expectations during sleep reveal variations of hierarchical processing across arousal states

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Keywords: sleep, brain-heart interactions, consciousness

Embodied cognition proposes that visceral inputs play a fundamental role in variations of consciousness. However, the so far evidence showing that cardiac activity is modulated in response to the violations of auditory expectations comes from pathological low arousal states. Here, we will investigate this question during sleep by investigating cardiac responses to auditory deviants in a local-global paradigm – a modified version of the classic oddball. Based on cerebral activity, this dataset has revealed that transition to sleep is accompanied by preservation of low-level hierarchical predictions but a breakdown of high-level hierarchical expectations, confirming that this paradigm can be used to track variations in hierarchical predictions associated with conscious processing across arousal states. We will here test whether cardiac responses to auditory deviants follow this pattern, and additionally, might reveal more subtle differences across sleep states. Preliminary results suggest that cardiac responses during light NREM sleep are accelerated after deviants regardless of the local vs. global contrast, while cardiac responses to deviants in REM sleep are accelerated in response to global, but not local, deviants. Together, these results suggest that cardiac responses to auditory deviants provide information above and beyond cerebral markers and shed new light on the potential of studying brain-heart interactions to unravel differences in hierarchical predictive (and probably conscious) processing across arousal states.
Active avoidance plays a key role in both normal and pathological functioning, but much still remains to be discovered about its underlying mechanisms. Accumulating evidence points to a central role for the dopamine reward system in avoidance acquisition. In the current study, we aimed to replicate the finding that pre-training systemic administration of a dopamine antagonist impairs avoidance acquisition in rats, using a two-way active avoidance task. Thirty-six male adult Wistar rats were subjected to a single avoidance training session, consisting of 30 pairings of a conditioned stimulus (CS; 3 kHz tone, 75 dB, 20s) with an unconditioned stimulus (US; 0.6 mA foot shock, 10s). Rats had the possibility to avoid the foot shocks by shuttling to a neighboring safe compartment during CS presentation. Twenty minutes before the start of training, rats received an intraperitoneal injection of D1 antagonist SCH 23390 (0.05 mg/kg), D2 antagonist sulpiride (20 mg/kg) or vehicle. We found that pretraining sulpiride administration had no effect on avoidance acquisition. In contrast, pretraining administration of SCH 23390 significantly impaired avoidance acquisition. We also observed impaired locomotor activity throughout the training session following SCH 23390 administration. In line with this observation, we found a locomotion deficit when rats were given SCH 23390 prior to an open field test. In an ongoing study (N = 24), we are evaluating whether a lower dose of SCH 23390 (0.025 mg/kg) can impair avoidance acquisition without affecting locomotion.
P2.5 – Self-related processing in adolescents with autism

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Keywords: self-processing, self-related mentalizing, autism

Both the tendency to preferentially process self-related stimuli – i.e. the ‘self-bias’ – and the ability to represent one’s own mental states – i.e. self-related mentalizing – are essential for social competence. Individuals with autism experience persistent social difficulties, but it is unclear how they differ on distinct features of the self-bias and self-related mentalizing. To date, different aspects of self-related processing have been investigated separately; more research directly comparing these aspects within the same sample is thus warranted. Our study aims to elucidate which features of self-related processing differ in adolescents with autism compared to neurotypicals. We asked 30 adolescents with autism and 26 age- and IQ-matched controls to perform a visual search task (early-stage self-processing), a trait adjectives task (late-stage self-processing) and a ‘feeling-of-knowing’ task (self-related mentalizing). In line with prior studies and our predictions, both groups showed a significant self-bias on the self-processing measures and the magnitude of this self-bias was equivalent in each group. Contrary to predictions, however, no significant between-group difference was observed on the self-related mentalizing task. Taken together, our results provide support for intact self-related processing in autism, which has significant implications for both theory and clinical practice.
P2.6 – New insights from an immersive VR tool in hemispatial neglect assessment

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Keywords: hemispatial neglect, virtual reality, neuropsychological tests

Hemispatial neglect frequently occurs after unilateral stroke. It is characterized by an inability to orient, perceive and interact with stimuli contralateral to the lesioned hemisphere. Despite its high prevalence and its negative impact on rehabilitation and quality of life, current neuropsychological tests for hemispatial neglect lack sensitivity, specificity, and test-retest reliability. In contrast to conventional paper-and-pencil tests, new technologies such as immersive Virtual Reality (iVR) allow for dynamic measures more closely resembling the daily-life performance of patients and may thus offer new insights in this debilitating condition. In this study, we investigated the added value of iVR in the assessment of hemispatial neglect. To this end, we compared an assessment using iVR with conventional paper-and-pencil tests, computerized tests and clinical judgement on the presence of neglect. Our results confirmed that paper-and-pencil tests lack sensitivity in detecting subtle neglect-related deficits. The iVR assessment and a Posner computerized test corresponded equally well with clinical judgement. Furthermore, our results suggest that an ipsilesional deviation in head orientation assessed using iVR could be used as a marker of hemispatial neglect. Future research is needed to confirm the added value of new technologies such as iVR in the assessment of hemispatial neglect.
Affective experience colours everyday perception and cognition, yet its fundamental and neurobiological basis is poorly understood. The current debate essentially centers around the communalities and specificities across individuals, events, and emotional categories like anger, sadness, and happiness. Using fMRI during the experience of these emotions, we critically compare the two dominant conflicting theories on human affect. Basic emotion theory (BET) posits emotions as discrete universal entities generated by dedicated emotion category-specific neural circuits, while psychological construction theory (PCT) claims emotional events as unique, idiosyncratic, and constructed by psychological primitives like core affect and conceptualization, which underlie each emotional event and operate in a predictive framework. Based on the findings of 9 a priori-defined model-specific prediction tests on the neural response intensities and patterns, we conclude that the neurobiological basis of affect is primarily characterized by idiosyncratic mechanisms and a common neural basis shared across emotion categories, consistent with PCT.
Remembering the unfolding of a continuous event usually takes less time than the actual duration of the past episode, an effect that is referred to as the temporal compression of events in episodic memory. In this study, we evaluated whether such temporal compression also occurs for events held in working memory and to what extent it depends on the duration of continuous events. To do so, we presented 25 video clips each showing one (or several) person(s) performing a continuous action (e.g., turning a car jack, without interruption) that lasted 3, 6, 9, 12, or 15 s. For each video clip, participants had to carefully watch the action and then to mentally replay it as accurately and precisely as possible. We hypothesized that the remembering duration (RD, the time taken by participants to mentally replay a just seen video) would be shorter than the actual video duration when stimuli last 12 s or longer. Results showed that the RD increased with stimuli duration but not proportionally (non-linearly): RD appeared to be close to the actual stimuli duration for short videos, but smaller for longer videos (12 or 15 s). From a theoretical point of view, these results suggest that when the capacity limit of working memory is attained, the maintained event model no longer represents the entire unfolding of the current episode and thus temporal compression increases.
P2.9 – Hierarchically distributed representations in the anterior cingulate cortex

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Keywords: fMRI, hierarchy, cognitive control

The function of the Anterior Cingulate Cortex (ACC) remains mysterious, as it seems to be involved in everything. We investigated the hypothesis that the ACC implements hierarchically distributed representations of sequential tasks, using fMRI and computational modeling. First, we developed different artificial recurrent neural network (RNN) models of the ACC, and trained them on a hierarchical sequential coffee/tea-making task. Second, we conducted a multivariate representational similarity analysis (RSA) to compare activation patterns of the RNN models to the fMRI activation patterns of participants performing the same task. Comparisons were obtained using three successively more complex models: (1) a (non-hierarchical) Elman RNN, (2) an Elman RNN with goal units, and (3) a goal model that incorporated an abstraction gradient in the hidden layer of the network. Each model produced activation patterns that matched those of the caudal ACC, but models (2) and (3) also matched more rostral areas, confirming our hypothesis of a rostral-caudal abstraction gradient in the ACC. Finally, we further tested the goal model’s behavioral performance by scaling up the task and using the goal units for top-down control. We found that applying control from the goal units could produce novel behavior, while also making the network more robust against distractions coming from either (i) the environment or (ii) other cognitive processes (modelled as noise to the input and hidden layer, respectively). The function of such a hierarchical architecture may thus be to support cognitive control.
Several experimental paradigms were developed to measure attentional biases toward alcohol-related cues. However, most of them are based on reaction times to two-dimensional stimuli displayed on a computer screen, such that their ecological validity has been questioned. To address this, we integrated an eye tracking system into a virtual reality headset (ET-VR) and measured attentional biases in a subclinical population of alcohol users. Forty social drinkers were recruited and immersed in a virtual bar including alcohol-related stimuli. Attentional focus was assessed using total fixation time and number of fixations for these alcohol-related stimuli as well as for neutral stimuli unrelated to alcohol consumption. The results show that both attentional measures for alcohol-related cues were positively correlated with the drinking motivation of the participants and to a lesser extent with their individual alcohol consumption trends. In contrast, no significant correlation was found for neutral stimuli. In conclusion, the present study shows that alcohol-induced attentional biases can be successfully studied using an ET-VR device in a subclinical population of alcohol users.
P2.11 – The effect of temporal unpredictability and duration of anticipation on relief

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Keywords: unpredictability, anticipation, relief

We feel relieved when an aversive situation ends, like the anticipation of a threat and the associated fear. Indeed, fear and relief appear to be closely linked. Not only fear, but also intensity and probability of an aversive outcome influence relief. However, previous studies have shown that there are other factors influencing fear. On the one hand, temporal unpredictability of threats leads to higher fear, while a long anticipation period before a threat is considered to be more aversive. It is still unclear how temporal unpredictability and duration of anticipation influence relief. Moreover, relief has only been investigated when negative events do not occur. Since the anticipation period is aversive, the termination of this period might also induce relief regardless of the outcome. In this study we will therefore investigate the effect of temporal unpredictability and duration of anticipation on relief, while also exploring if the termination of the anticipation period can induce relief. These questions will be investigated by using an adjusted version of the Expectancy Violation Assessment task. We will instruct 20 participants on the probability (0%-100%) of an electrical stimulation, time locked by a short/medium/long bar. This bar will either empty, indicating the exact moment of the electrical stimulation (predictable) or it will not empty and thus not indicating the exact moment of the electrical stimulation (unpredictable). We expect higher levels of relief for the unpredictable condition and for the longer bars. The results will be presented at the conference.
P2.12 – Structural and functional network-level reorganization in the coding of auditory motion directions and sound source locations in the absence of vision

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Keywords: crossmodal plasticity, spatial hearing, blindness

hMT+/V5 is a region in the middle occipito-temporal cortex that responds preferentially to visual motion. In case of early visual deprivation, hMT+/V5 enhances its response to moving sounds. Whether hMT+/V5 contains information about motion directions and whether the functional enhancement observed in the blind also involves sound location, remains unsolved. Moreover, the impact of this crossmodal reorganization on the regions typically supporting auditory motion processing, like the human Planum Temporale (hPT), remains equivocal. We used a combined functional and diffusion MRI approach to study the impact of early blindness on the brain networks supporting spatial hearing. Whole-brain univariate analysis revealed that the anterior portion of hMT+/V5 responded to moving sounds in sighted and blind people, while the posterior portion was selective to moving sounds only in blind people. Multivariate decoding analysis revealed that the presence of motion directions and sound positions information was higher in hMT+/V5 and lower in hPT in the blind group. While both groups showed axis-of-motion organization in hMT+/V5 and hPT, this organization was reduced in the hPT of blind people. Diffusion MRI revealed that the strength of hMT+/V5–hPT connectivity did not differ between groups, whereas the microstructure of the connections was altered by blindness. Our results suggest that the axis-of-motion organization of hMT+/V5 does not depend on visual experience, but that blindness alters the response properties of occipito-temporal networks supporting spatial hearing in the sighted.
According to the instance-based approach of word learning, each novel word encounter is encoded in the episodic memory as an independent trace including all aspects of word knowledge (orthography, phonology, semantics) and context. When the word is encountered once again, the instance-based resonance process re-activates all previous instances to support word identification. Accordingly, studies reported that after initial exposure to a novel word in an informative context, following exposure in an uninformative context enhances semantic learning. The present study examined if the re-exposure to the meaning without orthography enhances orthographic learning. We exposed participants to new words in three informative sentences. In the baseline condition, the participants were not re-exposed to new words. In the orthographic condition, they were re-exposed to the orthographic form in three uninformative sentences. In the semantic condition, they were re-exposed to the meaning in three sentences in absence of orthography. We evaluated orthographic and semantic learning with spelling and definition tasks. The results showed that being re-exposed to a word orthography or meaning enhances semantic learning, but only being re-exposed to the word orthography enhances orthographic learning. This suggests that, although the instance-based approach is well suited to account for the meaning acquisition, the orthographic acquisition may rely on more specific processes.
P2.14 – Resting-state fast brain dynamics predict inter-individual variability in motor performance

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Keywords: motor performance, magnetoencephalography, hidden Markov modelling

Motor learning (ML) features rapid enhancement during practice then offline post-practice gains with the reorganization of related brain networks. Within the first 5-30 min after the motor task completion, the performance improves (boost period) indicating fast reorganization of neural networks supporting ML. In this project, we aimed at investigating fast transient, sub-second variations in magnetoencephalographic (MEG) network activity in resting-state (RS) before and after ML. We hypothesised that changes in fast neural dynamics might reflect learning-related plasticity mechanisms and/or inter-individual motor variability in performance. Thirty-four young healthy participants underwent a 5-minute Pre-learning RS session within the MEG scanner followed by Finger Tapping Task (FTT) training. The post-learning RS was assessed 20 min later within the ‘boost’ time window. Hidden Markov modelling (HMM) of MEG power envelope signals highlighted 8 recurrent topographical states. For States 1 and 2, motor performance levels were associated with HMM temporal parameters both in pre- and post-learning RS sessions, while State 6 showed a strong trend for such correlations for the post-learning session only. These results suggest a trait-like relationship between spontaneous transient neural dynamics at rest and inter-individual variations in motor abilities. Yet, transient RS dynamics seem not to be state-dependent, i.e., modulated by learning experience and reflect neural plasticity, at least on the short timescale.
People can plan or predict the future by extracting personal memories or autobiographical knowledge we gain through experiences into components (Szpunar et al., 2014). Planning and predicting modes of future thinking correspond to autobiographical memory's directive (Pillemer, 2003) and predictive functions (Ay & Gülgöz, in prep). However, how often memories are used to construct the future in these two modes of future thinking as two distinct functions of autobiographical memory is yet to be answered. This study explored the frequency of recollecting personal memories or culturally scripted events, which are knowledge-based autobiographical events assumedly experienced by most members of a society to plan or predict the future. Participants (N = 220) recalled personally experienced events or culturally scripted but not personally experienced events that varied in valence (i.e., positive and negative). Then, they rated the functions of these recollections using the TALE+1 scale (TALE scale complemented by the items about predictive function). We hypothesized directive function to be more pronounced in negative events, but predictive function to be equally pronounced in all events. Results revealed that negative events were used more frequently for planning than positive events, while this difference was not pronounced for predicting future events. Overall, scripted events were more frequently used than personal events. All findings will be discussed in the context of the schema theory and the episodic simulation hypothesis arguments.
P2.16 – Learning-guided cognitive control can be transferred to variants of the same task: A series of experiments employing congruency cues

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Keywords: Cognitive Control, learning, congruency cues

Transfer of cognitive abilities has often been described in regard to Working Memory, while little has been said about Cognitive Control. Recent studies have proposed that congruency cues can be used to investigate learning-guided cognitive control adaptations in a trial-by-trial fashion during conflict tasks. In this study, we planned a series of experiments employing congruency cues within an inducer/diagnostic paradigm. In the first experiment we attempted to (1) induce a learning of control between congruency cues and strings congruency in a Flanker task variant (letter Flanker) and (2) test whether this learning could transfer to a different Flanker variant (arrow Flanker). Results provided evidence that congruency cues are strategically used by participants to adapt their cognitive control and that these learned control strategies can be transferred to a very similar task variant (near transfer). Moreover, an explorative questionnaire showed that participants were aware of which cue helped them the most, suggesting that learning may have occurred consciously. Further planned experiments will be performed in order to explore how generalizable this transfer is. The goal of this study is to (1) explore how people learn to adapt control in a trial-by-trial fashion and (2) understand how well they can generalize this learning-guided control to untrained tasks.
Empathy is affected in a range of neuropsychiatric dysfunctions, such as autism spectrum disorder. Since rats display a rich social behaviour repertoire and exhibit empathy-like behaviour, such as helping another rat in distress, they are an ideal animal model for studying empathy-relevant neurobiological mechanisms. Although previous empathy protocols in rats provided important insights, they typically measured empathy exclusively in response to a negative affective state. We are therefore developing a new protocol that can measure emotional empathy, defined as taking on the affective state of a conspecific, in both a negative and positive direction. To this end, we build on the ultrasonic vocalizations (USV) of rats. Rats emit 22-kHz and 50-kHz USV in aversive and appetitive situations, respectively, and it is therefore assumed that the USV express a negative (e.g. fear) and a positive (e.g. happiness) affective state in a respective manner. Upon hearing these USV, the affective state and behaviour of the recipient rat is modified accordingly (e.g. freezing in response to 22-kHz USV). Our emotional empathy protocol exploits the affect-inducing properties of the two USV types by presenting them during the acoustic startle response (ASR) test. The ASR is a contraction of the body muscles in response to a loud noise burst, and the magnitude of this response depends on the affective state of the rat. Hence, the presentation of USV is expected to modify the ASR, providing an indirect measure of emotional empathy. Here, we will present preliminary data from our new protocol.
Keywords: Confidence, Computational modeling

When making a decision, we usually experience a sense of confidence. According to Bayesian decision theories, confidence reflects the learned probability of making a correct response, given a certain amount of accumulated evidence and response time. Although optimal, independently learning this probability for each point in the evidence X time space would be computationally intractable. We propose a novel model of confidence implementing a low-dimensional approximation of this optimal yet intractable solution. We provide empirical evidence that this model (1) can accurately fit both choice (accuracy, response time) and confidence behavior simultaneously and (2) can capture experimentally-induced confidence biases. Finally, we discuss how this model can be extended to trial-by-trial learning of accurate confidence judgments.
P2.19 – Impact of very premature birth on visual statistical learning abilities in infancy

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Keywords: statistical learning, premature birth, infancy

Around 15 million infants are born prematurely each year. While it is well-known that these children are at risk for cognitive deficits and learning difficulties at school age (Johnson et al., 2009), only a few studies have investigated their learning capacities earlier in development, and results are mixed (e.g., Haley et al., 2008; Rose et al., 2002). Using an infant-controlled habituation paradigm in which three doublets of shapes were presented randomly, we examined the effect of very premature birth on infants' visual sequential statistical learning (VSL) abilities. We tested preterm infants (8 months of corrected age) and infants born at term paired according to postmenstrual age, i.e. sharing the same level of cerebral maturation but with less experience of the extra-uterine environment. We examined their ability to differentiate between sequences of shapes of high, low, or null transitional probability (TP), after habituation. While full-term infants showed a familiarity effect (i.e., they looked more at high and low than at null TPs doublets), preterm infants exhibited a novelty effect, which is typical of older infants (Hunter & Ames, 1988). Hence, these results demonstrate that (1) preterm infants’ SL abilities are functional and that (2) they seem to benefit from their early exposure to the environment outside the womb. These results are currently being confirmed testing full-term infants paired with preterms according to chronological age, that is sharing a similar amount of experience with the external world, though differing in terms of brain maturation.
P2.20 – Families and childhood cancer: A study on crisis, resources and adaptation

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Keywords: systemic research, childhood cancer, psychosocial impact

Objective: Childhood cancer is a life threatening disease that severely impacts both patients and their family members. Guided by the double ABCX model, the current research examined the short- and long-term impact of childhood cancer on individuals, families, and couples, as well as the resources that may help in recovery from this crisis. Methods: Therefore 137 families, in which a child was diagnosed with leukaemia or Non Hodgkin lymphoma, participated in a survey study, and 10mothers, fathers, and siblings participated in semi-structured interviews. Results: Our findings showed that family members’ psychological flexibility, adequate dyadic coping and more network support were associated with better family adaptation. Second, emotional closeness within the family, a clear family structure, a supportive family climate, network support, and perceiving the illness as manageable were associated with better individual adaptation. Finally, more adequate dyadic coping was associated with better individual and couple adaptation of parents facing childhood cancer. Conclusion: We recommend to broaden the patient-centred approach in childhood cancer research and clinical practice to a more family-centred approach, taking into account how patients, individual family members, family subsystems, as well as the family as a whole deal with childhood cancer.
P2.21 – Charting biobehavioural synchrony: Impact on socio-affective development of a vulnerable preschool preterm population

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Keywords: Biobehavioural synchrony, preterms, socio-affective development

From the start of life, children grow up in close physical proximity with their caregivers. As a result of this social and bodily embeddedness, biological and behavioural processes become entrained and coordinated with the interacting partner (i.e. biobehavioural synchrony). Recent technological advances allow the quantification of this social attunement in real-life interactions, by simultaneously recording multiple biobehavioural signals from interacting partners and investigating how this co-fluctuate. In this project, dual EEG, eye-tracking, mimicry, stress physiology and behavioural coding will be used to understand atypical development. We will focus on a cohort of prematurely born preschool children, known to be at risk for atypical socio-emotional development. This cohort has been recruited at birth and studied until the age of 2 years, yielding a unique longitudinal database of medical, physiological, psychological and endocrinological parameters of both child and parents. At the age of five, biobehavioural synchrony will be assessed across multiple contexts and multiple interaction constellations (including mother-child and experimenter-child synchrony). The relationship between individual parent and child characteristics with the quality of dual biobehavioural synchrony and their joint value in predicting atypical socio-emotional development will be investigated. The envisaged dual interaction paradigms will be presented at this poster session.
P2.22 – Infants’ mapping of their visual world: How does visual context shape early brain representations?

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Keywords: face-pareidolia, infant learning, SS-EP

Face-pareidolia is an illusory perception of a face in objects or patterns. It activates brain regions that are dedicated to the processing of faces (Rekow et al., 2022). This study aims at exploring how infants learn about their surroundings. We operationalize learning through the impact of visual context on how internal representations are shaped. Pareidolia is used because its ambiguous nature offers many ways to plasticity (Gosselin & Schyns, 2003). We also took advantage of the steady state evoked potentials (SS-EP) technique which is particularly suited to test infants because it allows for short and efficient recordings, has an excellent signal-to-noise ratio and is immune to most artifacts (Kabdebon et al., 2022). We conceived an interlaced SS-EP design that we first tested on 20 adults to ensure its applicability with infants. Participants were exposed to two blocks (B1 and B2) of 26 sequences of natural images presented at 6 Hz. Blocks were counterbalanced across participants and differed regarding the context pareidolia was presented in. Pareidolia was repeated every 5th stimulus (1.2 Hz) and faces (B1) or houses (B2) every 4th stimulus (1.5 Hz), which defined the learning context. In adults, pareidolia generated a strong bilateral occipito-temporal brain response, which was modulated by the learning context. In infants, we expect the brain response to be (1) weaker and to activate the right occipito-temporal cortex only (de Heering & Rossion, 2015), and (2) enhanced in the familiar context of faces rather than the unfamiliar one of houses (Rekow et al., 2021).
The reportability of spontaneous thoughts relies significantly on attention and arousal. As these cognitive faculties change with age, we aimed at testing how spontaneous mental state reportability is influenced accordingly. Using experience sampling, 20 senior (65-75yrs) and 20 young participants (20-30yrs) were prompted to report mind-wandering (MW), mind-blanking (MB), or sensory-related (S) mental states at random times. Attention was assessed with the Attentional Style Questionnaire, and arousal with continuous monitoring of pupil diameter. First, we found more MW occurrences than MB or S across all participants. For young responders, we replicated that MW was more prevalent in easily distracted participants. MW was also linked to higher arousal (pupil dilation) and MB was linked to lower arousal (pupil constriction) independently of attentional style. In seniors though, MW was more prevalent in participants with higher focused style. As participants were more easily distracted, MW was associated with lower arousal and MB with higher arousal. We postulate that these effects in seniors may result from intentional MW, during which they allocate attentional resources inwards, as opposed to younger participants who get more easily distracted by intrusive thoughts leading to unintentional MW. Together, our results highlight opposite mechanisms by which attentional style regulates the reportability of spontaneous mental states across age. They also point towards the role of attentional style in mediating the impact of arousal on spontaneous thinking in the senior population.
Research has shown that media contributes to the emergence of body dissatisfaction among children. However, little is known about protective factors that may moderate this association, such as the parent-child relationship. Therefore, this study investigates children’s body dissatisfaction and self-esteem and the role of media pressure and a positive parent-child relationship herein. A sample of n=246 participants (59.8 % girls, aged 7-11) was recruited. Children filled out self-report questionnaires on body dissatisfaction, self-esteem, media pressure and attachment towards both of their parents. Higher scores on media pressure was associated with more body dissatisfaction and less self-esteem. Higher scores on attachment towards their mother and father were associated with lower scores on body-dissatisfaction and higher scores on self-esteem. However, attachment did not attenuate the association between media pressure and body dissatisfaction or self-esteem. Follow-up of this sample is needed to further unravel how sociocultural and interpersonal variables interact in order to explain the course of body image problems. Currently, the majority of prevention and intervention programs for body image problems work at the level of the individual, however, more attention may be paid to the family environment.
P2.25 – Reduced circadian temperature variations and visuospatial working memory in aging

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Keywords: working memory, circadian rhythms, distal-proximal temperature gradient, aging

Circadian rhythms (CR) can modulate human cognition, and aging goes along with reduced CR amplitude and advanced CR phase. We investigated here the combined impact of CR and aging on visuospatial working memory (WM) in healthy young (n=20, 18-35 years) and old (n=16, >65 years) individuals. CR was quantified by the 24-hour modulation of the distal-proximal body temperature gradient (DPG). Visuospatial WM was assessed in the morning and evening using an object-location visuospatial binding task, allowing to distinguish between identification and localisation performance at low vs. high WM load levels and short vs. long retention delays. We hypothesised that WM performance is modulated by age and testing time-of-day and is further associated with 24-h DPG amplitude. Results show that DPG significantly changed across the 24h cycle (p<0.01) and 24-h DPG amplitude variation was reduced in old vs. young participants (p<0.05). WM localisation (binding) performance was decreased in old vs. young (p<0.001), but not WM identification (p>0.05). Performance in old participants was more affected by delay and item load than in young ones (ps<0.001). Testing time-of-day and 24-h DPG amplitude were not associated with WM parameters (ps>0.5). Our findings confirm reduced CR amplitude and WM performance in aging. However, no relation was found between WM and testing time-of-day nor CR amplitude variations as measured using DPG. More in-depth analyses using DPG time courses need to be conducted to further probe potential associations between CR and daily performance modulation across aging.
Children with self-limited focal epilepsy (SLFE) often show motor difficulties that have been associated with altered development of functional brain connectivity. Here, we test the hypothesis that procedural learning-related resting-state functional connectivity (rsFC) processes are atypical in SLFE. To do so, magnetoencephalography (MEG) was used to investigate changes in rsFC (2*5 minutes before and after the learning procedure) induced by a behavioural procedural learning session in 10 children with SLFE (6 girls; 9,37±1,31 yo) compared to 10 matched healthy children (6 girls; 9,69±1,31 yo). After removing cardiac/ocular artefacts and interictal epileptiform discharges (IEDs) through independent component analyses, a functional connectome was estimated using band-limited power envelope correlation. Unpaired T-tests were then used to compare learning-related changes in rsFC between groups, including correction for multiple comparisons. Compared to controls, those with SLFE showed a significant reduction of learning-related changes in rsFC connections between (i) the right posterior parietal cortex and left lobules 7 and 8 of the cerebellum in the theta band (4-8 Hz) and (ii) the left primary motor and the mesial prefrontal cortices in the alpha band (8-12 Hz). Thus, our results suggest atypical procedural learning changes in rsFC in SLFE within brain regions that have been associated with (visuo-)-motor functions. Hence, these observations, which may be due, among other hypotheses, to frequent IEDs in SLFE, could lead to motor difficulties observed in these children.
Up to 72% of adolescents with ADHD experience sleep problems which are causally related to increased ADHD symptom impairment, oppositional, depressive symptomatology, and functional impairments. Therefore, reducing these sleep problems is an important intervention target. However, to date there are no ADHD specific sleep-focused Cognitive Behavioral Treatments (CBT) for adolescents with ADHD, although the ADHD related problems may urge the need for it. This study describes a qualitative and quantitative evaluation of a pilot study examining an ADHD specific CBT sleep intervention for adolescents with ADHD. The intervention consists of 7 individually tailored sessions with the adolescent and 2 parental sessions. The main focus is on improving sleep hygiene, whilst also targeting organizational difficulties related to sleep problems, and integrating motivational interviewing. In the pilot study eight adolescents with ADHD and sleep problems evaluated the intervention both qualitatively (focus groups) and quantitatively (questionnaires, sleep diaries and actigraphs). The focus group data were analyzed using thematic analysis. A preliminary thematic analysis of the focus group data showed that adolescents valued the personal adaptability, while parents felt less incapable. Reliable Change Indexes showed that all adolescents improved in at least one aspect of sleep hygiene. Lastly, participants gave valuable feedback to improve the intervention and study protocol. This study supports preliminary evidence of an ADHD specific CBT sleep intervention for adolescents with ADHD.
The COVID pandemic has forced teachers and students to wear protective equipment in the classrooms for months. Yet face masks muffle speech and make oral communication more difficult. In addition, classrooms are typically noisy, which can impact the academic performance of students. Here, we designed a study aimed at investigating the effect of face mask on children’s speech intelligibility in noise. Children (n = 17, aged 8 to 15 years) were presented with audiovisual sequences composed of a spoken logatome (/aCa/, where C can be any of the 16 French consonants) pronounced by a French female speaker. The speaker had been initially recorded either wearing or not wearing a facemask. Various types of facemasks were used: fabric, surgical, FFP2 or vizor masks. Audiovisual sequences were presented both in quiet and in the presence of speech-shaped-noise (SNR = -3 dB). Our results indicate significant main effects of face mask and noise, but no interaction. In particular, children’s intelligibility was significantly poorer when the speaker wore surgical or vizor face masks than when she did not wear a mask at all. Whatever the face mask condition, children’s performance was better in quiet (96%) than in noise (87%). Our results support the choice of FFP2 or fabric protective equipment for teachers in the classrooms.
In 1993, Rauscher et al claimed that listening to Mozart’s sonata K448 increases visuo-spatial intelligence by 8-9 IQ points on the Stanford-Binet scale. This effect was called the “Mozart Effect”. Many research teams have attempted to replicate this effect with mixed success. Peitschnig et al’s (2010) meta-analysis found little evidence for a convincing Mozart effect (d = 0.38 [95% CI: 0.22, 0.52]). We reanalyzed this meta-analysis using the PET-PEESE and the Rücker methods. From the obtained pooled-effect sizes, we calculated the individual and the median statistical powers of the included studies. Then, we used the power medians to calculate the associated False Discovery Rate (FDR). The Cohen’s d was 0.40 (95%CI: 0.15, 0.64) with the PET-PEESE and 0.23 (95%CI: 0.01, 0.45) with the Rücker method. For these effect sizes, median powers were 42.53% and 17.86%, respectively. For example, with a prior probability of H1 of 0.1, FDRs ranged from 51.4% to 71.59%. FDR values are greater at low prior probabilities. Despite the severity of the Rücker method, and a reduction of the effect size, the Mozart effect was still statistically significant. However, almost all included studies were underpowered (1-β<80%), suggesting that their effect sizes were inflated. The “garbage-in garbage-out” problem of meta-analysis reminds us that pooled effect sizes are upper bond estimates. Therefore, the true Mozart effect is smaller than the computed one and is likely of no substantive significance.
P2.30 – Breathing to relax: A comparison of virtual reality-based and tablet-based breathing exercises

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Keywords: Virtual Reality, Relaxation, Breathing

Although most relaxation apps are currently smartphone- or tablet-based, the number of Virtual Reality (VR)-guided breathing and meditation apps is increasing. This study aims to assess whether the means of delivery (VR versus tablet) has an effect on self-reported feelings of tension and stress-related physiological measures such as skin conductance (SC) and heart rate (HR). 65 students were randomly assigned to use either the tablet or the VR version of Flowborne, a meditative breathing game. Before and after using Flowborne, participants' mood (tension, fatigue, anger, vigor and depression) and physiology (SC and HR) were assessed with the Profile of Mood States questionnaire and the Empatica E4 wearable. In addition, self-reported user experience was assessed with the User Experience Questionnaire. Both groups showed a decrease in SC and HR and reported a decrease in feelings of tension and depression, regardless of the technology used. No effects on feelings of fatigue, vigor or anger were revealed. In addition, the tablet group reported higher dependability and lower novelty than the VR group. In conclusion, results indicate that, technology-assisted breathing exercises, in particular the Flowborne app, can reduce self-reported feelings of tension and depression and physiological indicators of stress, irrespective of means of delivery (VR or tablet). With respect to user experience, participants attributed a higher novelty to the VR version of the app, but a higher dependability to the tablet version.
Clinical interventions which aim at modifying lifestyle have been poorly addressed. Nonetheless, providing digital lifestyle interventions can allow patients to receive cost-effectively evidence-based services. Therefore, our research project aims at finding out whether smartphone-based lifestyle modifications can be effective in reducing symptoms of depression as much as this psychopathology is one of the most prevalent. Two main goals will be pursued in our research project. First, we aim at identifying lifestyle-related (un)healthy behaviors associated with depression. In order to reach this objective, a correlational study with 385 participants will highlight which lifestyle-related (un)healthy behaviors are most associated with depression in order to create and validate a lifestyle assessment tool. Preliminary results will be presented during the conference. Second, we aim at assessing the effectiveness of a mobile application based on lifestyle modifications on depressive symptoms and stability of outcomes at follow-up. To do this, 20 depressed subjects will access to a lifestyle modifications mobile application. Pre- and post-intervention assessment will be offered as much as a 3-month follow-up assessment. Further, a multiple-baseline evaluation design will be used, allowing each participant to be his own control. The experimental design will be presented during the conference. Considering the research background, it is predicted that the smartphone-based lifestyle modifications might be effective in alleviating depressive symptoms.
When creating virtual environments for therapy and research, 360° video and virtual reality are most commonly used. Both techniques have advantages and disadvantages: 360° video allows easy capturing, but subsequently only allows a user to view a scene from a stationary position, whereas VR allows you to walk around, but is often costly to create. The current study explored a novel approach: a digital twin VR (DT-VR) environment, recreated from smartphone pictures. The result of this low-cost, relatively low-effort procedure is a virtual copy of an environment, which closely resembles it and also allows to freely walk around. To assess whether participants report similar realism, involvement and sense of presence, 59 participants (students aged 17-23) were recruited. They experienced two 4.5-minute scenes in 360° video and DT-VR environment (counterbalanced). Both scenes represented the same environment, either in DT-VR or in 360° video. After each experience, the Igroup Presence Questionnaire and the User Experience Questionnaire were administered. Results showed that participants experienced similar sense of presence and involvement in both conditions. However, experienced realism was higher in the 360°-video condition, compared to the DT-VR-condition, t(58) = 3.54, p < .001. These first results show that a custom DT-VR environment might be a feasible option to offer an immersive experience. However, if allowing users to move around freely is not an important feature, 360° video might still be preferred. These and other considerations will be discussed in more detail.
Studies (tests) assessing the efficacy of the treatments of the alcohol deprivation effect are underpowered

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Keywords: alcohol, statistical power, meta-aciense

Many psychopharmacological and psychological treatments reported as effective preclinical models were found to be ineffective in clinical trials. This may be partly due to a lack of prospective power in the preclinical studies. Underpowered studies are likely to yield an excess of false negatives and false positives and inflated effect sizes (or Small-Study Effect, SSE). Here we analyzed the prospective power, the observed effect sizes and the False Discovery Rate (FDR) of studies reporting significant counteracting effects of treatments on the Alcohol-Deprivation Effect (ADE) in rodents. Power were calculated using Pooled Effect Sizes (PES; Cohen’s d) derived from a Random-Effect Meta-Analysis (REMA). These PES were adjusted for the SSE with the trim-and-fill, the PET-PEESE or the limit-meta-analysis methods so that we obtained four types of PES. Our REMA yielded a PES of 1.51 (95% CI: 0.47, 2.55). The three adjustments yielded PES of 0.77 (95% CI: -0.35, 5.15, trim- and-fill), -0.05 (95% CI: -2.99, 2.89, PET-PEESE) and 0.36 (95% CI: -0.24, 0.96, limit-meta-analysis). For these PES, median statistical powers range from 5.1% to 62.18%. With a prior probability of H1 of 33%, FDR ranged from 10.36% to 66.56%. Hence, given that individual effect sizes are greater than the PES, most design in this literature are unable to detect any of the PES with sufficient power (at least 80%) and have a high FDR. Failure to find effective treatments in clinical studies could be explained by the suboptimal methodological quality of this field.
Exposure to abuse and neglect in early childhood has long-term consequences on the emotional, behavioral, and cognitive well-being of the child. As parents have a crucial impact on their children’s mental health, parenting training is considered to be a helpful tool to prevent child psychopathology and foster optimal development. The present research project aims to test the effectiveness of the parenting program “ACT-Parents Raising Safe Children” in the cultural context of Belgium. The ACT program was developed by the American Psychology Association and focuses on the prevention of violent parenting and the strengthening of the quality of parent-child relationships for parents and caregivers of 0- to 10-year-old children. Throughout the present PhD project, we will execute a randomized controlled trial (RCT) with a total of 202 parents (101 participating in the eight-week program and 101 placed on a waiting list until the completion of the trial). Parents will be invited to complete questionnaires about their parenting strategies (e.g., emotion regulation, positive discipline, knowledge on child development, harsh discipline) and their child’s adjustment (i.e., internalizing and externalizing behaviors). These assessments will take place pre-and post-intervention as well as at a 2-month follow-up. We expect that the ACT program will promote children’s adjustment as well as optimize parents’ parenting strategies and thus reduce violent parenting.
Dyspnea is a debilitating and prevalent respiratory symptom in patients with chronic obstructive pulmonary disease (COPD) and significantly lowers their quality of life. Pulmonary rehabilitation (PR) has been shown to improve this symptom, but little is known about brain oscillations in relation to respiratory symptoms and PR outcomes. Therefore, we compared event-related gamma and alpha power using high-density electroencephalography between 18 COPD patients and 22 healthy controls (HC), as well as between the start and end of PR in patients. Participants breathed through a respiratory circuit and experienced inspiratory occlusions every 2-5 breaths. In 2/4 blocks they also experienced resistive-loaded breathing and rated their perceived intensity and unpleasantness of occlusions and dyspnea. We found significantly higher occlusion-evoked alpha power in patients than in HC, and significant reductions in gamma and alpha power in patients after PR. Gamma power did not significantly relate to intensity or unpleasantness of occlusions/dyspnea in patients. Changes in gamma power after PR did not relate to occlusion ratings. However, trend relationships were found for dyspnea ratings, such that patients with stronger reductions in post-PR gamma also showed stronger reductions in intensity and unpleasantness of loaded breathing. This research suggests that oscillatory brain dynamics relate to changes in respiratory symptoms during PR. Further research in larger samples is needed to better understand the associations between these brain dynamics and respiratory symptom perception.
Craving is a key process in substance use disorders, which is usually investigated through repeated, self-reported measurements. However, this procedure is vulnerable to various experimental biases. Not only are craving questionnaires often very explicit, but their repeated use could be a source of bias, due to memory effects. In addition, social desirability (SD) which is defined as “the systematic tendency to give answers which give a 'good' image to the respondent”, and demand effects, which represent “the impact of experimental subjects trying to figure out what is being asked of them in the experiment and acting accordingly” are other sources of bias that could affect craving assessment. In this context, we investigated whether the repeated use of a self-reported craving scale could impact its final evaluation after cue-exposure through a video, in regard of SD, demand-, and memory effects. To this end, 76 volunteers were recruited and assigned to 2 groups: (1) pre-post craving assessment group and (2) post-only group. SD, demand effects, and severity of alcohol consumption were assessed in both groups. The results show a significant effect of alcohol consumption level on post-experimental craving, and a significant interaction between experimental group and alcohol consumption. However, no impact of SD or demand effects on self-reported craving were found. In summary, our results indicate that the type of experimental design could affect craving assessment, and differently according to consumption patterns.
P2.37- Quality of Life (QoL) among forensic inpatients with or without Dissociative Syndromes (IDS and IWDS): Comparison of self-report and proxy assessments

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Keywords: Quality of Life, forensic inpatients, dissociative syndromes

QoL promotes recovery considering patients’ perceptions without obscuring psychiatric symptoms. It allows rehumanization, empowerment and involvement despite constraints as psychopathology’s complexity and recidivism (Vorstenbosch, & Castelletti, 2020). A better QoL perception act on recidivism risk reduction and therapeutic adherence (Bayliss et al., 2019), especially in syndromic groups with DS. Impact of DS on QoL’s perception is poorly documented, mainly attributed to psychosis (Büchter, 2019). Current study investigates QoL’s perception among 42 consensual opinions between male forensic inpatients in a High-Risk Security Forensic Hospital and their case managers (forensic psychiatric nursing staff). QoL was assessed with generic (WHOQOL-bref; Whoqol Group, 1998) and specifics measures (MQPL-Forensic; Wong et al., 2008; FQL; Vorstenbosch et al., 2014). Two groups were formed based on Axis I diagnosis (Sheehan et al., 1998): IWDSs (n = 26) and IDSs (n = 16). Intra-class coefficients (ICC), assessed agreement between patients’ and case managers scores for total sample and groups. The results highlighted a majority of moderate ICC on physical health, respect, humanity, relationships, justice, recidivism programme and dignity areas. But ICC amount were lower for IDSs than IWDSs. Also, all inpatients perceived a better QoL than case managers. Similar pattern was found on a group-level, with IDCs perceiving a better QoL for specific domains and IWDCs for more generic domains than their case manager perception. Results will be discussed at the light of the literature.
P2.38 – Attentional, memory and executive specificities in patients with obstructive sleep apnea syndrome (OSAS): A neuropsychological approach

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Keywords: sleep apnea, cognitive impairments, neuropsychological testing

Patients with Obstructive Sleep Apnea Syndrome (OSAS) show cognitive specificities, such as impaired alertness/attention, executive and memory functioning. However, there is no consensus in research about these possible cognitive impairments. These discrepancies between studies could be explained by; (1) a great diversity in the tasks used, (2) the fact that neuropsychological testing simultaneously recruits several cognitive functions, or (3) the use of different criteria for the diagnosis of OSAS. The main objective of this work was therefore to refine the understanding of the negative consequences of OSAS on the cognitive functioning of adult patients by the mean of attention, executive function, and memory assessments. Twenty OSAS patients (m = 49.05 ; σ = 13.59) and twenty-two good sleeper control (m = 38.18 ; σ = 14.50) underwent a neuropsychological battery test assessing vigilance, sustained attention, selective attention, motor and cognitive inhibition, updating, shifting and working memory. The total sample included 19 women and 23 men. A fair representation of both sexes and age were sought for the realization of this study. We found significant differences between OSAS patients compared to control subjects in the results of some neuropsychological tests (p<.05). Processing speed and attentional processes are the most impaired functions. In general, severe OSAS patients have poorer results than mild OSAS. This study adds to a growing body of evidence that cognitive deficits are indeed present in OSAS patients.
P2.39 – A big role for the little brain: Investigating sequence learning in the cerebellum using transcranial direct current stimulation and functional magnetic resonance imaging

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Keywords: sequence learning, cerebellum, tDCS

In this project we will investigate the contribution of the cerebellum to motor sequence learning. Although sequencing has been proposed as the basic mechanism of cerebellar functioning, there is a stark discrepancy in empirical research in the domain of motor sequence learning, which generally attributes this role to the basal ganglia and association motor cortices, while the cerebellum is often overlooked. To elucidate the role of the cerebellum in motor sequence learning we will combine behavioral experiments, using the serial reaction time task, with transcranial direct current stimulation (tDCS) and functional magnetic resonance imaging (fMRI). We will carry out multiple double-blind, sham-controlled experiments in healthy young adults. First, we will investigate the behavioral effects of repeated sessions of cerebellar tDCS on sequence learning by administering anodal and cathodal cerebellar tDCS, over the course of 5 daily sessions, in a between-subjects design. We will then analyze the effect of repeated stimulation on the consolidation of sequence learning after a period of 1 week. Secondly, we will carry out concurrent tDCS/fMRI experiments with the same task, in a within-subjects design. Dynamic causal modelling (DCM) will be used to study the interconnections between cerebellar, basal ganglia, and cerebral regions. Together, this will provide a comprehensive framework of the neural organization of sequential motor learning and clarify the potential sequence-specific role of the cerebellum.
**P2.40 – Behavioral and neural correlates of inhibitory control in subclinical disordered eating and the influence of brain stimulation**

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Keywords: eating disorders, inhibitory control, brain stimulation

Despite the well-known heterogeneity in the clinical presentation of EDs (i.e. restrictive vs. binge-eating/purging types) contributing factors remain poorly understood. Impairment of inhibitory control in EDs is suggested to play a key role in EDs symptomatology: binge-eating/purging types exhibit poor inhibitory control, associated with overall hypo-activity of the right dorsolateral prefrontal cortex (rDLPFC), whereas restrictive types show excessive inhibitory control and corresponding hyperactivity of the rDLPFC. However, it is currently an open question to what extent impaired inhibitory control may causally contribute to the development of EDs. To this end, we will soon carry out a large-scale study investigating whether alterations in cognitive and neural inhibitory control, measured by means of an inhibition task (Stop Signal task) and electrophysiological measures (RS-EEG, P3), already manifest itself across subclinical EDs. Early detection of problems in IC may have important implications regarding prevention. In this regard, an additional objective is to determine whether five sessions of high-definition transcranial direct current stimulation (HD-tDCS) delivered over the DLPFC can lead to an improvement of these cognitive and neural measures of inhibitory control and related self-reported eating behaviors in subclinical EDs. Support for the latter may serve as input for the development of evidence-based tDCS protocols in prevention and treatment programs, leading to better therapy outcomes and a decline in the common relapse in EDs.
Broaching – i.e., a counsellor’s effort to have meaningful conversations in psychotherapy concerning the client’s cultural identity (Day-Vines et al., 2007; 2020) – is a strong predictor of positive treatment outcomes and client satisfaction, especially for minority identified clients (King & Borders, 2019; Knox et al., 2003; Meyer & Zane, 2013). Despite this understanding, broaching literature has struggled to translate broaching principles into practical recommendations for specific behavioural strategies. The current study explores different approaches used by the therapist – i.e., the direct, indirect and avoidant approach – to broach cultural topics which include ethnicity, religion, gender expression and socioeconomic status. We investigate broaching effects on clients’ perception of (1) the multicultural orientation of the therapist and (2) the frequency of microaggressions during therapy. Moreover, we investigate whether the effect of broaching depends on the quality of the therapeutic relationship and the timing of the first broaching statement, as reported by the client. These research questions were investigated in a sample of ethnic minority clients (N = 231) who followed at least one session of mental health care counselling during the past 12 months. The results lay the basis for practical guidelines for broaching in psychotherapy, and provide counsellors with evidence based recommendations to approach cultural conversations effectively.
P2.42 – Stimulus-driven affective change: Nonlinearity of affect dynamics persists after accounting for input

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Keywords: affect dynamics, input, computational modeling

Computational models are often used to formalize and study fluctuations of affect over time. A central question within this domain pertains to which characteristics a computational model should possess in order to adequately describe these affect dynamics. Recently, attention has gone to nonlinearity as a fundamental characteristic of affect. However, nonlinearity could also be induced by affective stimuli, putting this claim in doubt. The question thus remains whether the observed nonlinearity is indeed an inherent feature of affect, or whether it is solely induced by the context in which affect was measured. In this talk, I will present findings of a recent study that attempts to answer this question. Participants completed a probabilistic reward task in which they either won or lost money on each trial, providing us with a stimulus-rich affective time series. These time series were then analyzed using a combination of a dynamical model and an input function. Importantly, the dynamical models differed in whether they were linear (the Bounded Ornstein-Uhlenbeck model; BOU) or nonlinear (the Affective Ising Model; AIM), providing us with the opportunity to assess the nonlinearity of affect after accounting for affective stimuli. We found that nonlinearity could not be fully attributed to the experimental stimuli, suggesting that nonlinearity may indeed be an inherent feature of affect dynamics.
P2.43 – Factors associated with the evolution of fatigue one year after the lockdown period

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Keywords: Fatigue, COVID-19

The COVID-19 lockdown has induced an increased state of fatigue in the population. However, how fatigue has evolved since the end of the lockdown still needs to be determined. Here, we investigated the evolution of mental and physical fatigue and their associations with daily life characteristics and psychological aspects in a cohort of workers and retirees, separately. 133 workers and 40 retirees completed the same questionnaire in April-May 2020 and 2021, considering their condition during lockdown and one-year post-lockdown. The questionnaire addressed fatigue level, affective state, sleep quality, daily activities, mental load and investment at work (for workers). Variables with significant changes (t-test, p<.05) over the one-year period were entered into generalized linear mixed models, with mental or physical fatigue set as dependent variables. By comparison with the lockdown period, we observed that physical (but not mental) fatigue had still increased in the two groups. Anxiety level was also higher in all participants and remained positively associated with mental and physical fatigue in workers, but not in retirees. Workers reported a higher workload, which was negatively linked with both types of fatigue. The increase in fatigue is linked to daily tasks and psychological aspects being altered as a result of the health situation, and not by the lockdown per se. Moreover, associations between fatigue and daily life characteristics during the pandemic do not seem similar between workers and retirees.
P2.44 – Boosting first-line mental health care for Youngsters suffering from chronic conditions with Mindfulness – the You.Mind! study

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Keywords: mindfulness, adolescents, chronic conditions

Adolescents with chronic conditions are at increased risk for psychopathology such as anxiety, depression, or stress, which has a substantial impact on their quality of life. Mindfulness-based interventions (MBIs) have been shown to improve emotional distress in various clinical and non-clinical populations. Recent reviews suggest that MBIs are a promising intervention to also support adolescents with chronic diseases, but more robust research is needed to replicate these findings. Previous studies lacked randomisation, they mainly focused on chronic pain patients, and often did not include online components for better acceptability. We aimed to address this gap by investigating the effects of an MBI on emotional distress and quality of life in adolescents with various types of chronic conditions using a randomised staggered within-subjects design. Twenty-two adolescents (14–19 years) with a chronic condition were randomised to a baseline phase of 14–28 days followed by an MBI, consisting of four online group sessions and online support spread over 8 weeks. Outcomes were assessed by short, repeated measurements throughout the baseline, intervention, and follow-up phases and by standardised questionnaires and experience sampling measures before randomisation, at postintervention and at 3-months follow-up. This talk will present and illustrate findings on the effects of a blended care MBI on emotional distress and quality of life in this vulnerable sample and discuss implications for future research.
P2.45 – (Exploratory) research on spontaneous emotion regulation after stress induction

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Keywords: emotion regulation, psychophysiology, mental health

Difficulties with regulating undesired affective states are an important transdiagnostic risk factor. Recently, Berking & Whitley (2014) developed the Adaptive Coping with Emotions model which assumes an important role for the order of emotion regulation processes. Prior studies have typically assessed (spontaneous) emotion regulation via standardized self-report questionnaires which do not consider the sequence by which one regulates one’s emotions. The current study investigates (a) which emotion regulation strategies individuals spontaneously use upon confrontation with a standardized psychosocial stressor, and (b) whether and how a specific sequential use of emotion regulation strategies influences stress reactivity and mental well-being. For this purpose, we will monitor how emotion regulation processes relate to the physiological mechanisms involved in stress (i.e. heart rate variability for parasympathetic activity; pre-ejection period and skin conductance for sympathetic activation). First year college or university students (n=100) will participate in an experimental study using an adapted version of the Trier Social Stress Test as a stress induction procedure. Spontaneous emotion regulation and the order of used strategies will be investigated using (sub)scales of the Cognitive Emotion Regulation Questionnaire. During the experiment both objective (heart rate variability, pre-ejection period and skin conductance) and subjective (visual analogue scales and self-report questionnaires) measurements are integrated. If available, preliminary results will be presented.
Maleval (2019) proposes that there is a difficulty of metaphorization both in clinical psychosis and in so-called ‘ordinary psychosis’, which would be a non-clinical non-decompensated form of a psychotic structure. This difficulty is an obstacle in grasping the speaker's intention, which is in line with the cognitive idea of a 'theory of mind' (TOM) difficulty in psychosis (e.g. Lindgren et al., 2018). This exploratory study tests this hypothesis by measuring the access to new metaphors via a LimeSurvey questionnaire in a general population (N=435). The ordinary psychosis is screened through a 17 items-questionnaire probing for the subject's relationship to language, to others, to outside regulation ('the law') and to the proper body (Kestemberg, 2001; Luchelli & Fainwaks, 2010; Facchin, 2016; Trichet, 2018). The 'Ordinary Psychosis Questionnaire' (OPQ) has good internal consistency and good convergent validity with the Schizotypal Personality Questionnaire (Raine, 1991; Bazan et al., in preparation). We considered that a score > 76 out of 144 on the OPQ qualified the subject for ‘ordinary psychosis’ (i.e., 78 participants or 18% of the sample). We designed 10 new metaphors in the form of sentences to be completed with only one of the 3 proposed answers being the metaphorical solution. The results show a lesser choice for the metaphorical propositions in the ‘Ordinary Psychosis’ group (U = 6972; p = 0.006) compared to the control group (N = 221; score < 46 on the OPQ), which is in line with our hypothesis.
Leaders are often presented as the main targets followers seek orientation from. However, depending on their characteristics and motives, followers might also prefer to seek orientation from other targets, such as their peers. Regarding characteristics, we considered regulatory mode (RM), that is locomotion mode (a concern for movement from state to state and maintaining action flow) versus assessment mode (a concern for critical analysis and comparison) of followers. Regarding social orientation motives, we considered their self-evaluation, self-improvement, self-enhancement, and emulation motives. We investigated how they jointly influence who followers prefer to seek orientation from. In three preregistered studies, we measured participants’ RM and manipulated the social orientation motives within-subjects. Participants indicated if they would rather seek orientation from their leader or a peer (Study1, N=280; Study2, N=280), or from their leader, a peer or nobody (Study3, N=272). Supporting our predictions, locomotion positively predicted preferences to seek orientation from a leader rather than a peer – independently of the social orientation motives. In addition, and also in line with predictions, assessment mode and social orientation motives interacted, such that assessment positively predicted preferences to seek orientation from peers rather than leaders for self-enhancement motive, whilst not predicting leader or peer preferences for the other motives. Implications for how different orientation targets are relevant to motivating followers at work are discussed.
Being a teacher is a stressful job, and the attrition rate in Belgium is close to 25% within the five first years of teaching. This phenomenon causes high psychosocial costs for teachers, and burnout seems to be a key determinant of attrition. Research showed that higher emotional competencies can help teachers to manage their stress. However, most of the studies focused on in-service teachers, while targeting prospective teachers could help them to prepare for the reality of the profession. To improve these competencies, mindfulness training has been highlighted among teachers. This study investigates relationships between mindfulness skills, emotional competencies, and psychological distress among prospective elementary school teachers. Data were collected from December 2021 to February 2022. We measured mindfulness skills (FFMQ), emotional competencies (PEC), stress (PSS), anxiety and depression (HADS), and burnout (MBI). Analyses show high levels of anxiety, depression, emotional exhaustion, but high personal accomplishment. Mindfulness skills of describing sensations and feelings, acting with awareness and non-reactivity emerge as strong predictors of emotional competencies. Perceived stress significantly mediate relationships between emotional competencies and psychological distress. These results underline the crucial role of emotional and mindfulness competencies for managing their psychological distress and their classroom during their internship. This study also emphasizes the benefice of implementing emotional competencies training in initial teacher education.
P2.49 – Measuring teacher’s domain specific perceptions of school diversity models

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Keywords: multilevel analyses, school diversity climate, diversity models

How schools deal with ethnic-cultural diversity, or the cultural diversity model (CDM) they adopt is important for outcomes like achievement and interethnic relations. However, CDM’s have not yet been measured in domain specific ways. Our aim was to create such domain-specific scales by measuring perceptions of CDM’s among primary school teachers in Flanders (N=816 in 59 schools). We make a distinction between assimilationism, color-blindness, multiculturalism and interculturalism in the domains of language, religion, curriculum and identity. After a thorough review of existing scales, and a pilot study among pre- and in-service teachers from our network (N = 309), we made a selection of items for all combinations of CDM’s and domains. We used the split half method to randomly split our sample. On one half, we performed multilevel explanatory factor analyses (EFA’s) within each domain. On the other half, we performed multilevel confirmatory factor analyses (CFA’s) to examine whether the domains could be discerned within each diversity model. We also performed second order factor modelling to test whether the domain-specific scales (first order factors) loaded on diversity models (second order factors). We found in EFA’s that assimilationism, color-blindness (except for identities), multiculturalism and interculturalism could be found in all four domains. CFA’s further indicated that within each diversity model, model fit significantly improved if the domains were taken into account. Cronbach’s alpha’s ranged between .67 and .83.
Obesity is a disease affecting more and more people around the world. This problem has major repercussions on their health and work. At a time when the subject of equality is central in our society, it is interesting to look at the issue of discrimination in the workplace for people suffering from obesity. We conducted a study on 50 subjects that measures the impact of discrimination sustained by obese people at work according to the following criteria: social support, their perceived self-esteem and work-life balance. Our results show (I) that discrimination against obese people is perceived more by women than by men; (II) contrary to what is expected we found that discrimination against obese people positively impacts self-esteem; (III) perceived discrimination does not impact identification with in-group members; (IV) perceived discrimination against obese people impacts job satisfaction negatively; (V) discrimination against obese people does not impact work-life balance; (VI) perceived discrimination impacts the social support of obese people negatively; and (VII) Self-esteem is negatively correlated with job satisfaction, negatively correlated with social support and positively correlated with work balance. Further study of why discrimination positively impacts self-esteem is warranted.
Unproctored testing allows candidates to take tests at home or at another location of their choice. During the COVID-19 crisis, the use of unproctored testing in personnel selection has increased sharply. In this presentation we discuss the validity and reliability of an unproctored computerized adaptive test battery designed to quantify cognitive abilities such as fluid and/or crystallized intelligence in a large Dutch governmental organization. The unproctored test battery was put into practice during the COVID-19 crisis and various measures were taken to reduce the risk of fraud (attempts) during high-stakes selection: (1) 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, (5) the verification of unproctored test scores via supervised hypothesis testing and (6) the monitoring of candidate progress during the actual test session. We highlight these challenges of unproctored testing and provide concrete guidelines to minimize fraud (attempts) and maximize test reliability within the concrete high-stakes selection context of this governmental organization. We also assess the use of hypothesis testing as a method to verify the veridicality of individual unproctored test results and present clear empirical evidence on the quality of the unproctored adaptive test battery in general.
P2.52 – Should I sample or should I go: Deciding when to stop sampling in different error and opportunity cost contexts

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Keywords: decision-making, computational modelling, information seeking

Daily life is full of situations that require integrating noisy information to pick the better alternative between two choices. Existing models (e.g. sequential sampling models) of these types of decisions provide little insight into how participants decide how much information they require to commit to a decision and how optimal these strategies are. We propose a computationally light model of decision making that addresses these issues. The model consists of a linear integration of sampling bias, accumulated evidence, and elapsed time. The sampling bias accounts for the agent’s baseline decision policy, the weight of evidence accounts for the rate of accumulation, and the weight of time accounts for the sense of urgency. We also complement the model with a task that records participants’ confidence and willingness to commit to a choice at each time point in order to fully capture how the evidence accumulation evolves. Simulations with our model indicate that when the cost of errors increases, the optimal strategy is to require more evidence (i.e. have a higher sampling bias). When the opportunity cost of sampling is dynamic, the optimal strategy is to have increased urgency instead. Behavioural data shows that people, on average, follow this trend and change their strategy accordingly. We show that our novel and computationally simple model that builds on accumulation to bound models can capture how people optimally decide when to stop sampling for information.
Most decisions that we make are accompanied by a sense of confidence in the accuracy of these decisions. This sense of confidence is vital for social interaction, since it allows people to optimally weigh opinions. Previous work has revealed that during collaborative decision making tasks, partners match their average level of confidence to each other, in order to communicate on a similar scale. However, it remains unknown whether people also adjust the accuracy of their confidence ratings (i.e., metacognitive efficiency) to that of their partner. In the current study, we therefore investigated whether individuals adapt their metacognitive efficiency to the metacognitive efficiency of their partner. Participants completed a perceptual decision-making task while collaborating with one of three (simulated) partners: a partner with (i) excellent, (ii) average, or (iii) poor metacognitive efficiency. In line with previous work, we observed that participants adapted their average level of confidence to that of their partner. Participants did not adapt their metacognitive efficiency to the metacognitive efficiency of their partner, however they did adapt their average level of confidence to the metacognitive efficiency of their partner, expressing higher levels of confidence when their partner had poor metacognition. This confidence-adjustment strategy based on the metacognition of a teammate is discussed in terms of optimality for collaborative decision making.
P2.54 – Modeling speed-accuracy trade-offs in confidence judgments

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Keywords: decision-making, confidence, cognitive psychology

Previous research has shown that the decision-making process in two-alternative perceptual decisions can be accurately represented by a computational model assuming noisy accumulation of evidence until the crossing of a decision boundary (e.g., the drift diffusion model). In this model, one way to quantify decision confidence is by allowing post-decisional evidence accumulation to inform confidence. If the conjecture is correct that both decisions and confidence are based on accumulation-to-bound processes, this implies that confidence judgments should be subject to the same strategic influences as the choice itself. To test this prediction, we asked participants to perform a random dot motion discrimination task. During the task, participants were instructed to make either fast or accurate decisions, and to give either fast or carefully considered confidence ratings. To describe the computational mechanisms underlying behavior, we extended the classical drift diffusion model with additional boundaries for confidence. Results show that our model captured the data well in terms of accuracy, reaction times, confidence reaction times and confidence ratings, across all manipulations. Most importantly, we observed a selective influence of the speed-accuracy manipulations of decisions and confidence ratings on the decision boundaries and confidence rating boundaries, respectively. Our data show that confidence can be well understood within the context of evidence accumulation models, and that the computation of decision confidence is under strategic control.
P2.55 – Decision confidence underlies both attractive and repulsive history biases

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Keywords: choice history bias, decision confidence, drift diffusion model

Decision making researchers often assume the independence of responses over trials. In this view, decisions are considered to be isolated events, with resetting of the underlying decision processes after every trial. However, the observation that choices often depend on the previous choice (history biases), indicates that this assumption is an oversimplification. Decision making is not solely based on the current sensory input, but also depends on the experimental history. Previous research has indicated that choice history biases are modulated by decision confidence, with an increased repetition tendency following high confidence trials. However, these studies mostly used implicit measures of confidence or did not allow participants to indicate subjective error reports. Using a more fine-grained confidence scale, we were able to replicate the influence of confidence on choice history biases. Moreover, we observed that participants tended to alternate their previous response after perceived error trials. This finding was replicated in an independent dataset. Using the drift diffusion model (DDM), we show that this effect is best explained by a bias in the evidence accumulation process, and not, as previously assumed, a shift in starting point. These findings unravel a crucial role for decision confidence in the updating of decision making mechanisms.
P2.56 – This is not who you are: The posterior cerebellum and stereotype-inconsistent action sequences

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Keywords: the posterior cerebellum, action sequence learning, stereotype-inconsistent actions, social mentalizing

Recent research has indicated that the posterior cerebellum plays a crucial role in social cognition by encoding sequences of social actions. This study investigates its role in learning sequences of stereotype-implying actions by group members. We presented a set of five sentences that each described a group member who performed either stereotype-consistent or inconsistent actions. Participants were instructed to memorize the temporal order of the sentences and infer a common stereotype of the group. As a comparison, we included control conditions where participants had to memorize sequences of non-social consistent events, or simply read stereotype-consistent sentences without memorizing their order. The results showed that the posterior cerebellum was strongly activated when participants were memorizing the order of the social actions, as opposed to simply reading these social actions. More importantly, when the social actions were inconsistent as opposed to consistent with the stereotype of the group, the posterior cerebellum was activated more strongly. This activation occurred together with cortical recruitment of the mentalizing network involving the dorsomedial prefrontal cortex (dmPFC) during social actions, and additionally the conflict monitoring network involving the lateral prefrontal cortex (PFC) and posterior medial frontal cortex (pmFC) during stereotype-inconsistent actions. These findings suggest that the cerebellum supports not only learning of low-level action sequences, but also of their high-level social implications.
P2.57 – Studying perceptions of fairness through a life story interview among Belgians with a Moroccan background

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Keywords: fairness perceptions, ethnic minorities, life story interview

When an authority makes a decision, people tend to judge this decision on the basis of its fairness. Literature distinguished various forms of fairness perceptions and disclosed the positive effects that these perceptions can elicit. Perceptions of fairness cause – among others – an increased sense of societal belongingness and identification with the deciding authority, and this is specifically relevant for ethnic minorities. However, research on fairness perceptions among ethnic minority groups remained limited, and a comparison of different points of view within minority groups even further lags behind. Also, only a few researchers previously collected in-depth qualitative data about the fairness concept. The variable we are particularly interested in the present qualitative study is generation. Data were collected from pairs of young adults and one of their parents. Participants were Belgians with a Moroccan background, who were interviewed separately. This specific sampling method gives us the opportunity to not only explore possible generation differences in fairness perceptions with respect to societal authorities but also explore a possible impact of socialization messages between parents and their children. We used a life story approach in which the highs and lows in the work- and school domain were broadly questioned. The initial results suggest that negative experiences are tied to contextual elements (e.g., diversity within a school) and aspects of unfairness perceptions are reflected in them. Generational differences in these experiences also emerged.
P2.58 – #balancetonbar: The impacts of a 2.0 activism

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Keywords: Collective action, feminist identity, emotional synchrony

Following the #balancetonbar movement that appeared on social media in Brussels in October 2021, numerous demonstrations and collective actions against sexual violence in the nightlife sector took place in Europe. Online, 30,000 people subscribed to the Instagram account balance.ton.bar, generating dozens of testimonies and massive reactions from subscribers. In addition, hundreds of people demonstrated in the streets of Brussels which seemed to have raised awareness of the issue. There have been many studies on online and offline activism and the consequences of these types of engagements on activist identity and behaviors. However, the opportunity to compare the effects of online and offline activism on the same struggle is rare. Furthermore, several studies showed that participation in offline collective action impacts the perception of emotional synchronicity and identity fusion, which is in turn associated with feelings of empowerment and social integration. We replicated this model in the context of the #balancetonbar movement and extended it to the impact of participation on activist identity and activist behavioral intentions. This specific movement allowed us to measure the effects of participation in an online and offline activist movement on activist identity and behaviors by using the previously cited factors as mediators. Over 300 participants were recruited through social media related to the movement (@balancetonbar, @ufia) and through the SONA platform.
Non-believers, agnostics to some degree, and atheists to a more important degree, typically score lower in spirituality than religionists, but also show some internal variability. What does spirituality mean for agnostics and atheists? We administered (through Prolific) to 547 UK adults, Christians, agnostics, and atheists, measures of spirituality (Spiritual Transcendence scale, Trait Sources of Spirituality scale), personality (Big Five), oneness, and beliefs (in world’s/people’s benevolence, in just world, and paranormal). In all three convictional groups, spirituality was related to extraversion, oneness, and paranormal beliefs; and for atheists and agnostics, also to belief in just-world. Like for Christians, agnostics’ but not atheists’ spirituality was, in addition, associated with agreeableness, openness to experience, and belief in world’s/people’s benevolence. Controlling for gender and age did not affect the above results. Finally, Christians endorsed highly all three forms of spirituality, i.e. the two immanent ones (humanity and nature) and the transcendent form of spirituality, whereas non-believers endorsed (modestly) the two immanent ones but not the transcendent one. Whereas the extraverted, holistic, and an orderly world-oriented dimensions of spirituality seemed universal across the three convictional groups, the prosocial dimension reflected additionally Christians’ and agnostics’ but not atheists’ spirituality.
P2.60 – The effect of military and Red Cross uniforms on empathy for pain, sense of agency and moral behaviors

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Keywords: Embodied cognition, empathy for pain, sense of agency

The present study investigated to what extent the clothes we wear influence prosocial behaviors and two related neuro-cognitive processes, namely the sense of agency and empathy for pain. We tested forty participants wearing civilian, military and Red Cross uniforms across three consecutive days. Participants were tested by pairs and were assigned either to the role of the agent or to the role of the ‘victim’. Agents could deliver real electric shocks to the ‘victim’ in exchange for +€0.05, either following their own decision or following the experimenter’s instructions. Our results indicated that wearing a Red Cross uniform increased the amplitude of the neural response to pain when participants witnessed shocks in comparison with wearing civilian or military clothing. Results also revealed that the sense of agency increased when participants wore a military uniform compared to wearing their own civilian clothing in the Free condition. Finally, participants gave less shocks when wearing the Red Cross uniform compared to wearing their civilian clothing. This study highlights the effect of wearing symbolic uniforms on the sense of agency, on the neural empathic response and on prosocial behavior, thus broadening our knowledge on the impact of ‘enclothed cognition’ on cognitive and psychological processes.
P2.61- Do children placed in institutions have the same opportunities for reintegration into their families of origin as those placed in foster care?

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Keywords: Placement, reunification, foster Children

The purpose of this study was to follow up on a study that found that, for 70% of children in foster care, social workers felt that family reintegration was not an option. We therefore continued the study by comparing the prospects for family reintegration of 661 children placed in institutions with those of 568 children placed in foster care. Our results show that institutional social workers assess the possibilities of reintegration as being higher than for children in foster care, while in reality the number of children in the process of reintegration is identical in both populations. However, in spite of these favorable possibilities, when workers with foster families and in institutions are asked about the specific plan for a child, only 30% of children have a possible reintegration plan with one of the parents. These results demonstrate the need to rethink the assistance offered to parents to promote family reintegration. They suggest that an intensive, multidisciplinary assistance program should be developed. At the end of this program, if reintegration into the family is not possible, we should move toward permanent foster care or foster care with definite prospects. This type of project should also be enabled by changing the legislative framework in the Wallonia-Brussels Federation.
Abstracts

Poster Session 3

Friday June 3rd
12:40 – 14:30
The current study aims to explore how location data collected via smartphone sensors, in itself or in combination with experience sampling data, can be used to shed light on some of the central affective processes in relation to depressive disorder symptom severity. Based on previous research, we hypothesized that people with higher depression scores tend to visit fewer places to avoid socializing, show a preference for places evoking negative emotions, and show higher emotional inertia when transiting among places. To evaluate these hypotheses, we collected both smartphone-sensed location data and frequent self-reported affect using experience sampling from 104 participants over the course of three weeks. Six of them were removed due to insufficient data. At the beginning of the data collection, participants also completed a self-reported survey (DASS), a subscale of which measured depression. The results of multilevel analysis will be discussed together with previous findings and the potential of less intrusive mobile sensing in the prediction of depression.
P3.2 – Miyake revisited 2.0: Further adaptations to a cognitive control test battery

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Keywords: cognitive control, confirmatory factor analysis, cognitive psychology

To achieve our goals, our cognitive system needs to hold multiple contents in working memory, inhibit inappropriate or automatic responses and switch attention from one source of information to another. These cognitive functions are also referred to as “cognitive control”. Miyake et al. (2000) found three separable functions of cognitive control in young adults that share some underlying commonality: updating, inhibition and shifting. In experimental studies on cognitive control, often only one of these cognitive control functions is measured using only one experimental task. However, given the limited construct validity of these tasks, multiple aspects of cognitive control are usually needed to perform these tasks successfully. For this reason, we assessed a wider set of cognitive control subcomponents using a test battery existing of nine experimental tasks in a group of 138 students, in line with Miyake et al. Using confirmatory factor analysis (CFA), we assessed the underlying factor structure of these tasks. However, the CFA did not converge and some tasks failed to load on their assumed underlying subcomponent. Therefore, we have now adapted the test battery and re-ran the study in a new sample of 201 students. Preliminary CFA results support the 3-factor structure compared to a 1-factor structure, as indexed by several fit indices, and the tasks load better on their assumed underlying subcomponents. Ultimately, we aim to develop a valid, uniform and open-access test battery. Additionally, this test battery will be used in future developmental and clinical studies.
“There is nothing in the intellect that was not first in the sense”. This famous quote attributed to Aristotle, represents the foundation of the empiricist view on how knowledge arises in the human mind. If true, one may therefore wonder how sensory deprived people conceive the things they cannot experience with their senses. The study of people born without olfaction represents a particularly interesting case to tackle such a question for two main reasons: 1) smell is a sensory quality that does not easily “remap” onto other properties of the other senses and 2) it has been demonstrated that, compared to the other senses, olfactory information is poorly accessible through language. How do people born without smell conceive olfactory content of things? To address this question, we asked congenital anosmic participants (N=20) and matched controls (N=20) to categorise and sort words with various olfactory values across five different tasks (property generation; card sorting; odd-one out; drag and rate; knowledge of the words) and two different conditions (neutral and olfactory). Our results show that despite important similarities between congenital anosmic and control people, they nonetheless show interesting qualitative discrepancies on how they think about olfactory content of things. Our study suggests that language allows a deep representation of odors even without ever experiencing them. However, such representation differs from the one of control people in significant ways, showing how sensory experience partially shapes our mental representations of things.
P3.4 – Selective reinforcement of task switching

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Keywords: cognitive flexibility, task switching, reward

Everyday life requires switching between states of cognitive flexibility and stability, respectively. However, little is yet known about what drives this balance at the meta control level. Therefore, we aimed to test whether the regulation of cognitive flexibility and stability is guided by reinforcement learning. Using task switching paradigms, we first systematically reinforced task switches or repetitions to test whether this leads to more voluntary task switching (flexibility) or repeating (stability) on unrewarded free choice trials. While we did not find the effect in an uninstructed version of the experiment (n=100), informing participants (n=60) on the reinforcement schedule on cued trials induced more switching or repeating on unrewarded free choice trials. We thus speculate that people adapt their control strategies if they are aware of the respective benefits, even when they cease to be rewarded. Next, we also tested whether people can learn which control strategy is more beneficial based on direct rewards in a completely voluntary, uninstructed version of the experiment (n=60), and again showed successful adaptation on unrewarded trials. We infer that learning rewards contingent on free transition choices efficiently induces cognitive flexibility (stability). Together, these studies help determine whether and when people can learn about the value of task selection strategies beyond the scope of a single task, and provide a self-regulating system to understand putative higher-order control processes.
Our perception of our body is usually outside the scope of our attention. Only when there is a profound difference between our homeostatic body processes (such as heartbeats, respiration, temperature) and our perception of them do we shift our orientation internally to identify the reason of this mismatch. In our study, we hypothesized that in the case of interoceptive mismatch through external ambiguous biofeedback, our attention is shifted internally so that a resolution is achieved. Eighteen healthy participants were presented with 25 blocks each containing of 40 beeping sounds that were presented either in phase (SYNC) or out of phase (OSYNC) with their monitored heartbeats. At the end of each block, participants responded whether they were paying attention internally (to themselves) or externally (to their environment). Our results show that participants were more likely to shift their orientation internally during OSYNC compared to SYNC feedback (binomial regression, $b = -0.48$, $p<.05$). Additionally, reports of orientation were significantly slower when attending to internal stimuli compared (regression, $b=-0.09$, $p<.000$), a behavioral indication that internal orientation was accompanied by additional, cognitively demanding processes. Together, our results extend the idea that visceral signals guide our attentional orientation, suggesting that only after visceral signals are identified as congruent with our current perception of our body and therefore uninformative, we are able to shift our attention to our environment.
An important aspect of human sequential behaviors is their hierarchical structure; such that low-level actions are organized into higher-order goal-directed behavior. According to the hierarchical reinforcement learning theory of ACC (HRL-ACC theory; Holroyd & Yeung, 2012), the anterior cingulate cortex (ACC) applies cognitive control over hierarchical task execution, utilizing rewards encoded via tonic dopamine levels, ensuring the successful completion of the tasks. The goal of this study is to investigate whether rewards increase control over task execution, resulting in more discriminable multivariate task representations in ACC. To address this, we modified an event-related functional magnetic resonance imaging (fMRI) Coffee-Tea Task (CTT), which is a hierarchical sequence task consisting of 6 decision states and 2 higher-order tasks (i.e., making coffee or tea), into a Reward-related fMRI CTT where one of the two tasks was rewarded (counterbalanced across participants). By applying multivariate fMRI methods, we hypothesize that activity patterns of the rewarded task (e.g., coffee) will differentiate from those of the non-rewarded task (e.g., tea), reflecting increased control over task performance. Fifty participants completed the experiment, and analyses are being conducted now.
Over the last decades, vision research has seen a renewed interest in Gestalt psychology and perceptual organization. One of the milestones in this evolution is the study by Kubovy and Wagemans (1995), which revealed that the probability of grouping elements can be quantified as a decreasing exponential function of the distance between those elements (pure distance law). It has been the starting point for extensive research (e.g., competing grouping principles). However, the stimuli of this research have too often been limited to dot lattices with little element variation. To fill this gap, shape variation was added to the dot lattice elements (by employing the OCTA toolbox) in this study (in addition to proximity). Special attention was given to alignment of the shape axes with the global orientations in the dot lattice which could cause interference. Circles were included as a neutral condition as well as tilted squares and triangles which lacked alignment with any global orientation. Upright squares were aligned with the vertical and the horizontal orientations while triangles were either base-aligned with the shortest orientation (a-alignment) or the longest orientation (b-alignment), thereby possibly inducing pointing bias. To estimate individual effects, this research used Bayesian hierarchical modelling. On a group level, the proximity effect was replicated. When integrating individual differences, a significant interaction was found between a-aligned triangles and proximity. This supports interference of pointing bias and proximity in some, but not all participants.
P3.8 – Repeated simulation increases belief in the future occurrence of uncertain events

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Keywords: autobiographical memory, episodic future thinking, belief in occurrence

The feeling that an imagined event will or will not occur in the future—referred to as belief in future occurrence—plays a key role in guiding our decisions and actions. Recent research suggests that this belief may increase with repeated simulation of future events, but the boundary conditions for this effect remain unclear. Considering the key role of autobiographical knowledge in shaping belief in occurrence, we suggest that the effect of repeated simulation only occurs when prior autobiographical knowledge does not clearly support or contradict the occurrence of the imagined event. To test this hypothesis, we investigated the repetition effect for events that were either plausible or implausible due to their coherence or incoherence with autobiographical knowledge (Experiment 1), and for events that initially appeared uncertain because they were not clearly supported or contradicted by autobiographical knowledge (Experiment 2). We found that all types of events became more detailed and took less time to construct after repeated simulation, but belief in their future occurrence increased only for uncertain events; repetition did not influence belief for events already believed or considered implausible. These findings show that the effect of repeated simulation on belief in future occurrence depends on the consistency of imagined events with autobiographical knowledge.
The COVAT Space OL was developed within the CHC model of intelligence in a collaboration between Cebir and Thomas More (PDC). The test elaborates on the COVAT intelligence tests, which are aimed at children in an educational context. Specifically, it builds on 2 COVAT subtests: Folding Boxes (FB) and Rotated Figures (RF). FB measures visualisation: mental transformation of 2D figures into 3D objects. RF measures speeded rotation: fast mental rotation of simple 2D figures. First we analysed existing data of these classical tests and created new items. To enable remote online testing of adults in a selection context we decided to transform FB into a computerised adaptive test. For RF, adaptive testing was not deemed appropriate because of its emphasis on speed and its item dependency. Therefore, 2 parallel versions of RF were created to enable unproctored testing. The new items were tested in the experimental COVAT Space OLX test (N=167). Rasch analysis was applied to the experimental FB data. This allowed us to create the final FB subtest, with enough items (135) of a wide range of difficulties to estimate a wide range of participant abilities. For the experimental RF subtest (consisting of 3 versions), item times and degrees of difficulty were calculated. Based on the results, 3 new parallel versions were created for the final RF subtest. The 2 subtests of the final COVAT Space OL test each measure 1 narrow cognitive ability of visual processing (Gv). Due to the adaptations to the original subtests, quality assessment of adults’ Gv is now possible within selection contexts.
Magnocellular-parvocellular imbalance hampers mirror image discrimination

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Keywords: Visual perception, mirror discrimination, magnocellular and parvocellular channels

From the retina, information is conveyed to the brain through two main complementary channels: a parvocellular (P) channel highly sensitive to stimuli of high spatial frequency, high-contrast and low-temporal frequency, and a magnocellular (M) channel mostly sensitive to stimuli with complementary characteristics. A longstanding issue in vision neuroscience concerns how information carried in these two streams contributes to conscious visual experience. Based on recent neuropsychological evidence, we tested the intriguing hypothesis that efficiency at discriminating mirror images may depend on the balance between the involvement of M- and P- channels in processing a visual stimulus. We first determined the P- and M- efficiency of 40 participants with a two-alternative forced-choice orientation discrimination task and a staircase design to measure their contrast sensitivity threshold for P-biased and M-biased gratings tilted 45° left or right from the vertical. Then, we tested participants' ability to discriminate tilted asymmetrical shapes differing in terms of either a plane-rotation (40°), a mirror reflection across a vertical axis, or a mirror reflection across a shape-based axis in a speeded same/different judgment task. We found significant positive correlations between an index of P-M imbalance (P-efficiency – M-efficiency) and individuals' efficiency at discriminating both types of mirror images, but not plane-rotations. These results suggest that an adequate balance between M- and P-channels could be determinant in our ability to discriminate mirror images.
P3.11 – Defensive people make more taboo slips

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Keywords: Slips of the tongue, Freud, defensiveness, taboo

Slips of the tongue, in particular those that lead to embarrassing expressions, would reveal unconscious preoccupations and might be understood as a return of unconscious preoccupations in conscious speech; this is what Freud (1901) called the ‘return of the repressed’. We used the Spoonerisms of Laboratory Induced Predisposition protocol (Motley et al., 1982) for the induction of neutral and taboo slips of the tongue with 32 neutral and 32 taboo French word pair sequences. 56 participants produced 37 slips of the tongue: 21 taboo and 16 neutral slips. Our results show that (1) the more a participant indulges in associativity, measured as ‘primary process’ mentation (Brakel et al., 2000), the more s.he produces neutral slips (F=4.90; p=.003); (2) high defensive or ‘socially desirable’ Crowne & Marlowe, 1960) participants make significantly more taboo slips than low defensive participants (F=2.86; p=.033). We propose that high defensive participants more easily stumble upon words with taboo utterings as a result possibly because they restrict themselves stronger from such utterings in everyday life to conform to socially desirable standards. This interpretation would fit well with the idea of taboo slips as a return of the repressed.
The representation of touch on our body is not veridical. For instance, tactile distances across the limb (mediolateral) are always perceived as larger than those running along the limb (proximodistal). This tactile anisotropy reflects distortions in body-shape representation, such that the arms are perceived wider than they are. It has been suggested that such an effect may arise because the primary somatosensory representation of touch is rescaled into an object-centred space according to the visual experience of the body. To causally test the role of visual experience on body map representation, we investigated tactile distance perception in sighted and early blind individuals comparing mediolateral and proximodistal tactile distances of stimuli presented on the ventral and dorsal parts of their arm, wrist, and hand. Overestimation of distances in mediolateral over proximodistal body axes was found in both sighted and blind people. However, the magnitude of the anisotropy was significantly reduced in the arms of blind people. We conclude that tactile distance perception is mediated by similar mechanisms in both sighted and blind people, but that vision partly affects the transformation of somatosensory representations into an object-centred space.
P3.13 – The pleasure of absent danger: Neural and emotional responses to the unexpected omission of pain

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Keywords: prediction error, relief, fMRI

Unexpected omissions of threat and the associated violation of expectancy are crucial for fear extinction learning and exposure treatment. Yet, it remains unclear how they are processed by the human brain, and how this omission-related activity is related to the positive feeling of relief. To answer these questions, 30 volunteers performed the Expectancy Violation Assessment (EVA) task within an MRI scanner. On each trial, they were presented with probability and intensity instructions of an upcoming electrical stimulation, time-locked by a countdown clock. Most trials, however, did not contain the stimulation and therefore constitute a violation of expectancies. We measured subjective ratings of relief-pleasantness, and omission skin conductance (SCR) and BOLD-responses. As predicted, relief-pleasantness and omission SCR increased with increasing probability and intensity instructions, and were positively correlated on a trial-by-trial basis. fMRI-results are currently under analysis, but will be included in the poster. Based on previous fear extinction studies, we predict that unexpected omissions will elicit greater fMRI activations in the Nucleus Accumbens, Ventral Tegmental Area, ventromedial Prefrontal Cortex and Ventral Putamen; that the magnitude of the signal will increase as a function of instructed probability and intensity; and that completely predicted outcomes (0% and 100% trials) will elicit equivalent fMRI activation. Finally, we will use a cross-validated LASSO-PCR model to identify a multivariate pattern of voxels that can predict relief.
P3.14 – Unraveling the highly sensitive mind: An explorative study of the cognitive mechanism underlying sensory processing sensitivity

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Keywords: sensory processing sensitivity, attentional network, emotion

One person in five is highly sensitive, which is related to an internal personality known as sensory processing sensitivity (SPS). People high in SPS tend to be over-aroused by what others may experience as “normal”. Though lower threshold and/or deeply processing may contribute to explaining SPS, no study has examined this directly. Besides, the role of emotion plays in this process is unclear. An experimental study was conducted to investigate this hypothesis. After filling in the Highly Sensitive Person Scale (HSPS), the participants completed the emotional attention network task (E-ANT), requiring them to judge the direction of a centrally presented arrow as quickly and accurately as possible. Reaction time and accuracy were recorded. During this task, a randomly alert tune, a happy or fearful face cue, and four flanker arrows with the same or opposite direction as the target stimulus was also presented. Through this task, the correlation between SPS and attention networks (i.e., alertness effect, reflecting lower threshold; executive control effect, reflecting deeper processing), as well as the interactions with emotion valence can be explored. This study can clarify whether highly sensitive people process information with a lower threshold or deeper processing; meanwhile, the role of emotion in this process will be clarified.
P3.15 – The interplay between extinction, avoidance and generalization in human fear conditioning

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Keywords: Extinction, Avoidance, Generalization

Pavlovian fear learning has been widely used to study anxiety disorders. In the original procedure, a neutral stimulus (Conditioned Stimulus, CS+) is repeatedly paired with a biologically salient stimulus (Unconditioned Stimulus, US), while another neutral stimulus (CS-) is never paired with the US. As a result, the neutral CS+ will come to elicit fear responses, while the CS- will suppress fear responses. Through variations of this procedure, three processes contributing to anxiety disorders have been identified: impaired fear extinction, excessive fear avoidance, and fear overgeneralization. In fear of extinction (E), the CS+ is repeatedly presented without the US. Consequently, fearful reactions towards the CS+ gradually fade away. In fear-avoidance (A), certain actions can cancel the US that will otherwise be delivered. In fear generalization (G), subjects show fearful reactions towards stimuli resembling the CS+. Previous work studying EAG processes has contributed to the understanding of the development, maintenance, and treatment of anxiety disorders. However, since EAG processes are often studied separately, it remains unclear about their relationship with each other. Therefore, the current study is to investigate EAG processes within the same individuals, in order to assess (1) whether outcomes of EAG processes correlate, (2) whether some process deficits are more detrimental than others in relation to anxiety, (3) whether some deficit combinations are more detrimental than other deficit combinations in relation to anxiety.
P3.16 – Characterizing auditory and visual motion processing and integration in hMT+/V5 with ultra-high-field fMRI (7T): Preliminary results.

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Keywords: ultra-high field fMRI, multisensory integration, motion

The ability of the brain to integrate motion information originating from separate sensory modalities is fundamental to efficiently interact with our dynamic environment. The human occipito-temporal region hMT+/V5 is known to be highly specialized to process visual motion directions. In addition to its role in processing the dominant visual information, it was recently suggested that this region may also engage in crossmodal motion processing from the auditory modality. How multisensory information is represented in this region remains however poorly understood. To further investigate the multisensory nature of hMT+/V5, we characterized single-subject activity with ultra-high field (UHF) fMRI when participants processed horizontal and vertical motion stimuli delivered through vision, audition, or a combination of both modalities simultaneously. Our preliminary results confirmed that in addition to a robust selectivity for visual motion, portion of hMT+/V5 selectively responds to moving sounds. We are now further characterizing the brain activity in the cortical depths using UHF fMRI combined with vascular space occupancy (VASO) recording at high spatial resolution (.75mm isotropic). We hypothesize that hMT+/V5 might encode auditory and visual motion information in separate cortical layers, reflecting the feed-forward versus feed-back nature of how sensory information flows into those regions. This project will shed new lights on how crossmodal information is represented across the depth of the cortical layers of motion selective human brain areas.
Avoidance is an adaptive behavior to reduce the confrontation with threats. In the case of unrealistic fears, however, avoidance extends to safe situations and prevents safety learning. Even after fear extinction, avoidance behaviors often persist. This project aims to better understand the mechanisms of avoidance, through the lens of ‘relief’. Experiences that do not (fully) match our expectations (‘prediction errors’) drive the learning processes that shape our behavior. In the context of avoidance, relief (as a ‘better than expected outcome’) is thought to be its driving force. Current studies focus on relief at the time of threat omission. However, when people have learned or simply know that their avoidance will be successful, threat omission will match their expectations. So, what is the driving force in developing and maintaining avoidance behaviors, when their outcomes are clear? The reduced threat expectancy, rather than the threat omission itself, may induce relief. Relief would then occur right after the possibility to avoid, the decision to avoid, or the avoidance behavior itself. Avoidance behavior could become rewarding on its own and detach from the feared US. As a first step in studying this theory, this internship project investigates whether the expectation of threat omission is sufficient to induce relief by modeling the temporal dynamics of subjective relief ratings during safety learning in a pavlovian conditioning task.
P3.18 – The role of the ACC to regulate shifts between foraging strategies

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Keywords: anterior cingulate cortex, foraging behavior, hierarchical reinforcement learning, fMRI

Foraging behavior is an innate guide through our everyday decisions. Animals and humans try to maximize rewards while minimizing costs when engaging in sequential decision-making processes. How the Anterior Cingulate Cortex (ACC) guides decisions during foraging behavior is a subject of debate, with theories suggesting that the ACC encodes the value of the environment (Kolling et al., 2012), or that it encodes instead the difficulty of choice (Shenhav et al., 2014). In this study we intend to reconcile existing theories under a new framework based on the Hierarchical Reinforcement Learning theory of the ACC (HRL-ACC theory; Holroyd & Yeung, 2012), where the ACC is a hierarchical structure organized in a frontal-dorsal gradient, with frontal structures guiding general higher level task goals and dorsal structures in charge of lower-level actions. For that purpose we used a foraging task consisting of a higher level goal (i.e. finding food) to be achieved by performing 2 subtasks (i.e. collecting food or fishing), and each subtask composed by sequences of primitive actions. We hypothesize that multivariate activity patterns will signal differences between subtasks (i.e. fishing vs collecting fruit), and that univariate activity of ACC will increase relative to the decreasing received average reward.
Introduction. Baseline resting-state functional brain connectivity (rsFC) modulates subsequent cognitive processes in humans. Given the demonstrated role of theta-band brain synchronization in declarative learning and memory processes, we tested here the hypothesis that theta-band rsFC is associated with declarative memory performance in school-aged children. Methods. Magnetoencephalography (MEG) was used to investigate the relationship between pre-learning rsFC and subsequent immediate retrieval of newly-learned declarative information (associations between non-objects and their function) in 32 typically developing school-age children (7-12 yo). After MEG data preprocessing and source projection by minimum-norm estimation, theta-band (4-8 Hz) power envelope correlation was computed amongst 75 nodes involved in declarative memory. Correlations between pre-learning rsFC and immediate retrieval performance were then sought using maximum-based statistics. Results. Positive correlations emerged between pre-learning theta-band rsFC and immediate retrieval performance, with stronger rsFC within a set of occipital, frontal, and temporal regions associated to higher immediate retrieval performance (maximum statistic, pcorr = .0076). Discussion. Inter-individual variations of theta-band rsFC within a fronto-temporo-occipital network appear critical for subsequent declarative memory retrieval performance in children. This study opens new avenues to investigate the pathophysiological brain processes underlying learning and memory deficits in children with neurodevelopmental disorders.
Individuals with autism spectrum disorder (ASD) may show atypical nonverbal communication, including the perception and production of facial expressions during social interactions. Compared to their neurotypical peers, they may show less, more neutral and flat facial expressions. In the current study, we compared facial dynamics of infants with an increased likelihood of ASD (due to familial load and/or prematurity) with control infants with the typical likelihood of ASD, while they watched video clips of women singing nursery rhymes. The infants’ facial expressions were recorded at the ages of 5, 10, 14 and 24 months, and were decomposed into individual components of facial muscle movement (i.e. action units (AUs)), and subsequently attributed a valence score via automated facial expression coding software. Eventually, a subset of the infants received a best estimate research diagnosis of ASD, allowing us to compare the facial dynamics of this group with a high likelihood of ASD with the group with a low likelihood and the controls. Most activated AUs across groups include AU5 (upper lid raiser), AU25 (lips part) and AU26 (jaw drop). Findings on possible group differences in the facial dynamics (based on single and combined AUs) and their developmental trajectories (5 to 24 months) will be presented. As facial dynamics research in ASD is still in its infancy and inconsistent findings are being reported, we believe that this project might deliver insights into this uncharted territory.
In the words of the current UN Secretary-General António Guterres, “Inequality defines our time”. Yet little is known about how parents perceive economic threats and insecurities, and in turn, how it might shape their parenting. This questionnaire-based study addressed key questions related to the interplay between perceptions of economic threats and insecurities and parental personality on parental academic overinvolvement (AO) in a sample of mothers (n = 104) and fathers (n = 73) of adolescents (Mage = 16.6 years, SD = 0.928). Parents completed a package of questionnaires measuring personality, perceived national job insecurity, and perceived inequality. A series of regressions was carried out to examine the effects of two economy-related variables, perceived job insecurity and perceived income inequality, as well as two five-factor personality traits, conscientiousness and neuroticism, on AO. Among fathers, analyses indicated a main effect of job insecurity on AO and no significant relations for personality. Among mothers, analyses revealed main effects of both perceived job insecurity and perceived inequality on AO. Further, maternal conscientiousness moderated both effects; mothers high in conscientiousness were found to be more sensitive to the effects of economic-related perceptions as compared to mothers lower in conscientiousness. The findings suggest the utility of considering both personality and economic-related variables in understanding overinvolved parenting.
P3.23 – The protective effect of educational level varies as a function of the difficulty of the memory task in ageing

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Keywords: episodic memory, ageing, educational level

Episodic memory and the use of mnemonic strategies decline with age. It is unclear how educational level reduces these declines as a function of task difficulty. Younger and older adults had to memorise a word list where the words were either already semantically grouped (easy) or presented in pseudo-random order (hard). Contrary to younger adults, older adults with a higher educational level recalled more words than those with a lower educational level in the easy memory task, but they both showed similar recall performance on the harder memory task. Moreover, overall, older adults used the semantic organisation as much as younger adults when the memory task was easy, but less when the task was hard. In sum, the protective effect of educational level seems to be restricted on recall performance, but not organisational strategies, in easy memory tasks providing sufficient external information about the most efficient mnemonic strategy to use.
P3.24 – The effect of fidget spinners and bouncy bands on the academic performance in elementary school children with varying ADHD-symptomatology

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Keywords: ADHD, academic performance, school psychology

Fidget tools – such as fidget spinners and bouncy bands – are increasingly used in elementary school classrooms with the aim to improve children’s academic performance, either as a universal tool for all children or specifically for children with elevated ADHD-symptomatology. Although manufacturers advertise these tools as therapeutic devices, there is a paucity of research on the effectiveness of fidget tools. Therefore in this study we examined the effect of fidget spinners and bouncy bands on mathematics and listening performance of 233 children (Mage = 9.10; 53% boys). ADHD symptoms were assessed by a parent report questionnaire and children’s movement was objectively measured by accelerometers. An overall negative effect of fidget spinners on academic performance, regardless of ADHD symptoms, was discovered using linear mixed-effect models. Similarly, an overall negative effect of the bouncy band on children’s performance was found. However, further analyses suggested that for children with more symptoms of inattention the use of a bouncy band may reduce the negative effect of ADHD symptoms on mathematics performance. Based on these results, we advise against the use of fidget spinners or bouncy bands as universal therapeutic classroom tools to improve academic performance in elementary school children. More research is required on the potential beneficial effect of bouncy bands for children with elevated symptoms of inattention.
In Western societies, an intensive parenting ideology promotes the idea of parental self-sacrifice and child-centeredness, putting extreme pressure on parents, and especially on mothers. This ideology may bring about parental involvement that is characterized by overprotection, which is defined as a level of parental protection that is excessive, considering the developmental level of the child. Since gender attitudes may shape parenthood, this study aimed to examine to which extent parents’ traditional gender ideology may be related to more overprotective parenting through the adherence to an intensive parenting ideology. We included 177 Belgian parents (104 mothers, 73 fathers) of adolescents (mean age = 16.6, 56.3% female). Parents filled out questionnaires assessing overprotective parenting, adherence to intensive parenting ideology and gender ideology. In the mother sample, intensive parenting beliefs were found to fully mediate the relationship between traditional gender ideology and ego-enhancing overprotection, and partially mediate the relationship between traditional gender ideology and anxious overprotection. In the father sample, traditional gender ideology was found to relate significantly to anxious overprotection but not to ego-enhancing overprotection. No significant relationship was found with fathers’ intensive parenting beliefs. These findings provide information about the way parental gender attitudes relate to parental overprotection, suggesting that intensive parenting ideology is still gendered.
Investigating the interdependence of individuals in a family with experience sampling (ESM) and daily diary methods

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Keywords: attachment-related behavior, adolescent's daily stressors, Experience Sampling & Daily Diary methods

Interaction processes between parents and their children are considered to be the engines of child development, attachment, and (mal)adaptive functioning, or psychopathology. If the child’s needs are met in a responsive way during their daily interactions, children, learn for example to trust significant others and generalize their experiences into internal working models, they develop attachment trust. Traditionally, the attachment investigations focus on the mother-child relationship, however, recent studies also show that also the father-child relation and the quality of the parental attachment relation seem to play an important role in child development. Recently, a learning model of attachment has proposed that attachment could be interpreted as a contextual learning process. In this study, we aim to uncover how the daily interactions of children and their exchange with both parents contribute to this learning process. This contribution elucidates the study design of this pilot study, in which data is collected from the father, the mother, and their teenage (12-13-year old) son or daughter by using either experience sampling (ESM) or daily diary methods. In both conditions, participants will answer short questionnaires about their momentary emotional states, trust in each other, and how they handle the teenager’s daily stressors. The aim is to get insights into attachment-related behavior in early adolescents’ daily life and to compare the two methods.
P3.27 – Age differences in story recall: Comparing the narrative similarities of a TV episode

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Keywords: Memory, story recall, aging

This study examines the effect of aging on inter-subjects similarity of representations for a fictional event. We compared the similarity between the narratives of 41 older and 38 younger adults about a TV show episode (‘modern love’). All participants were invited to recall it to a young adult. Inter-subjects similarity of recalled details were analyzed using a schematic narrative template (i.e., initial context, events, and resolution). Preliminary results revealed that young adults show more similarity between them in their recollection than older adults for the initial context, the events and the resolution of the story. Additionally, lexical content analyses showed a greater use of positive words and “I” pronoun in older adults. These results suggest that when recalling a story to a young adult, older adults tend to have less similar representations than young ones.
P3.28 – Adolescents’ experiences of the low conflict coparenting relationship after parental separation

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Keywords: co-parenting, divorce, adolescents' specific needs

Parental separation and divorce are current phenomena in today's society (Cao et al., 2022). Despite the fact that these experiences represent a major life stressor for the family system (Jamison et al., 2014), low conflict co-parenting is seen as a significant protective factor that facilitates children’s adjustment to divorce (Becher et al., 2019), while childrearing disagreement is linked to persistent behavior problems in children and adolescents (Weaver & Schofield, 2015). Young people are able to think, interpret and make sense of family change in their own way (Kuczynski, 2003), therefore it is important to better understand how they comprehend the quality of their parents’ coparenting relationship. The aim of our study is to enhance the understanding of the way young people perceive low conflict co-parenting after conjugal breakdown. In order to answer the following question: How do adolescents give meaning to the quality of their parents’ co-parenting relationship after marital separation? we analyzed the experiences of eleven adolescents. Our participants were the offspring of eight low conflict separate heterosexual couples. Phenomenological interpretive analysis – IPA (Smith et al., 2009), allowed us to identify two main themes that seem to describe how adolescents in low conflict post-divorce co-parenting situations make sense of the quality of their parents’ co-parenting relationship: the experience of the family dynamics and the satisfaction of their specific needs. Clinical implications of these results are discussed.
P3.29 – Assessing pragmatics in French-speaking preschool and school-aged children

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Keywords: Pragmatics, linguistic validation, language delay

The ability of a child to communicate in daily life is a key question for clinicians and researchers in the field of speech and language pathology when addressing the topic of pragmatics. The C.C.C.-2 (Bishop, 2003) is a well-known English questionnaire for identifying potential deficits in pragmatics and social interaction. It is a 10-scale questionnaire used to identify children with speech and/or language deficits, for whom further assessment is required (e.g., for suspected autism spectrum disorder), and to identify children with significant language deficits. This work presents the process of translation and linguistic validation (translation, backtranslation and test) to a (Belgian) French version of the C.C.C-2, that respects the guidelines of the International Test Commission (2020). Several statements in the questionnaire had to be adjusted during the translation process to reflect the reality of today’s society. Some statements had to be adapted to French. Thirty families of children aged 3-8 years with no language difficulties, children with language delay (LD), child with a diagnosis of Developmental Language Disorder (DLD), children born prematurely (PREM), and a child with suspected autism spectrum disorders (ASD-risk) completed the questionnaire. Those preliminary data were analyzed to refine understanding of pragmatics and social interaction of French-speaking children. The results help us to better apprehend the daily communication of children with and without language difficulties.
P3.30 – The potential of e-mental health treatment for depression in addition to treatment as usual: An implementation study in inpatient mental health settings in Belgium

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Keywords: E-mental health, depression, implementation

As depression is one of the most prevalent mental disorders, limiting its ever-growing impact is considered one of the biggest societal challenges. E-mental health applications have the potential to provide a substantial contribution to the availability and effectiveness of conventional treatment. Its use in Belgium, however, remains limited. This study is therefore set out to gain insights into factors which impede or facilitate implementation of an e-mental health application in inpatient mental health settings. Mental healthcare professionals and patients of (psychiatric) hospitals were given the opportunity to use the e-mental health web-based platform Moodbuster for treatment of depression. Professionals and patients were given pre- and post-implementation questionnaires on themes such as perspectives towards technological applications in mental healthcare, motivation to participate, and evaluation of the Moodbuster platform. In addition, professionals and patients who did not want to participate completed questionnaires on their reasons for refusal. Professionals in these inpatient settings have rather positive perspectives about technological applications, but this did not always translate in the actual use of Moodbuster. Factors hindering the actual use of Moodbuster seem to be related to lack of time for professionals to learn how to work with Moodbuster, technical difficulties, the lack of laptops or computer for patients to use the Moodbuster platform, and the short stay of patients in these settings.
P3.31 – A qualitative study: Socially withdrawn adolescents’ perspectives on mobile mental health interventions

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Keywords: social withdrawal, user-centered research, mental health app

Adolescents suffering from social withdrawal are at high-risk for maladaptive psychosocial development. Prevention and intervention is therefore essential to improve current and prospective psychological outcomes for socially withdrawn youth. The use of mental health apps is gaining recognition in the clinical domain as an innovative way to provide interventions to youth in their daily lives. The CONNECT project aims to develop a smartphone app that helps to reduce social withdrawal in young adolescents. To ensure that the app is effective and treatment engagement is high, end-users need to be included in the developmental process of these apps. The aim of this study is two-fold: 1) explore the attitudes of socially withdrawn adolescents towards the use of smartphone interventions; and 2) to assess their needs and preferences in the development of an effective, engaging, and user-friendly app. For this reason, qualitative data will be collected according to the principles of user-centered research, allowing them to have a voice in the research process. Semi-structured interviews will be conducted in the spring of 2022 with socially withdrawn adolescents, which will give insight on the adolescents’ opinions on the content and composition of the app. The results of this study will guide the development of the first prototype of the CONNECT app, which will be done at a later stage of the project. Altogether, this study will ensure an appropriate translation of their needs into the mental health app, which will be beneficial for their engagement and the app’s effectiveness.
Post-traumatic stress disorder (PTSD) is a chronically impairing mental disorder, occurring after a trauma exposure, characterized by invalidating symptoms, that are often resistant to current interventions. Although the serotonin receptor 7 (5HT7R) is involved in endocrine and behavioural responses undertaken to cope with stress, and in brain structural changes related to memory processes, its role in PTSD has not been investigated yet. We evaluated the effects of a 5HT7R pharmacological stimulation on PTSD-like behavioural alterations in mice carrying a hypofunctional form of the methyl-CpG binding protein 2 (MeCP2), a X-linked epigenetic modulator, that seems to confer vulnerability to develop PTSD-like symptomatology after trauma exposure. To this aim, male mice carrying truncated MeCP2 (MeCP2-308) and wild-type (wt) controls were systemically treated with the 5HT7R agonist LP-211 for 7 days, starting 24 hours after the traumatic experience (0.8 mA unescapable footshock). Mice were then tested for traumatic memory acquisition and retention and for trauma-related stimuli avoidance. Trauma-exposed MeCP2-308 mice performed freezing when exposed to a novel context, and displayed fear irrespective of the presence of trauma reminders in the avoidance task, suggesting that MeCP2-308 mice generalized fear. LP-211 treatment was able to rescue these aberrant behaviours. Present results suggest that the 5HT7R agonist may be involved in fear generalization, a memory-related process observed in PTSD, providing novel evidence for a potential involvement of 5HT7R in PTSD vulnerability.
P3.33 – Using art in family therapy: A bibliometric review

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Keywords: art, bibliometric review, family therapy

Scientific research shows a growing interest in the use of artistic mediating objects in family therapy, as evidenced by the increasing number of studies on the subject over the last years. However, we find that authors often use different terms to define similar practices or, conversely, use similar terms to describe different practices, with no clear consensus in the literature on either terms or practices, creating semantic and conceptual confusion. To clarify this confusion, a mapping and systematic review was conducted. As the methodology of the systematic review requires the use specific keywords, semantic and conceptual mapping using VOSviewer software was conducted first. The results illustrate networks of authors of different therapeutic adherent. They also present graphical representations of the publications of the last 40 years. These results present an achieved overview of the literature on this topic.
Chemotherapy, one of the cornerstones in cancer treatment, is cytotoxic and has side-effects. Survivors of acute lymphocytic leukemia (ALL), the most common pediatric cancer, often report impairments in working memory, processing speed, and executive function following treatment. Considering that chemotherapy-induced cognitive impairment (CICI) significantly affects quality of life, therapies to ameliorate CICI are primordial. In this study, we investigated whether miconazole (MCZ), an anti-fungal agent with remyelinating properties, could improve cognitive symptoms in a CICI mouse model. Female C57BL/6J mice were subjected to a three-week treatment course with methotrexate (MTX), a main chemotherapeutic used in ALL treatment. MTX was administered once weekly on postnatal days 21, 28, and 35 to mimic human ALL treatment. Subsequently, a 7-day treatment course with MCZ was provided involving daily administrations. Substances were intraperitoneally injected and counterbalanced against a saline alternative as baseline. From postnatal day 60, cognitive functioning was assessed through a behavioral test battery evaluating cognition, social behavior, and emotional behavior. Brain tissue extraction further enabled immunohistochemical analysis through biomarkers of white matter to gauge myelination. We expected MTX treatment to reduce axonal myelination in the brain, yielding impaired cognitive functioning with problems in spatial learning and emotional, social, and working memory. Because of its remyelinating properties, MCZ was subsequently foreseen to revert these changes.
The Need for Controllability and Predictability questionnaire: Psychometric properties and first findings in a clinical sample

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Keywords: need for control and predictability; panic; persistent somatic symptoms

The objective of our study is to validate the ‘Need for Controllability and Predictability questionnaire’ (NCP-q), a 15-item self-report measure assessing a person’s need for control and predictability, building upon the clinical need for high quality assessment of these constructs. In study 1, exploratory and confirmatory factor analysis was performed in a student convenience sample (n = 768). In study 2, NCP-q data of various patient groups experiencing stress-related (overstrain, n = 33; burnout, n = 40; panic disorder, n = 34) and/or persistent somatic symptoms in daily life (fibromyalgia and/or chronic fatigue syndrome, n = 34) were compared with healthy controls (n = 30). The associations between the NCP-q and other questionnaires were tested. In study 1, results suggest that the NCP-q should be used as a one-dimensional instrument. The NCP-q has good to excellent internal consistency and a good four-week test-retest reliability. Convergent validity was demonstrated by finding moderate to high correlations between the NCP-q and the Intolerance of Uncertainty Scale (IUS), Penn-State Worry Questionnaire (PSWQ), State-Trait Anxiety Inventory-trait (STAI-T), and the Beck Depression Inventory-II (BDI-II). Study 2 revealed significantly higher NCP-q scores for all patient groups compared with healthy controls, but no differences between patient groups. In sum, the NCP-q can be used as a reliable, compact, and clinically relevant research tool and adds to identifying transdiagnostically relevant
According to the state regulation deficit (SRD) account, ADHD is associated with difficulties regulating tonic arousal levels, which may be due to inefficient effort allocation. We aimed to test the SRD account by manipulating the tonic arousal state and its effect on performance and pupil indices in adults with high (n=40) versus low (n=36) ADHD symptom levels. A target detection task was used with three event rate conditions (ER; 700 ms, 1800 ms, 6000 ms). In a fourth condition, the fastest ER was accompanied by auditory white noise (WN), to further increase tonic arousal. As expected, RT increased with slower ERs, most apparent in the high-ADHD group, though this latter effect was not significant. The high-ADHD participants responded more variably with decreasing ER, suggestive of deficient upregulation of their tonic arousal state. Additional WN led to more errors, although irrespective of group. Contrary to our predictions, tonic pupil size (tonic arousal), showed no effect across ERs. Phasic pupil amplitude (cognitive effort), linearly increased with slower ERs. Adding WN had no effect on tonic pupil size but decreased phasic pupil size. However, no ADHD-related differences were present for the pupil indices. Performance indices suggest ADHD-related difficulties in upregulating the tonic arousal state, consistent with previous studies. The lack of group differences for pupil indices, on the other hand, is puzzling and warrants further research.
P3.37 – Presentation of new screening tools to detect lexico-semantic disorders in early stage of Alzheimer’s disease

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Keywords: Alzheimer, semantic, tools

Episodic deficit in Alzheimer’s disease (AD) has been widely studied. Recently, the interest of researchers also focused on the semantic deficit. Recent studies demonstrated an early breakdown of semantic memory in the prodromal stage of AD. This phenomenon notably results into lexico-semantic difficulties affecting retrieval of words and their meaning. However, there are still few quick screening tools in French that may demonstrate the semantic deficit in early AD. Our research aims at proposing four quick tools allowing the screening of semantic memory impairment in early AD. The Mini-SKQ (Simoes Loureiro et al., 2018), the Mini-PMMS (Joubert et al., 2008) and the ECCS (Basaglia-Pappas et al., 2021) assess the semantic knowledge while the SNT-AD (Simoes Loureiro et al., 2021) evaluate the naming abilities. So far, we’ve administered these tools to 34 participants; 30 healthy elderly participants (19 women and 11 men) and 4 early AD (4 women) matched in age (U = 58; p = .914). AD participants showed significantly lower results compared to the healthy elderly participants while using the Mini-SKQ (U = 6.5; p = .001; max = 12; control(median(m)) = 12; AD(m) = 9), the Mini-PMMS (U < .001; p < .001; max = 26; control(m) = 25; AD(m) = 22), the ECCS (U < .001; p = .001; max = 72; control(m) = 65; AD(m) = 52.5) and the SNT-AD (U = 2.5; p = .001; max = 10; control(m) = 9; AD(m) = 6.5). All the four screening tools are easy-to-administer semantic questionnaires and are sensitive to early AD. Therefore, they could be used to screen for semantic memory impairment.
P3.38 – Pinpointing OCD symptom severity using frequency-tagging EEG

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Keywords: frequency-tagging EEG, Obsessive Compulsive Disorder, symptom severity biomarker

Obsessive Compulsive Disorder (OCD) is a disabling psychiatric disorder, affecting 2-2.5% of the population. It is characterized by anxiety-provoking obsessions and time-consuming compulsions. The clinical expression and severity of OCD are highly heterogenous and the available assessment tools are very subjective and require an advanced disease insight of the patient. In addition, OCD is associated with comorbidities, which complicate diagnosis and personalized treatment. Hence, there is a need for objective and quantifiable tools to determine the presence and severity of OCD. Therefore, in the present study, we combined newly designed symptom provocation techniques with fast periodic visual stimulation and frequency-tagging EEG (FT-EEG) to investigate the neural sensitivity of OCD patients to anxiety- or discomfort-provoking stimuli. We expect that FT-EEG will offer a robust index to objectively quantify OCD-related symptoms, sensitive at the individual subject level. We will present data on the neural responses to provocative versus neutral cues in adult OCD patients compared to healthy controls (HC), as well as the association with subjective ratings of stimulus-evoked anxiety. Preliminary results demonstrate stronger neural responses for aversive versus neutral cues in HCs. As our findings will offer insight in the aberrant emotional processing of OCD patients, we believe that this study constitutes a crucial step towards developing a biomarker of OCD severity, which may support diagnosis and reflect clinical state and treatment response.
Adolescents with ADHD regularly face stigma and its negative consequences. Different methods of assessing stigma exist, but the limited empirical research assessing stigma related to ADHD primarily used explicit measures of attitudes (e.g. questionnaires). However, research showed that explicit measures of stigma are hampered due to self-presentation bias, or social desirability. In order to overcome these limitations, implicit measurements are of paramount importance for measuring stigmatic attitudes. This study describes the development process of the Propositional Evaluations Paradigm (PEP) as an implicit measure of stigma towards ADHD, and describes its psychometric properties. The PEP is a recently developed implicit task, and potentially due to it’s … offers a good alternative to other implicit tasks such as the Implicit Association Task. To our knowledge, the PEP task has never been used as a measure of stigma towards ADHD, or stigma in general. In this study we describe the development process of the ADHD stigma PEP task, evaluate whether the PEP task is internally consistent, assess participants’ implicit attitude towards ADHD and check how implicit stigma scores (measured by the PEP task) are related to explicit stigma scores (measured by a questionnaire assessing stigma towards ADHD). To this aim adolescents aged between 14-16 year old complete online the PEP task and a stigma questionnaire. Data collection is in progress, and n=27 adolescents already completed the study, preliminary results will be presented at the BAPS conference 2022.
Exposure to stress is not ‘bad’ per se as it prepares the body to fight-or-flight. However, when exposure to stress is prolonged, the stress response may become maladaptive. For instance, psychosocial stress may affect the intestinal barrier. The intestinal barrier is the main interface between the external environment and the host, and plays a crucial role in the gut-brain axis. To investigate potential ways to prevent stress-induced effects on the intestinal barrier, a controlled psychosocial stress induction paradigm in the laboratory is crucial. To this end, we have developed a novel experimental stress paradigm that induces stress for a prolonged (2h) time. In the Leuven Prolonged Acute Stress Test (L-PAST), we combine elements of two established acute stress tasks, the Maastricht Acute Stress Test and the Montreal Imaging Stress Test. Interim analysis, comprising 21 healthy subjects, has yielded highly promising results: the L-PAST significantly increased both cortisol (p<0.0001, \( \eta^2=0.08 \)) and subjective stress (p<0.0001, \( \eta^2=0.14 \)) levels compared to the sham condition. All cortisol timepoints from 5 min until 100 min post stress induction were significantly higher in the stress condition vs the sham condition (all p<0.001). Similarly, all but the last subjective stress timepoints were significantly higher in the stress condition vs the sham condition. Most importantly, subject’s intestinal barrier function significantly worsened after the stress condition compared to the sham condition of the L-PAST (p=0.03, \( dz=0.53 \)).
Mindfulness can be defined as the awareness that emerges through purposefully and non-judgmentally paying attention to experience as it unfolds in the present moment. Mindfulness-based interventions (MBIs) are characterized by systematic and sustained training in both formal and informal mindfulness meditation. These practices are key to the development of mindfulness as an enduring trait, which can be a protective factor in adolescence when psychiatric disorders tend to arise. School-based MBIs for adolescents typically vary in design features. They are rapidly being implemented in different contexts and with different populations without necessarily relying on a proper evidence base. Moreover, their effectiveness varies: reported intervention effects for diverse outcomes range from highly positive to slightly detrimental. Despite this variation, there is little research evaluating which design features lead to greater intervention effects. Using the method of critical interpretive synthesis, we conducted a systematic review identifying 27 papers that fit our inclusion criteria. After data extraction and visualization, we formulated and tested hypotheses relating intervention effectiveness to design features, such as student age, setting, dosage, prescribed independent practice, instructor training, and intervention content. We discuss design features that seem to be key for intervention effectiveness, which can in turn help intervention designers, implementers, and researchers to consider different design features while taking the context of implementation into account.
P3.42 – Experiences of individuals with autism spectrum disorder in communicating with others with and without autism spectrum disorder

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Keywords: autism spectrum disorder, double empathy, communication

One of the main DSM-5 criteria of autism spectrum disorder (ASD) is having social interaction difficulties. However, anecdotal evidence from individuals with ASD indicates that they mainly experience problems when interacting with individuals without ASD, while interaction is easier with other individuals with ASD. The goal of this study was to gain insights into how individuals with ASD experience communication with individuals with and without ASD. To this end, a questionnaire was sent out to the ASD community asking them about their experiences. We found that individuals with ASD indeed experience significantly less communication problems with other individuals with ASD compared to individuals without ASD. In this first questionnaire we did not leave much room to elaborate on those experiences. Therefore, a second questionnaire was sent out. Preliminary results of this second study will also be presented. Whereas individuals with ASD are often seen as having difficulties with communication, findings from this study may indicate that instead, they have different but successful ways of communicating. This could help lower the stigma surrounding ASD. Moreover, this study can improve existing interventions and help inform individuals without ASD on how they can adapt their communication in order to be more understandable to individuals with ASD.
P3.43 – What you see is what you’re fed? Investigating the association between parental modelling of maladaptive emotion regulation strategies and children’s food refusal behaviors

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Keywords: children, food refusal behavior, emotion regulation

Background: Food refusal behaviors (FRB) such as food neophobia and picky eating are common during toddlerhood but may develop into a problematic eating style. As FRB in young children can be an important source of distress among children and their parents, this may place a child at risk for developing eating related- and psychosocial problems. Since parents are likely to serve as role models in regulating anxiety, this study aims to investigate whether parents’ use of maladaptive emotion regulation (ER) strategies is associated with children’s FRB. Additionally, we investigate whether this association is mediated by children’s use of maladaptive ER-strategies. Methods: Questionnaires assessing maladaptive ER-strategies in parents (Fragebogen zur Erhebung der Emotionsregulation bei Erwachsenen) and their child (Emotion regulation skills questionnaire) as well as FRB in their child (Children’s Eating Behaviour Questionnaire) are administered to parents of children aged 2.5 to 8 years of the general community. Results and conclusions: data collection is to be terminated by the end of March 2022. Results will be presented and discussed at the conference with a focus on implications for further research and practice.
Suppose you take a beta blocker for 8 days straight and then on day 9 you unknowingly take a placebo pill instead. According to conditioned placebo theory (Colloca & Miller, 2011), the placebo pill might now elicit a similar drop in blood pressure and heart rate as the beta blocker previously did (a drug-like effect). According to conditioned compensatory response theory (Siegel, 2005), however, you should exhibit an increase in blood pressure and heart rate upon taking the placebo (a drug-opposite effect). So which is it? Drug-like placebo effects have been widely demonstrated in humans, but often through other means than conditioning, and the adaptive value of conditioned placebo effects is unclear. Drug-opposite conditioning effects have been demonstrated mostly in non-human research. The evidence for drug-opposite conditioning effects in humans is restricted to alcohol and (to a lesser extent) caffeine and has been obtained mostly in opportunistic designs. I will report the results from a double blind self-experiment (n = 1) aimed to test whether Pavlovian conditioning using propranolol (80 mg) as an unconditional stimulus results in a drug-like or a drug-opposite response to placebo, in line with conditioned placebo theory versus conditioned compensatory response theory, respectively.
P3.45 – Identifying transdiagnostic socio-cognitive profiles across 4 clinical populations

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Keywords: social cognition, clinical psychology, perspective-taking

Our ability to understand ourselves and others is fundamental to our social well-being and everyday functioning. Such socio-cognitive impairments have frequently been observed in various mental disorders, and interpersonal difficulties is a strong common characteristic between these clinical populations. However, comparing socio-cognitive difficulties between different clinical populations remains challenging. Two factors can be identified as impeding such comparison: (1) the tools and models developed and used are frequently dedicated to the assessment of a specific disorder, (2) inconsistencies can be observed within a single clinical population, possibly due to underappreciated heterogeneity between patients diagnosed with the same disorder. The present project aims to first examine the basic processes posited to underpin mentalizing skills across all populations, and second, to provide evidence that the same set of processes could be impaired across distinct clinical populations. Further, by decomposing the socio-cognitive deficits into its building blocks, we can distinguish different origins to interpersonal difficulties and classify patients within and across populations into distinct socio-cognitive profiles. I will present preliminary evidence of transdiagnostic patterns and heterogeneity within 4 clinical populations: alcohol dependent patients (N = 51), forensic patients with antisocial personality (N = 26), schizophrenia (N = 9) and anorexic patients (N = 12).
P3.46 – How psychological distance can promote a change towards pro-environmental energy consumption and investment in renewable energy sources in consumers

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Keywords: pro-environmental behavior, psychological distance, consumer behavior

Politics agree on the importance of preserving the environment and adopting pro-environmental measures (Earth Summit 1992; 2021 United Nations Climate Change Conference; European Green Deal…) and citizens’ level of concern for the environment increased from 2019 to 2020 (EMIS, n.d.). However citizens still expect politics and industry to resolve the environmental problematic (EMIS, n.d.), while they could have a large impact. A life domain with a particular large influence on individuals’ carbon footprint (Ivanova, Barrett, Wiedenhofer, Macura, Callaghan, & Creutzig, 2020) is energy consumption. In the current study, we investigate whether highlighting the psychological temporal distance of energy consumption’s consequences could increase consumers’ willingness to adapt their current energy consumption and increase their willingness to invest in renewable energy sources such as solar panels. Three conditions were created: (1) control condition without temporal distance of consequences; (2) short-term condition with consequences framed in a short-term distance, and (3) long-term condition with consequences framed in long-term distance. No significant differences between the conditions were found. However, a significant effect of the third condition on the willingness to adapt energy consumption behavior in uninterested participants was found. Suggesting that the intervention could be effective in eliciting a first interest in uninterested consumers, but is not effective in motivating interested participants to concretely take action.
P3.47 – Organizational dehumanization and supervisor dehumanization: Test of a trickle-down model

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Keywords: organizational dehumanization, trickle down, social information processing theory

Recently, scholars have begun to devote increased attention to the concept of organizational dehumanization (OD), defined as the experience of an employee who feels treated like a tool by their organization (Bell & Khoury, 2011). Empirical work demonstrated that OD thwarts employees' psychological needs and, consequently, entails negative consequences for employees' well-being, attitudes, and behaviors. Yet, it is unclear whether these harmful consequences are limited to the employees who perceive OD, or whether other individuals (e.g., subordinates) may also be affected. Filling this gap, the aim of this research is to examine the trickle-down effects of OD. Drawing upon social information processing theory (Salancik & Pfeffer, 1978), we argue that supervisors who feel dehumanized by their organization will dehumanize their own subordinates because such dehumanizing behaviors are perceived as appropriate and normative (H1). In turn, we expect dehumanized subordinates to display lower levels of in-role and extra-role performance and affective commitment (H2). To test these hypotheses, we collected data from 182 supervisor-subordinate dyads using online questionnaires. Supervisors reported their own perceptions of OD and assessed their subordinates’ in-role and extra-role performance. Subordinates reported their perceptions of supervisor dehumanization and levels of affective commitment. Results provided support for all hypotheses. In conclusion, this research shows for the first time that supervisors’ perceptions of OD trickle-down and negatively affect their subordinates.
P3.48 – Construction of a psychosocial risks diagnostic tool based on psychodynamic work perspective (PWP)

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Keywords: Psychodynamic work, diagnostic tool, psychosocial risks

Since the 1980s, work-related mental disorders have strongly increased due to the paradigm shift in the working world. In consequence, interventions in tertiary prevention have increased and the complaints reported often refer to concepts like the loss of the ideal and work meaning, the difficulty of doing one’s job well and so on. According to the PWP, these complaints point to a deterioration in the subjective relationship with the workplace. However, to our knowledge, there is no psychosocial risks diagnostic tool in this PWP. The objective of this study is to create such a questionnaire aimed at detecting the sources of suffering at work according to this approach in order to interventions aimed at improving working conditions. Two focus groups were carried out with occupational clinician practitioners in order to extract dimensions of the PWP and to share common patients’ expressions in consultation to relate their experience on these PWP dimensions. Finally, we found 11 dimensions such as work meaning, job identity, work values or ethical suffering. The patients’ expressions will help in creating the specific items of each dimension. A first version of the questionnaire will be presented. The next stages are concerned with a content validation of the questionnaire with another population of occupational clinician practitioners and a quantitative validation (DELPHI method) with psychosocial prevention advisors. Finally, the final stage will allow validating the questionnaire on a large scale with different populations of workers from the public and private sectors.
Operationalizations of proactive personality (Bateman & Crant, 1993) and personal initiative (Frese et al., 1997) show strong conceptual and empirical similarity. Both are operationalized using normative questionnaires which correlate meaningfully with measures of job performance, job satisfaction, career orientation, job engagement and career adaptability. These job outcomes were of specific interest for the Flemish government, aiming to measure proactive personality/personal initiative within its (high-stakes) selection process. We therefore unified both theoretical constructs into a single organization-specific definition and accounted for social desirability by developing a situational judgment task (SJT) providing a more direct measure of behavioral tendencies. Critical incidents were collected by interviewing 16 Subject Matter Experts (SME’s) and asking a group of 22 SME’s to evaluate the quality of an initial set of SJT items. This led to a first test version comprising 15 ipsative and 15 normative items. Each item provided a situation followed by 4 discrete response options. The test was piloted by 320 candidates (test-retest data on 128 candidates) representative for the target audience. Findings indicated that the SJT was reliable (Guttman’s lambda-2 > 0.80 | test-retest > 0.70) and correlated meaningfully with the original measures of proactive personality/personal initiative (correlation > 0.40). Furthermore, a predictive study on 92 employees of the Flemish government indicated positive correlations between the SJT and job performance/engagement.
In a perceptual decision task, the confidence that the chosen stimulus is indeed the correct one is determined by several factors such as task difficulty and speed pressure. The influence of these factors on decisions are well described by the Drift Diffusion Model (DDM) which portrays decisions as a process of evidence accumulation towards a decision boundary. Manipulating these factors by instructing participants to either respond as fast as possible or to focus on responding correctly results in the speed-accuracy tradeoff. An interesting yet relatively unexplored side effect of the speed-accuracy tradeoff is the emergence of different error types, namely speed-errors and quality-errors. How these error types affect confidence given the same probability of responding correctly remains unclear. DDM simulations predicted that under speed pressure the difference in confidence for correct versus incorrect answers should be larger than without speed pressure. In other words, metacognitive efficiency will be higher in a speed condition. In the experiment, the number of errors was matched between the speed and accuracy condition using a staircase procedure. The results confirmed the simulations, indicating that confidence ratings are indeed more accurate in a speed condition, as the DDM predicted. Our results suggest that there are different error types that appear depending on response speed, which affect the level of confidence. Our findings have important implications for confidence models that do not consider response time, which cannot account for these findings.
When are sacrificial harms morally appropriate? Traditionally, research within moral psychology has investigated this issue by asking participants to render moral judgments on batteries of single-shot, sacrificial dilemmas. Each of these dilemmas has its own set of targets and describes a situation independent from those described in the other dilemmas. Every decision that participants are asked to make thus takes place within its own, separate moral universe. As a result, people’s moral judgments can only be influenced by what happens within that specific dilemma situation. This research methodology ignores that moral judgments are interdependent and that people might try to balance multiple moral concerns across multiple decisions. In the present series of studies we present participants with iterative versions of sacrificial dilemmas that involve the same set of targets across multiple iterations. Using this novel approach, and across five preregistered studies (total n = 1890), we provide clear evidence that a) responding to dilemmas in a sequential, iterative manner impacts the type of moral judgments that participants favor and b) that participants’ moral judgments are not only motivated by the desire to refrain from harming others (usually labelled as deontological judgment), or a desire to minimize harms (utilitarian judgment), but also by a desire to spread out harm across all possible targets.
Humans have the ability to craft abstract, temporally extended and hierarchically organized plans. For instance, when considering how to make a pasta dish for dinner, we typically concern ourselves with useful ‘subgoals’ in the task, such as cutting onions, boiling pasta, and cooking a sauce, rather than particulars such as how many cuts to make to the onion, or exactly which muscles to contract. A core question is how such decomposition of a more abstract task into logical subtasks happens in the first place. Previous research has shown how neural responses and reaction times can become sensitive to a hierarchical structure in the environment after mere exposure. It remains to be seen how such a learned structure can be put toward goal-directed behavior. To investigate this, we developed a novel goal-directed navigation task in a hierarchical environment. Goal locations vary throughout the environment, so participants had to learn the structure of the environment. Participants had agency over the general direction they would move in, but the actual progression through the environment was still partially random. Participants were never given an overview of the environment, so they had to learn through observation and plan their moves using an internal model. Using Bayesian model comparison, we found that participants are sensitive to the hierarchical organization of the environment and that the Successor Representation can explain their behavior better than perfect model-based agents or explicitly hierarchically structured internal models.
P3.53 – Mind your step: Social cerebellum in interactive navigation

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Keywords: social sequence learning; social interaction; expectation violation

BACKGROUND AND AIM: The cerebellum contributes to dynamic social cognition by building representations and predictions about sequences in which social interactions typically take place. However, the extent to which violations of prior social expectations during human interaction activate the cerebellum remains largely unknown. The present study examined inconsistent actions, which violate the expectations of desired goal outcomes, by using a social navigation paradigm. METHODS: Participants (n = 25) were required to observe and memorize the movements in a trajectory of an agent through a grid, picking up a gift in the middle of the trajectory and walking toward the recipient who either liked this gift (consistent) or not (inconsistent). As a non-social control condition, using the same grid structure and trajectory, a pen was transported on an assembly line to be filled with ink and covered with a pen cap that had the same (consistent) or another (inconsistent) color. As a social non-sequencing control condition, participants had only to observe the trajectory. RESULTS: Results revealed that expectation violations in social (vs. non-social) sequencing were associated with activation in the posterior cerebellum (Crus 1/2), together with other key cortical mentalizing regions. In contrast, non-social (vs. social) sequencing recruited cerebellar lobules IV-V and key cortical regions of the action observation network and the navigation-related parahippocampal gyrus. CONCLUSIONS: The findings provide further evidence of posterior cerebellar involvement in signaling inconsistencies in human social mentalizing during goal-directed navigation, which take precedence over its function of merely representing the sequences in social navigation.
The well-established paradigm of delay discounting, in which participants are asked to make a choice between an immediate but smaller reward and a larger reward with delay, suggested that as the delay increases the subjective value of rewards decreases. While many studies showed that people high in anxiety are more prone to choose small immediate reward over large delayed reward, precise psychological mechanisms underlying such impulsivity remain poorly understood. One notable feature of anxiety disorder is the intolerance of uncertainty; people with anxiety disorder often find uncertain situations particularly unbearable, thereby making less optimal decisions in the face of uncertainty. Accordingly, in the present study we investigated if higher trait anxiety level predicts larger uncertainty perceived from delay, which then motivates them to choose more immediate rewards. To test this idea, a delay discounting task was combined with a questionnaire in which participants were asked how certain they were that they would receive the larger rewards with the specific delays. Delay discounting and certainty discounting curves were generated for each participant from the data of delay discounting task and the certainty discounting questionnaire. Correlation analysis was performed on the steepness of those curves and the anxiety scores to examine if there is a positive relationship between steepness and anxiety scores.
P3.55 – Motivation and empathic accuracy during conflict interactions in couples: It’s complicated!

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Keywords: empathic accuracy, motivation, dyadic interaction paradigm

The aim of this study was to broadly investigate the role of relationship-, self-, and partner-serving motivation in empathic accuracy in couples’ conflict interactions. To this end, a laboratory study was set up in which couples (\(n = 172\)) participated in a conflict interaction task, followed immediately by a video-review task during which they reported their own feelings and thoughts and inferred those of their partner to assess empathic accuracy. We used both trait and state measures of relationship-, self-, and partner-serving motivation, and we experimentally induced these three categories of motivation. Relationship-serving state motivation predicted greater empathic accuracy. In contrast, experimentally induced partner-serving motivation resulted in less empathic accuracy in men. Self-serving motivation was not found to be associated with empathic accuracy, nor were any of the trait measures. These findings underscore the complexity of the association between motivation and empathic accuracy in partners’ conflict interactions.
In times of societal crisis, citizens often want something to hold on to and seek refuge in strong leadership. As such, a wide body of literature has linked perceived threat levels to the emergence of more authoritarian attitudes and behaviors. Two studies were conducted to investigate whether this phenomenon translates to (1) shifting legitimacy perceptions of democratic vs non-democratic forms of governance, and (2) shifting attitudes towards distinct aspects of decision- and policy-making. In Study 1 (Flemish citizens, N=255), a within-subjects design contrasted a baseline (neutral scenario) with various types of threat scenarios (war, pandemic, terrorism). For each scenario, participants were asked to indicate the extent to which they endorsed various democratic (direct or deliberative) or non-democratic forms of government (rule by experts or a dictator) in these situations. Analyses revealed a clear decrease in support for all democratic governance types in the threat scenarios, and an increase in support for all non-democratic types. To further solidify and expand upon this finding, Study 2 (UK citizens, N=238) used a mixed design in which (a) threat level was manipulated between-subjects (no, modest & high), (b) origin of the threat (internal or external) was manipulated within-subjects, and (c) extra dependents were added to assess attitudes towards process- or output-oriented decision-making. In addition to replicating findings of Study 1, we found that citizens value process-oriented aspects less, and output-oriented aspects more during times of crisis.
P3.57 – Study of the representations of family ties (filiation), extra-family ties (affiliation) and ties with their babies among ten mothers hospitalized in a parent-baby unit

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Keywords: early relationship disorders-filiaitive bonds-affiliative bonds

The first part of the research aims to show the fundamental aspect of the group, of psychic groupings and of the filial process in the interactive stakes parent-baby. We are studying how the literature on mother-baby interactions and baby suffering can only partially shed light on early relational disorders. This led us to analyse the weaving of the filiative and affiliated bonds in ten women hospitalized in the mother-baby/parents-baby unit, with their babies aged from two to eight months from interviews and genograms. While some women manifest “nourishing needs” alienating them to their original family group and preventing them from entering into a filial relationship with society, others assume a fundamental dependence on the group. The latter activates the work of creating a support matrix by trying to expand their affiliated network while also demonstrating stumbling blocks in establishing a psychic filiation for her and their baby. Secondly, based on direct mother-baby observations, we find that babies of mothers who are highly “nourishing” dependent show more signs of suffering than others. Finally, while this research helps to confirm the need to treat the vitality of these suffering babies, it demonstrates the need for specific support for these women, if possible with their families, centred on group re-affiliation. While some women manifest “nourishing needs” alienating them to their original family group and preventing them from entering into a filial relationship with society, others assume a fundamental dependence on the group. The latter activate the work of creating a support matrix by trying to expand their affiliated network while also demonstrating stumbling blocks in establishing a psychic filiation for her and their baby. Secondly, based on direct mother-baby observations, we find that babies of mothers who are highly “nourishing” dependent show more signs of suffering than others. Finally, while this research helps to confirm the need to treat the vitality of these suffering babies, it demonstrates the need for specific support for these women, if possible with their families, centered on a group re-affiliation.
P3.58 – Minority stress and dyadic stress in same-sex couples: The role of dyadic coping and relationship duration

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Keywords: internalized homonegativity, dyadic stress, dyadic coping, relationship duration, relationship satisfaction

Introduction: Lesbian, gay, and bisexual (LGB) people face minority stressors related to their sexual orientation as well as dyadic stress associated with their romantic relationship. Both potentially impact relationship satisfaction. However, researchers have paid relatively limited attention to stress and relationship satisfaction from a dyadic perspective among same-sex couples. Aims: In this study we examined actor and partner effects of internalized homonegativity and dyadic stress on relationship satisfaction, and explored the moderating roles of dyadic coping and relationship duration in the aforementioned associations. Methods: The actor-partner interdependence moderation model (APIMoM) was introduced to deal with mutual influences between both partners in 241 same-sex romantic relationships. Results: Our study showed that 1) internalized homonegativity, dyadic stress, and dyadic coping exerted an actor effect on relationship satisfaction; 2) dyadic stress exerted a partner effect on relationship satisfaction, but only for those with a shorter relationship duration (i.e. ≤ 36 months); 3) dyadic coping buffers the actor effect of dyadic stress on relationship satisfaction but only for those in the group with a longer relationship duration (i.e. > 36 months). Conclusion: These findings highlight the importance of a dyadic approach to further understand the impact of stress on relationship satisfaction. We reflect on how couple-oriented coping interventions could improve relationship well-being in same-sex couples.
Awards
Best Master Thesis Award 2022

2022 nominees for the Best Master thesis award (in alphabetical order):

- **Pauline Billaux** (Université Catholique de Louvain – in English): *How do you really feel – now? An investigation of the validity of the heartbeat counting task in binge drinking and severe alcohol use disorder*

- **Elodie Kox** (Université Libre de Bruxelles – in French): *A neuroscientific approach to prison experience: Influence of detention on the sense of agency and empathy for pain among inmates*

- **Hélène Van Marcke** (Universiteit Gent – in English): *The development of shared syntactic representations in bilinguals: Influence of second language proficiency in comprehension?*

The winner will be announced at the closing session of the 2022 BAPS meeting in Leuven