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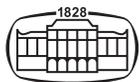
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PLENARY LECTURES

PL-1

Account-based behavioural tracking and problem gambling: Identification, evaluation, and innovation

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Social responsibility, responsible gambling, player protection, and harm minimization in gambling have become major issues for both researchers in the gambling studies field and the gambling industry. This has been coupled with the rise of behavioural tracking technologies that allow companies to track every behavioural decision and action made by gamblers on online gambling sites, slot machines, and/or any type of gambling that utilizes player cards. This paper summarizes the results of over 40 of our studies (2013-2024) using account-based tracking data to (i) identify problem gambling online, (ii) evaluate responsible gambling tools (such as limit setting, loss-limit reminders, pop-up messaging, and personalized feedback), and (iii) conduct innovative research. Although account-based tracking data studies have their limitations, such studies have provided many new insights in the gambling studies field.

Keywords: gambling, account-based behavioural tracking

PL-2

Theories of behavioral addictions: Psychological and neurobiological mechanisms

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Background: Recent (neuroscientific) theories of behavioral addictions integrate those from the field of substance-use-disorder research, such as the Impaired Response Inhibition and Salience Attribution (I-RISA) model (Goldstein & Volkow, 2011), Reward Deficiency Syndrome model (Blum et al., 2012), Incentive-Sensitization (Berridge, & Robinson, 2016), and dual-process theories (Everitt & Robbins, 2016), which include hypotheses of an imbalance between goal-directed and seemingly habitual behaviors (Robbins & Costa, 2017) as well as implicit cognitions (Wiers & Stacy, 2006). One current integrative theoretical approach is the I-PACE (Interaction of Person-Affect-Cognition-Execution) model of addictive behaviors (Brand et al., 2019). *Method:* A narrative review will be presented that examines

the core concepts of these theories. The presentation will also give some insights into the development of the I-PACE model. *Results*: Affective processes, i.e., cue reactivity and craving, together with cognitive mechanisms, i.e., diminished inhibitory control, disadvantageous decision-making, and implicit cognitive biases are core concepts of theories of addictive behaviors. Empirical studies suggest evidence for the involvement of these processes in behavioral addictions, including gaming disorder, buying-shopping disorder, pornography-use disorder, and social-network-use disorder. *Conclusions*: Theories (or aspects thereof) explaining substance-use disorders may also be valid for behavioral addictions (Brand, 2022). Studies on divergent validity, particularly with respect to habitual behaviors related to obsessive-compulsive-related disorders, are widely missing. Impulsivity and compulsivity may be considered transdiagnostic features. Future studies may investigate interactions between psychological and neurobiological mechanisms in order to discover processes involved in the transition from early to later stages or from mild to more severe addictive behaviors.

Keywords: affective mechanisms, cognitive processes, theoretical approaches

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PL-3**Applications of artificial intelligence in addiction research: Techniques and implementation examples***EMMANUEL KUNTSCHE*

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The talk provides a brief overview of artificial intelligence (making machines process information like the human brain), machine learning (making computers to learn without being programmed for a specific task), and deep learning (consisting of interconnected convolutional layers in a neural network that mimics the human brain) and how these techniques have been used in addiction research. A literature overview revealed hundreds of studies published after 2010 including 16 reviews. These reviews demonstrated that, in the treatment of substance use disorder, machine learning was often used to facilitate diagnosis (e.g., by classifying patients based on their history or symptom severity) and prognosis by predicting treatment outcomes (e.g., smoking relapse). Reducing burden on humans, machine learning has also been used to select, distil, and analyse large amounts of complex data for clinicians and as an analytic tool for researchers. In a case study, I provide details about how deep learning can be used to identify alcohol exposure in the media, i.e., in song lyrics and from online images. Subsequently, I outline the potential benefits of using zero-shot learning that requires no further training or annotated data, less computer science expertise, and less computational resources than developing and fine-tuning a dedicated supervised deep learning algorithm. Zero-shot learning can be flexibly applied (without the need for labelled data) to different problems and identify the contextual or additional information but is often less accurate in distinguishing between relatively similar objects. Taken together, this talk illustrates the different ways machine learning has been used in addiction research and the enormous potential it has to provide answers at a scale impossible thus far.

Keywords: artificial intelligence, addiction research, machine learning

PL-4**Gambling Disorder in the UK: Where next?***HENRIETTA BOWDEN-JONES*

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The UK Government published a White Paper in April 2023 outlining its plans to radically overhaul the way gambling harms will be addressed in the future by the country. This was the first move towards a less industry friendly narrative since the implementation in 2007 of the 2005 Gambling Act which led to a deregulation of gambling allowing its proliferation on

high streets and in advertising. The plans included a Levy on the gambling industry of about 1% and predicted to create about £60 million towards the treatment of gambling disorders, £20 million towards independent research and £30 million to prevention initiatives. The focus of the paper was a full separation from any industry influence on the country's approach to fighting gambling harms. Weeks before the final publication and implementation of the plans, the Prime Minister called an election. The Conservative party under which the plans were created is unlikely at present to remain in power after the 4th July. This talk will outline the last twenty years of British history in relation to Gambling Harms and will bring the latest updates on the election. In my role as national Advisor on Gambling Harms I will attempt to outline the next steps.

Keywords: gambling disorder

PL-5

Beyond borders: Recent advancements in compulsive sexual behaviors research

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Research into compulsive sexual behaviors (CSBs) has proliferated in the past two decades, reaching a pivotal milestone with the introduction of a novel diagnosis of Compulsive Sexual Behavior Disorder in the 11th edition of the International Classification of Diseases. However, most prior work in the field was characterized by simplistic methodological designs and often lacked quality measurements and theoretical integration (Grubbs et al., 2020). Typically, these previous studies relied on homogenous, relatively small samples (e.g., men or university students) from WEIRD (Western, Educated, Industrialized, Rich, and Democratic) countries, resulting in substantial knowledge gaps concerning culturally-, sexually-, and gender-diverse individuals (Bóthe et al., 2021). The overarching objective of this keynote presentation is to offer recent insights into CSBs from a cross-cultural angle, considering gender- and sexual-orientation-related perspectives. The discussion will delve into findings from recent state-of-the-art large-scale, cross-cultural, longitudinal, and artificial intelligence-based studies, placing emphasis on assessment-related issues, risk and protective factors, and potential outcomes of CSBs (Bóthe et al., 2023; Bóthe et al., 2024; Bóthe et al., in press). This presentation aims to offer key insights for enhancing the theoretical understanding of CSBs and identifying potential targets for prevention and intervention programs in a culturally-informed manner. A specific focus will be given to populations that are underserved and underrepresented in CSBs research and care, promoting a more inclusive perspective on CSBs.

Keywords: compulsive sexual behavior; cross-cultural; gender; problematic pornography use; sexual orientation

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PL-6

Gambling disorder and treatment outcome

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This presentation delves into the multifaceted nature of treatment responses in gambling disorder (GD). A thorough examination of cognitive behavioral therapy (CBT) across various studies is conducted, assessing its effectiveness, and considering factors like cognitive flexibility, impulsivity compulsivity, ADHD symptoms, suicidal behavior, and delay discounting, among others. The research also investigates the influence of gambling preferences, sports betting habits, and gender on treatment outcomes. These studies collectively reveal a complex interplay between sociodemographic, clinical, personality, and psychopathological factors, underscoring the importance of tailored treatment approaches. The aim is to enhance the understanding of GD and refine therapy strategies, considering the heterogeneity of GD patients, the role of the ventral striatum in reward processing, and the impact of personal and social factors on recovery trajectories.

Keywords: gambling disorder, cognitive-behavioral therapy

PL-7

What have we learned about the trends in behavioral addictions of the 'new era' among GEN Z adolescents in Europe? Changes, transformations, and links with other risky behaviors

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Through the ESPAD project (European School Survey Project on Alcohol and Other Drugs), a transnational study that has been collecting data on the use of alcohol, tobacco, drugs, behavioral addictions and risky behaviours among European students in over 40 countries since 1995, we explore how today's teenagers are increasingly 'fragile superheroes': seemingly strong and invincible on the surface, but hiding insecurities, weaknesses and vulnerabilities that often prevent them from effectively managing their natural inclination towards experimentation .

GenZ's path to adulthood is a digital world of easily accessible pixels and information, social relationships and experiences to consume. This is where old and new 'addictive behaviours' continue to evolve. In this context, where everything is amplified and easily overexposed, making it almost impossible to hide, consumption and behavioural patterns can become a psychosocial experience, a kind of roller coaster without seatbelts.

The complexity of 'addictive behaviours' requires a systemic understanding of how and why it provides both gratification and risk in the pursuit of pleasure. The aim is to go beyond moralising and scaremongering, seeking to deepen knowledge without judging.

In addition to a systemic view, we need to adapt our monitoring tools towards a new approach to understanding and dealing with a fluid and polymorphic world, which often appears to the younger generation as an alluring but risky attraction.

Keywords: behavioral addictions, adolescents, ESPAD project

SYMPOSIA AND PARALLEL SESSIONS

S-1A1

Oh Canada! Demographic and clinical characteristics of sports bettors in a national stratified sample

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Objective: Sports betting accounts for the greatest proportion of online gambling behavior globally and has been linked to various harms. Few studies have examined the average sports bettor profile using stratified samples of adults who gamble regularly. The current study builds upon existing research on the demographic variables of sports bettors and provides an in-depth examination of the clinical and gambling-related factors associated with sports betting. *Method:* Participants (N = 10,039; 53.6% female) consisted of a stratified sample of Canadian adults who endorsed participating in gambling at least once per month in the past year. Participants completed standardized measures assessing demographics, gambling behavior, problem gambling severity, gambling-related harms, gambling motives, and psychological characteristics (e.g., substance use, mental health). *Results:* 1,816 participants (18.1%) reported engaging in sports betting in the past year. Sports bettors tended to be younger, male, and employed full-time compared to non-sports bettors. Sports bettors endorsed different patterns of clinical comorbidities and greater substance use. Sports betting was also associated with unique gambling motives and greater time and money spent on gambling. Amongst participants who endorsed problem gambling, sports betting was associated with greater impulsivity and likelihood of using illicit substances while gambling. *Conclusion:* The results highlight the characteristics of individuals who bet on sports, as well as the characteristics of sports bettors with problem gambling which may help to inform the development of targeted prevention and intervention efforts to mitigate the potential harms of sports betting.

S-1A2

**Sports Wagering in the United States over time:
A growth curve analysis***JOSHUA GRUBBS¹, SHANE KRAUS²*

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Background: In the United States, Gambling is now more accessible than ever before. Even so, few longitudinal studies have tested how widespread increases in access to sports wagering might lead to long-term changes in gambling behaviors, gambling harms, and other concerning outcomes. The present work sought to address this gap by examining trajectories in sports wagering behaviors, gambling disorder symptoms, and substance use behaviors over time. *Method:* In March of 2022, a sample of the U.S. population (n=2806, Mage[SD]=48.9[17.2]; 1365[48.6%] men; response rate=87.6%) and an oversample of sports-wagering adults in the U.S. (n=1557, Mage[SD]=41.7[15.3]; 1043[67%] men; response rate=78.7%) were recruited via YouGov Opinion Polling. These participants were followed at six-month intervals for 24 months (Baseline: March of 2022; Follow-ups: September of 2022, March of 2023, September of 2023, and March of 2024). *Results:* Growth curve analyses revealed general trends toward reductions in problem gambling symptoms over time. However, sports gamblers demonstrated more persistence in these symptoms, greater variety of gambling behaviors over time, and greater frequency of gambling over time. Similarly, sports-wagering was longitudinally linked to greater alcohol consumption, and greater reported problems with alcohol. *Discussion:* Sports wagering appears to be heavily correlated with a range of other risk-taking behaviors and seems to appeal to at-risk gamblers in particular. The appeal of this form of gambling to more risky gamblers may be related to increases in problem gambling outcomes in the U.S.

S-1A3

Bet type matters: Specific sports wagering behaviors are associated with problem gambling outcomes

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Background: Technological advancements and legislative changes in America have radically changed the gambling landscape, leading to increased online sports wagering. While the literature surrounding American sports gambling is increasing, little research has looked at the differences in bet types in sports gambling. Recent work related to this topic has delineated six different bet types common to U.S. sports wagering (i.e., Moneylines, Spreads, Totals, Parlays, Player Props, and Prop Bets). With the increased prevalence of sports betting in the U.S., it has become necessary to explore how different bet types are associated with problem gambling severity. *Method:* A subset of participants (n = 561) from a much larger sample (N = 4363) consisting of a census-matched sample of Americans were assessed with regards to specific sports-gambling behaviors. Participants also completed measures assessing gambling frequency, depth and breadth of gambling play, symptoms of problem gambling/Gambling Disorder, and self-reported engagement in responsible gambling practices.

Results: The majority (72.7%) of participants endorsed betting moneylines, and over half (54.2%) endorsing betting spreads, totals, and parlays, while player props and prop bets were more niche (28%; 27.1%). Moneylines were associated with more positive play behaviors, while parlays were associated with generally less responsible play. *Conclusion:* Certain sports wagering behaviors (i.e., in-play betting and parlays) are associated with higher levels of problem gambling behaviors and should be monitored and potentially targeted for future intervention. In particular, parlays are a popular form of betting wager that are inherently more risky than some of the safer wagers such as moneylines.

S-1A4

Sports betting in a clinical population: Psychopathological, personality and treatment aspects

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Aims: The current study explores psychological, personality and treatment outcome associated with sports betting gambling preference. *Methods:* A sample of a clinical Spanish sports bettors undergoing treatment for gambling disorder was recruited. Multiple regression models were used to evaluate the effects of sociodemographic variables, the age of onset of gambling behavior, the global psychopathological distress (SCL-90R GSI) and the personality profile (TCI-R) on sports betting severity and their influence over frequency and debts due to gambling. Cognitive-behavioral group treatment was also analyzed by logistic regression, also adjusting for gender and age. Additionally, survival analyses estimated and compared cumulative functions for rates to dropout and relapse. *Results:* We found that several clinical variables such as psychopathological distress and specific personality traits were predictors of gambling severity in sports bettors. Regarding treatment outcomes, dropout and relapse rates were associated with certain clinical variables and with sports betting. *Conclusions:* Our findings call for further exploration of factors affecting sports betting as a separate gambling entity subtype, as some of the factors found in gamblers do not apply to sports bettors or apply inversely. Consequently, sports bettors might deserve specific clinical approaches to tackle the singularities of their gambling behavior.

S-1B1**A new comprehensive empirically based measurement tool to assess gambling motives**

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Background: The motivational background of different addictive behaviours has been proven to be one of the most important predictive factors of problem severity. In relation to gambling, the 15-item Gambling Motives Questionnaire (GMQ) was developed by Stewart and Zack (2008) based on the Drinking Motives Questionnaire. Though further investigations of this original theory-based model raised the necessity to extend the model, no consensus was reached. The current study aimed to approach this problem with an empirically based methodology to ensure that the most comprehensive model would be established. *Methods:* An initial pool of 88 items of gambling motives was generated based on theoretical assumptions and suggestions of gamblers, researchers and treatment providers. These items were administered to 1439 individuals who reported gambling in the past 12 months (46.91% women, 53.02% men, and 0.07% transgender; aged between 19 and 76 years; mean age: 41.9 years (SD=12.28)). *Results:* Applying exploratory and confirmatory factor analyses, a five-factor, 51-item solution and 26-item short version were identified with the following factors: financial, enhancement, social, coping-escapism, and chance. Financial and coping-escapism motives proved to be significant predictors of problem gambling severity, while all the motives but chance predicted past-month gambling frequency. *Conclusions:* The examination of the content of the five factors shows that the current model revealed several new aspects of the motivational background of gambling.

Keywords: gambling, motives, assessment, factor analysis, predicting severity

Reference

1. Stewart, S. H., & Zack, M. (2008). Development and psychometric evaluation of a three-dimensional Gambling Motives Questionnaire. *Addiction*, 103(7), 1110–1117. <https://doi.org/10.1111/j.1360-0443.2008.02235.x>

S-1B2**Risk of Problematic Gaming among European adolescents:
An international assessment of individual and socioeconomic factors**

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Background: Previous research has identified numerous risk and protective factors of adolescent problematic gaming (PG) at the individual and social levels; however, the influence of socio-economic indicators on PG is less known. This study aimed to measure the contribution of individual and socio-economic factors involved in PG risk among European adolescents.

Methods: Data on a representative cohort of students aged 16 from 30 countries (n=88998 students; males=49.2%) were drawn from the 2019 European School Survey Project on Alcohol and Other Drugs (ESPAD), a cross-sectional survey using self-administered anonymous questionnaires. Multi-level logistic regression analysis was used to estimate adolescents' (low and high) risk of PG. Individual predictors included socio-demographic characteristics, time spent gaming, parental regulation, monitoring and family support. Country-level predictors comprised country socio-economic inequalities and benefits for families and children (% gross domestic product), retrieved from international public datasets. *Results:* Participants who reported stronger parental regulation [odds ratio (OR)=0.81, 95% confidence interval (CI)=0.79–0.83] and higher family support (OR=0.93, 95% CI=0.91–0.95) reported lower risk of PG. At the country-level, economic inequalities (OR=1.05, 95% CI=1.03–1.07) were positively associated with the risk of PG, while benefits for families and children (OR=0.78, 95% CI=0.70–0.89) were negatively correlated with the risk of PG. *Conclusion:* Supportive family environments, lower country-level economic inequalities and higher government expenditures on benefits for families and children appear to be associated with a lower risk of problematic gaming among European adolescents.

Keywords: Problematic Gaming; inequalities, adolescent

S-1B3**Beyond borders: Understanding adolescent risk behaviors in North Africa and Europe**

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Background: In recent years, there has been a significant surge in research on adolescent risk behaviors like gambling, gaming, and social media use. These have been fueled by the rapid increase in Internet usage, especially notable in Africa. However, there is a research gap on African countries. For the first time, the MedSPAD survey offers unique and representative data on these behaviors among North African adolescents, comparable with European peers. *Methods:* With the Council of Europe's support, MedSPAD, a cross-national nationally representative and comparable survey on adolescent risk behaviours was conducted in Egypt, Morocco and Tunisia in 2021. Inspired by ESPAD, this survey provides information about gambling, gaming and social media use on 40,738 students. The results presented are based on 8,046 16-years-old students. *Results:* Despite gambling being forbidden to citizens, 16.6% of North African students reported past-year gambling, against one fifth in Europe. Gambling offline and card/dice games were the most common. Based on the SOGS-RA, 2.2% were at-risk and 3.4% problem gamblers. Both prevalence and intensity of social media use was lower than in Europe. However, students perceiving high-risk use was higher (55.3% vs 48.3%). Similarly to Europe, 42.7% used videogames during the week and almost all of them perceive their use as at-risk. *Conclusions:* MedSPAD provided highly needed data telling us that, despite the different socio-cultural context, these behaviours are widespread also among North African adolescents. Relevant differences emerge compared to Europe, providing the necessary evidence for professionals to adapt and tailor prevention efforts.

Keywords: gambling, gaming, social media, adolescents, North Africa

S-1B4

**Problem gambling among European adolescents:
individual, environmental factors and regional differences**

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Background: Despite the high prevalence of youth gambling, empirical research is limited in many countries, and variations in assessment instruments has hindered a comprehensive understanding across Europe. This is the first study examining the influence of individual, relational, and environmental factors on adolescent gambling and problem gambling in Europe, exploring geographical differences. *Methods:* The study employs a probit model with sample selection correction, using 2019 ESPAD survey data from 33 countries (n=85,420). It examines the influence of individual, relational, and environmental factors on adolescent gambling and problem gambling, exploring geographical differences. *Results:* The profile of an adolescent gambler, is that of a male who feels supported by friends but not by family, frequently misses school, perceives his family as well-off, feels rarely monitored in his free time, consistently receives money, and resides in a country where slot machine gambling is popular among peers. The profile of a problem gambler, regardless of gender, is that of a young adolescent who lacks support from friends, has irregular school attendance, has parents with lower education levels, and either feels consistently monitored and financed or not at all. The study also reveals noteworthy regional differences. *Conclusions:* Environmental and contextual factors play a more significant role in influencing the initiation of gambling, while the development of problematic gambling behavior is predominantly influenced by individual characteristics and the immediate social setting (family and peers). The findings suggest that both unconditioned trust and excessive control can contribute to the likelihood of progressing into problematic gambling behavior.

Keywords: problem gambling, adolescents, types of game, ESPAD survey, Europe

S-1C1

**Impulsivity and online sports betting behaviour:
Untangling the causal relationship (ISPO study)**

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Background: The rapid expansion of online sports betting has raised concerns about its potential impact on public health. In order to develop effective prevention and intervention strategies for gambling disorder (GD) in online gambling, it is essential to unravel the underlying causal processes. Recent studies have identified risky online gambling behaviour as an early indicator of GD. The ISPO study focuses on impulsivity as a well-documented risk factor for GD and investigates whether heightened impulsivity leads to risky online gambling behaviour and subsequently contributes to GD.

Methods: In this study impulsivity, risky gambling behaviour, and GD symptoms will be assessed at three-month intervals using a longitudinal cross-lagged panel design. A sample of n=370 regular sports bettors will be recruited from the online gambling provider Tipico. Impulsivity and GD will be assessed using a combination of online experimental tasks and questionnaires. As a measure of risky gambling behaviour, Tipico will provide player tracking data for the included participants. Random intercept cross-lagged panel models (RI-CLPM) will be used to test the evidence for our hypotheses.

Expected results: Our hypothesis that increased impulsivity causes risky gambling behaviour that in turn leads to GD. *Conclusion:* The findings are expected to improve our understanding of the causal pathways leading to problematic gambling behaviour and GD as well as inform the development of early prevention strategies to identify and mitigate impulsivity in its early stages.

S-1C2

A trans-addiction craving scale: The Craving Assessment Scale for Behavioral Addictions and Substance Use Disorders (CASBAS)

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Background: Craving is a central feature of substance use disorders and behavioral addictions. It has been demonstrated to be associated with diminished control over behavioral engagement, treatment outcomes, relapses, and neurobiological alterations. Theoretical models assume that features of craving are similar across addictive behaviors. Up to now there are various measures for craving that were specifically designed for one addictive behavior. We aimed to create an assessment scale that assesses the features of craving across different addictive behaviors. *Method:* Within an online survey (N=2,073) the Craving Assessment Scale for Behavioral Addictions and Substance Use Disorders (CASBAS) modified for gambling, gaming, pornography use, online buying/shopping, social network sites use, as well as for alcohol, cannabis, nicotine, and caffeine use was administered. In addition, the survey included measures of symptom severity of the addictive behaviors, other craving questionnaires for the specific behaviors, and questionnaires assessing related constructs including impulsivity and compulsivity. Factor analyses and correlational analyses were applied. *Results:* Results of the exploratory factor analysis revealed three factors of the CASBAS: obsessive, reward/relief, and physiological craving. Across all behaviors, these facets were associated with symptom severity as well as impulsivity and compulsivity. Differences between addictive behaviors could be identified with regard to correlations of craving facets and symptom severity measures. *Conclusion:* Three core features of craving could be identified across nine addictive behaviors. The relevance of specific craving features might differ in the development and maintenance of addictive behaviors across addictions. Implications can be drawn for treatment and strategies for craving reduction.

S-1C3

The association between emotion regulation indices and sensitivity to experimentally induced compulsivity and craving states

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Background: Addiction models highlight the impact of craving in driving compulsive behaviors. Craving states, which are inherently emotional, can be modulated by both incidental and intentional emotion regulation mechanisms. The former operate pre-consciously, while the latter operate during conscious craving stages. *Method:* Craving is experimentally induced here through an audio-guided protocol. We aim to involve 70 intensive gamblers and 70 intensive video gamers, all showing signs of risky gambling/gaming below the clinical cutoff. State compulsivity and craving levels are evaluated pre- and post-induction. Baseline assessments include emotional impulsivity (urgency scales), emotion regulation strategies (ERQ), severity measures, behavioral patterns, and sociodemographic data. Post-induction, participants' declarative reasons for craving increase, if any, are also recorded. *Expected Results:* Building on previous research, we propose the following hypotheses: (a) Measures of craving and state compulsivity will largely overlap with each other. (b) Gamblers will experience stronger induced craving and state compulsivity than video gamers. (c) Induction sensitivity will be higher among participants with higher emotional impulsivity, regardless of group. (d) Intentional emotion regulation strategies are not expected to have a significant impact on craving induction sensitivity. Additionally, (e) the hypotheses regarding the reasons behind the increase in craving remain open. *Conclusions:* Confirming these hypotheses would underscore craving's role in compulsive behaviors and clarify the distinct impacts of incidental and intentional emotion regulation on craving management. Furthermore, the study aims to differentiate the roles of state compulsivity and craving in problematic behaviors across the gaming and gambling domains.

S-1C4

Patterns of compulsivity across behavioural addictions

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Background: The core feature of a behavioural addiction is continued engagement in the behaviour (e.g., gambling, gaming, or a range of other potentially problematic behaviours) despite negative consequences. Loss of control, in which urges to engage in the behaviour cannot be resisted, is central to the symptomatology. Theory suggests that in the early stages of a behavioural addiction this loss of control is primarily related to impulsivity (acting without thinking through the consequences), while in later stages compulsivity (a drive towards repetitive, habitual acts) becomes relatively more important. *Method:* We will present a narrative review of the current literature, assessing how compulsivity is associated with behavioural addictions. *Results:* Compulsivity is a multifaceted construct that can be measured using either self-report questionnaires, which can assess traits such as rigidity or perfectionism, or cognitive tasks, which can assess ability to flexibly adapt behaviour or shift attention. Different measures give information about distinct facets of compulsivity and can be seen as complementary: thus, inclusion of both self-report and cognitive measures can be valuable. *Conclusions:* We will discuss the extent to which studies of compulsivity highlight similarities and differences between specific behavioural addictions, as well as between behavioural addictions and other impulsive-compulsive spectrum disorders.

S-1C5

**Ambulatory assessment in the context of behavioral addictions:
A systematic review**

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Background: Theories and empirical evidence indicate that behavioral addictions arise from complex interactions between predisposing factors and psychological mechanisms (e.g. craving). These relationships have been predominantly assessed with questionnaires and in laboratory settings with reduced ecological validity. Based on an increasing number of studies investigating the underlying psychological mechanisms of behavioral addictions in the natural environment, we have systematically reviewed the literature regarding empirical findings and methodological aspects in the context of studies using ambulatory assessments in behavioral addiction research. *Method:* A preregistered systematic review of the existing literature contained in PubMed and Web of Science was conducted. Studies were evaluated according to predefined inclusion and exclusion criteria. Data on methodological approaches and empirical results were extracted. *Results:* Overall, 33 studies met the inclusion criteria. Most of them focused on gambling (n=13), social-network-site use (n=6), smartphone use (n=5), and buying/shopping (n=5). In all included studies, characteristics of behavioral enactment were recorded during the ambulatory assessment phase. Craving was the most frequently investigated underlying psychological mechanism, followed by measures of mood and affect. *Conclusions:* Especially in the context of gaming disorder and pornography use disorder very little research has been conducted in natural environments. Ambulatory assessment studies are needed to transfer evidence from the laboratory settings into more ecologically valid natural settings. Craving and affect appear to be of particular interest in this research field which corresponds to their central role within theoretical models such as the I-PACE Model.

S-1D1**Cue-reactivity to distal cues in gaming disorder and other types of Internet-use disorders**

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Background: Cue-reactivity and craving are relevant mechanisms in the development and maintenance of addictive behaviors. Cue-reactivity responses may generalize to more distal cues, e.g. when individuals at risk of developing a Gaming disorder (rGD) are confronted with a starting page of an online game. In cue-reactivity paradigms so far, only proximal gaming cues have been used. *Method:* We investigated the effect of distal gaming cues compared to gaming-unrelated control cues on cue-reactivity and craving in individuals with non-problematic use of online games (nPGU) and rGD. The distal cues showed the use of an electronic device (e.g., desktop PC or smartphone) whose screen showed starting pages of either games (target cues), shopping- or pornography sites (control cues) from a first-person perspective. *Results:* We found significantly higher urge and arousal ratings as well as longer viewing times for gaming-related compared to gaming-unrelated control cues in rGD compared to nPGU. Valence ratings did not differ between groups. Our results demonstrate that already distal gaming-specific cues lead to cue-reactivity and craving in rGD. Furthermore, preliminary data from other specific internet use disorders (N=675) indicate that across different types of use, pathological users showed highest craving responses towards distal behavior-related cues compared to control cues. *Conclusion:* This finding indicates that based on conditioning processes, cue-reactivity and craving develop during the course of GD and generalize to cues that are only moderately related to the specific gaming activity. Our data suggest that this process is similar across different kinds of internet use disorders.

S-1D2**Cognitive functions in specific Internet-use disorders:
Evidence across different types of use and gender-related differences***SILKE M. MÜLLER, MATTHIAS BRAND*

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Background: Addictive behaviors are associated with cognitive control deficits as indicated by lower performance in measures of decision making and executive functions. Studies on specific Internet-use disorders (IUDs) report mixed results regarding cognitive processes. This study aimed to investigate cognitive functions across different types of IUDs, namely pathological use of gaming, buying-shopping, pornography, and social networks. *Methods:* We used preliminary data (N=822) from a multi-center study (FOR2974) that investigates affective and cognitive mechanisms of specific Internet-use disorders with an extensive laboratory test battery. From this test battery, we analyzed performance measures of different standard cognitive tasks including the Game of Dice Task (GDT), Modified Card Sorting Test (MCST), logical reasoning test, and Stroop test. Participants were classified as showing non-problematic, risky, or pathological use based on a standardized clinical interview based on DSM-5 criteria for gaming disorder (and adapted to other IUDs). *Results:* Across IUDs, the three groups differed significantly regarding performance in all cognitive tasks with weakest outcomes in the pathological group, however, effects were small (all $\eta^2 < 0.02$). Furthermore, there was a significant effect of gender on errors in the MCST. Especially in the pathological group, females showed the lowest performance. *Conclusions:* The results indicate that individuals with IUDs have slight cognitive deficits compared to individuals with non-problematic use. Deficits in executive functions tend to be more pronounced in females with pathological use. Cognitive deficits appear to be similarly distributed across different types of IUDs.

S-1D3**Experienced gratification and experienced compensation as key constructs in specific Internet-use disorders**

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Background: Theoretical models of addictive behaviors assume that addiction development is accompanied by a shift from experienced gratification in early stages to experienced compensation in later stages. However, there is also a debate as to whether this shift exists or if the components are additive. The following study examines the extent to which individuals with pathological, risky, and non-problematic use of specific Internet applications differ in terms of experienced gratification and compensation through the behavior. Further associated constructs and possible differences between specific behaviors (i.e., gaming, pornography, buying-shopping, social-networks) are examined. *Method:* Data from a multi-center study (FOR2974) investigating specific Internet-use disorders were analyzed regarding experience of gratification (EGS) and compensation (ECS), symptom severity, use expectancies, and usage motives. A diagnostic interview based on DSM-5 criteria was used to classify individuals with non-problematic, risky, or pathological use. *Results:* We found significant differences in individuals with non-problematic, risky, and pathological Internet use regarding EGS and ECS. Individuals with pathological use showed highest experienced compensation compared to individuals with risky and non-problematic use, and highest experienced gratification but only compared to non-problematic use. Application-specific differences were observed. *Conclusions:* The results provide valuable insights into the relationships between experienced gratification and compensation in different stages of the addiction process and in specific types of Internet-use disorders. Results emphasize the importance of experienced gratification (positive reinforcement) but especially the addition of experienced compensation (negative reinforcement). Further investigation of the compulsive, habitual part during addiction development and its impact in specific internet-use disorders is needed.

S-1D4**Mood modification and the use of specific internet applications with interferences in everyday life: Preliminary results from a 14-day ambulatory assessment**

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Background: Various theoretical models of addictive behaviors link the variables problematic use with mood modification, gratification/compensation or coping which may lead to impairments in everyday life. It is assumed that individuals with problematic use of specific Internet applications have a higher stress level and are more often exposed to negative mood, which is compensated for by engaging in specific addictive behaviors. The increased use may then lead to interferences with other obligations and further problems. *Method:* We analyzed preliminary data (N=720) from a multi-center study (FOR2974). Assessment included a clinical interview, a comprehensive test battery, and a 14-day ambulatory assessment targeting gaming, online shopping, social network use, or online pornography use. Individuals were classified into groups of non-problematic, risky, or pathological Internet use based on the clinical interview. We followed a group-wise and dimensional analysis approach. The ambulatory assessment measured perceived stress, mood, craving, relief, pleasure, and impairment retrospectively on a daily basis. *Results:* Individuals with higher symptom severity (pathological use>risky>non-problematic group) reported more stress and a more negative mood in everyday life. They also reported higher daily craving for the activity. Across groups, experienced relief correlates positively with symptom severity, while the correlation with experienced pleasure is inversely U-shaped. The impairments in everyday life increased with higher symptom severity. *Conclusions:* Dealing with stress and negative mood could be an important factor for problematic Internet use. The reduction of dysfunctional behaviors through functional and enjoyable coping strategies could be beneficial in dealing with problematic use of the Internet.

S-1E1

Childhood environment and problematic use of short-form video applications: Applying life history theory*MENG XUAN ZHANG^{1,2}*¹Department of Medical Humanities, School of Humanities, Southeast University, China²Psychological Research & Education Center, School of Humanities, Southeast University, Nanjing, China

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The short-form video applications have been popular and widely used in China, especially among young adults. While a new concern has been raised regarding the excessive and problematic use of short-form video applications, which probably leads to users' health and well-being. Based on life history theory, the present study aimed to test the effects of childhood environment on the problematic short-form video application use, and further investigate the psychological mechanisms of sensation seeking and emotional regulation. We recruited 991 Chinese users of short-form video applications (28.5% male, age = 18 to 38, $M = 22.44$, $SD = 1.94$) voluntarily completed the anonymous online questionnaire with some monetary compensatory. Findings showed that childhood unpredictability and harshness (low socioeconomic status [SES]) was significantly, positively correlated with problematic short-form video application use. Slow life history strategy and emotional regulation were negatively associated with problematic use, whereas sensation seeking was positively related to problematic use of short-form video applications. The results of path analysis showed that emotional regulation served as the mediating role between the effects of childhood SES on problematic use of short-form applications. Meanwhile, sensation seeking was the mediation on the relationship between childhood SES and problematic short-form application use. The effects of childhood environment (i.e., unpredictability and harshness) on problematic use were also mediated by a serial path of slow life history strategy and emotional regulation. Interventions should more focus on those who went through unpredictable and adverse early life and foster emotional regulation skills to prevent the problematic use of short-form video applications.

Keywords: problematic use of short-form video applications, life history theory, emotional regulation, sensation seeking.

S-1E2

Psychopathological symptoms and social networking sites addiction in Poland and Germany: The role of fear of missing out and preference for online social interaction*JULIA BALCEROWSKA¹, JULIA BRAILOVSKAIA²*¹University of Gdańsk, Poland²Ruhr-Universität Bochum, Germany

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Psychopathological symptoms, especially depression and anxiety, can contribute to the development of addictive tendencies offline and online. The present cross-national study aims to verify whether Fear of Missing Out (FoMO) and Preference for Online Social Interactions (POSI) could explain the relationship between psychopathological symptoms (i.e., depression and anxiety symptoms) and Social Networking Sites (SNS) addiction. We tested our hypothesis in two samples from Poland (N = 1163) and Germany (N = 781) using self-report measures of psychopathological symptoms, FoMO, POSI, and SNS addiction. In both countries, we found the same result pattern. Depression and anxiety symptoms were positively related to SNS addiction. Moreover, FoMO and POSI partially mediated the relationship between psychopathological symptoms and addictive SNS use. Notably, the relationship between psychopathological symptoms is significantly more robust via FoMO as it is an essential predictor of SNS addiction in both countries. Our findings show that ineffective emotional regulation, as well as maladaptive thoughts and beliefs about one's Internet use among persons with psychopathological symptoms, might increase the risk for SNS addiction.

Keywords: depression, anxiety, FoMO, POSI, SNS addiction, online mental health

S-1E3

Implicit associations in problematic social network use

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Background: Implicit cognitions play an important role in the development and maintenance of problematic social-network use (PSNU). Symptom severity may be related to positive implicit attitudes towards social-network-sites (SNS)-related stimuli. Moreover, high impulsivity and ADHD severity are associated with greater symptom severity in other behavioral addictions. Therefore, we investigate the effect of implicit cognitions and impulsivity on symptom severity of PSNU. *Methods:* In a multi-center study (FOR2974), 68 participants were classified into three groups (non-problematic, risky, pathological use of SNS) using a diagnostic interview based on DSM-5 criteria for gaming disorder (modified for PSNU). The Implicit Association Test and questionnaires were applied. *Results:* Preliminary results show significantly higher positive implicit associations in individuals with risky use compared to individuals with pathological and non-problematic use, even if the effect was small. However, bivariate correlations also demonstrate the relationship of symptom severity, implicit associations, and impulsivity. *Conclusions:* The results suggest that there are stronger positive implicit associations in individuals with risky use than in pathological and non-problematic online behavior. We also found attentional impulsivity as related factor of PSNU. Even data collection is still ongoing, the results provide first hints that risky use is related with positive implicit associations as underlying mechanisms of the development and maintenance of a problematic behavior. Contradictory, we found no relevance of implicit associations in pathological use, which might reflect an important mechanisms of the addiction development process which has to be address in future research.

Keywords: problematic social network use, iat, impulsivity, implicit associations

S-1E4**Reality Shifting: Psychological correlates of social media use**

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Background: Reality Shifting (RS) is a phenomenon that has emerged on social media as a method of altering consciousness and traversing across dimensions (fictional and imagined) through methods like meditation, scripting, subliminals and affirmations. Being apparently the first study to empirically understand RS from a mental health perspective, this study explores the practice among social media users, the role of social media in shifting, and the adverse effects of excessive practice of RS. *Method:* This study consists of 3 phases: the first phase explores RS as a mental health phenomenon through focus group discussions (10 non-reality shifters and 7 reality shifters). This will be followed by the development of an RS data sheet that is expert validated. Next, the Data Sheet will be administered with tools like Parasocial Interactions Scale, Creative Experiences Questionnaire, General Health Questionnaire-12 and Bergen's Social Media Addiction Scale to a representative (approximately 50) group of shifters and non-shifters to understand the relationship of RS with parasocial relationships, fantasy proneness, psychological distress and social media addiction. *Results and Conclusions:* The study is expected to indicate mental health correlates of RS (e.g., novelty-seeking, fantasy-proneness), which lead to the use of techniques like intermittent hypoxia, scripting and meditation for the same. RS seems to be distinct from simply "escaping" reality, and has positive and negative effects. Though social media might be a significant source of information regarding the practice, excessive unsuccessful RS attempts, with negative experiences on online communities may lead to feelings of worthlessness, hopelessness, and low mood.

Keywords: Reality Shifting, social media addiction, mental health

S-1F1**Phenotypical and cognitive features of individuals with Food Addiction***FERNANDO FERNANDEZ-ARANDA*

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Background and aims: In the past 10 years, the study of Food Addiction (FA) has been increasing, passing from animal models to different studies exploring associated psychological and biological traits in human. However, recently, the interest in establish a phenotypical characterization of FA population has been growing, including even neurocognitive aspects. *Methods:* Data from neurocognitive traits in subjects with FA will be presented, considering different populations as patients with Obesity (OBE), other behavioural addictions as Gambling Disorders (GD), and others populations of interest, as Metabolic Syndrome Patients (MSP). Variables as decision-making, inhibitory control capacity, and cognitive flexibility were assessed through standardized neuropsychological tasks. Cognitive impairment was evaluated as well. *Results:* Food addiction criteria were met in a range from 7.7% to 24.2% of the sample, being the highest in OBE patients. Results point to an association between food addiction severity levels and impairments in decision-making and attentional capacity in individuals with OBE+FA. In GD +FA subjects higher impulsivity, poorer cognitive flexibility, and poorer inhibitory control were found. In the case of MSP with FA, a worse neurocognitive state was reported. *Conclusions:* FA seems to be a construct related with neurocognitive impairment among different clinical population. The results suggest that a phenotypic differentiation of population with FA may be possible when considering neurocognitive systems.

S-1F2**Binge eating and food addiction: Neurobiological and treatment considerations***MARC N POTENZA*

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Background: Although the DSM-5 introduced changes to include binge eating disorder (BED) as a formal disorder and BED arguably shares features with food addiction, the concept and utility of food addiction remains debated. *Methods:* Data from neuroimaging and clinical trials will be presented. Traditional (general-linear-model-based) and alternative (intrinsic connectivity distribution; ICD) analytic strategies will be used to investigate fMRI data involving groups with obesity with and without BED, and how neural measures and food addiction relate to treatment outcomes for people with BED will be assessed. *Results:* Individuals with obesity experience food craving differently from individuals of lean body mass, with food

craving involving greater involvement of reward/subcortical circuitry in a manner linked to insulin resistance. Individuals with BED demonstrate blunted striatal activation during monetary reward processing in manners similar to people with substance use disorders, with more extreme blunting related to poorer treatment outcomes. ICD suggests an important role for the posterior cingulate cortex in connectivity linking to BED treatment outcome, resonating with findings in people with cocaine use or gambling disorders. Food addiction in people seeking treatment for BED is linked to poorer treatment outcomes. *Discussion/Conclusions:* Findings suggest important relationships between obesity, BED and food addiction, resonating with findings from people with substance or behavioral addictions.

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S-1F3

Assessment of heterogeneity within Food Addiction: Cluster analysis in clinical samples

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Background and aims: Food Addiction (FA) has been found to be present as a comorbid feature on Obesity (OBE) and the different Eating Disorders (EDs) subtypes, with highest prevalence on those with binge related behaviours. *Methods:* The sample was composed of ED and OBE patients with FA positive, and the followed clinical variables were assessed: eating symptomatology, general psychopathology, and personality traits. Participants received 16 weekly sessions of cognitive-behavioral therapy (CBT) and treatment outcome was evaluated. *Results:* Three clusters were found (dysfunctional, moderate and functional). Cluster 1 (dysfunctional), with the highest prevalence of Bulimia Nervosa patients, was characterized by the highest ED severity and psychopathology, and more dysfunctional personality traits. Cluster 2 (moderate), showed moderate levels in the clinical variables. Finally, cluster 3 (adaptive), with a high prevalence of OBE and Binge Eating Disorder patients, was characterized by low levels of ED psychopathology, and more functional personality traits. Treatment outcome was only analysed in the ED sample. The treatment response followed a linearity with the severity of each cluster in terms of FA presence, eating symptomatology and psychopathological state. The dysfunctional cluster was the one with lowest rates of full

remission, the moderate one the higher rates of dropouts, and the functional one the highest of full remission. *Conclusions:* A phenotypic characterization of patients with EDs or OBE and FA reflects the negative influence of the presence of FA not only regarding the severity of the eating symptomatology, but in the treatment respond.

S-1F4

Food-related emotional expectancies and food addiction

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Background: Expectancy Theory, a long-standing psychological theory explaining substance use, proposes that people anticipate the emotional outcomes of a behavior (e.g., “Drinking alcohol will make me happy”), which guides their future behavior. Meta-analysis indicates that behavioral interventions have successfully modified substance-related emotional expectancies in adolescents and adults, which has subsequently reduced their substance use. In the present research, we applied Expectancy Theory to assess food-related emotional expectancies, or the anticipated emotional outcomes of eating specific foods, and to investigate their relations with “highly processed food addiction.” *Methods:* In Study 1 (n = 247; Mage = 36.84), we developed and evaluated the psychometric properties of a novel measure of positively- and negatively-valenced, highly (e.g., sweets, salty snacks, fast foods, sugary drinks) and minimally (e.g., fruits, vegetables) processed food expectancies. *Results:* Consistent with the substance use literature, positive highly processed food expectancies were associated with greater highly processed food addiction symptoms ($r = .56, p < .001$). In addition, negative minimally processed food expectancies were robustly associated with greater highly processed food addiction symptoms ($r = .81, p < .001$). In Study 2 (n = 718; Mage = 35.88), these findings were replicated [associations of food addiction symptoms with positive highly processed food expectancies ($B(SE) = 0.15(0.01), p < .001$) and negative minimally processed food expectancies ($B(SE) = 0.25(0.01), p < .001$)]. *Discussion/Conclusions:* Elevated food-related emotional expectancies may be an important and modifiable feature of highly processed food addiction.

S-1G1**The mysterious world of dopamine: Substance abuse and Parkinson's disease, an underestimated link?**

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People with heroin, cocaine and alcohol addiction may show symptoms and signs resembling parkinsonism. On the other hand, patients with Parkinson's disease (PD), especially those under longterm therapy, with intradaily motor fluctuations, can manifest "craving" of levodopa, in the meanwhile of a motor block ("off-state"), waiting for a prompt return to a "on-state".

Furthermore, in these PD patients the tendency to develop behavior addiction (pathological gambling, etc) is well known. Even among the animal models of PD commonly used in research, the most popular are those that employ neurotoxins, especially 1-methyl-4-phenyl-1, 2, 3, 6-tetrahydropyridine (MPTP), a synthetic heroin, firstly used in the 80's, acting as a neurotoxin on dopaminergic nigrostriatal neurons. Finally, when considering the possible links between substance addiction and PD, we must also take into account of the neurotropic effects of methadone and a possible association with alcohol consumption, although for the latter, there is also the theory that in an addiction-avoiding personality trait such as individuals with PD there is an inverse association between smoking, coffee and alcohol intake and PD risk. Despite these premises that support a reciprocal link between PD and substance abuse, there are few examples in clinical practice and in the scientific world of attempts to use dopaminergic strategies on these cases. Here we report a state of the art of the literature and the description of case reports of individuals with substance abuse with a positive Dat scan and a good response to levodopa therapy.

S-1G2**Striatal dopaminergic transmission, gambling and substance abuse**

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Dopaminergic transmission into the striatum exerts control over a range of crucial functions such as mood regulation, cognitive processes, motor coordination, and reward mechanisms. While recent research has explored the role of dopamine in addictive disorders (ADs), a

comprehensive comparison of its involvement in different forms of addiction, including substance use disorders and behavioral addictions is currently lacking. Therefore, there is a need to investigate and compare the role of dopamine in these distinct addictive conditions to enhance our understanding of their underlying mechanisms. The speech presents data from patients suffering either from alcohol use disorder (AUD) or gambling disorder (GD), together with healthy controls. Single-photon emission computed tomography (SPECT) with I-FP-CIT radiotracer was used to assess the binding of dopamine transporter (DAT) in the bilateral caudate and putamen regions of the brain. In addition to DAT binding, the patients were evaluated for the presence and severity of AUD and GD symptoms. Different psychometric variables including depression, anxiety and anhedonia were also assessed.

Overall, findings indicated that there were differences in the DAT availability in the caudate nucleus and putamen, related to the dopamine system among individuals with AUD, GD, and HCs. These results can contribute to our understanding of the neurobiological and behavioral characteristics associated with these distinct ADs.

S-1G3

Behavioral addictions in Parkinson's disease: An update

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Introduction: A significant proportion of patients with Parkinson's disease (PD) display a set of impulsive-compulsive behaviors at some point during the course of illness. These behaviors range from the so-called behavioral addictions to dopamine dysregulation syndrome, punding and hoarding disorders. These behaviors have been consistently linked to the use of dopaminergic medications used to treat PD motor symptoms (dopamine agonists, levodopa, and other agents) and less consistently to neuromodulation techniques such as deep brain stimulation (DBS). Since there are still no approved treatments for these conditions, their pharmacological management is still a big challenge for clinicians. *Methods:* We conducted an extensive review of current pharmacological and neuromodulation literature for the management of impulsive-compulsive disorders in PD patients. *Results:* Pharmacological treatment approaches for impulsive-compulsive behaviors and DDS in PD patients include reduction of levodopa (LD), reduction/cessation of dopamine agonist (DA), and initiation of infusion therapies (apomorphine infusion and duodopa). Also, atomoxetine, a noradrenergic agent approved for the treatment of attention deficit hyperactivity disorder, showed some interesting preliminary results but there is still a lack of controlled longitudinal studies. Finally, while DBS effects on impulsive-compulsive disorders are still controversial, non-invasive techniques (such as transcranial magnetic stimulation and transcranial direct current stimulation) could have a potential positive effect but, again, there is still a lack of controlled trials.

Conclusion: Managing impulsivity and compulsivity in PD patients is still a non-evidence-based challenge for clinicians. Controlled trials on promising approaches such as atomoxetine and non-invasive neuromodulation techniques are needed.

S-1G4

Neuromodulating negative affectivity in addiction: From substance to behavioral addictions

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Addictive disorders (ADs) are chronic condition marked by a deviation in the established reward set point, stemming from repetitive drug use and corresponding to the dysfunction of dopaminergic circuits. This shift is theorized to play a role in the transition from occasional drug use to compulsive drug seeking. The emergence of negative emotional states and withdrawal symptoms is considered a defining feature of this transition. Within this framework, compulsive use is seen as an effort to counteract adverse emotional states, such as anhedonia, dysphoria, and loss of motivation. These impairments in hedonic tone constitute a fundamental aspect of ADs and contribute to relapse during withdrawal and extended periods of abstinence.

Non-invasive neuromodulation techniques, such as transcranial magnetic stimulation (rTMS), are emerging as innovative therapeutic approaches for ADs, encompassing both substance use disorders and behavioral addictions. While the efficacy of rTMS in ADs is still a subject of ongoing investigation, initial findings suggest that applying rTMS over the dorsolateral prefrontal cortex (dlPFC) holds the potential to rebalance dopamine release in prefrontal and striatal regions implicated in the reward process. This rebalancing may lead to a reduction in negative affective states. Research indicates that rTMS can diminish cravings and anhedonic symptoms, while also reinstating the physiological response to natural rewards. This presentation unveils original data derived from individuals suffering from either cocaine use disorder or gambling disorder, who underwent rTMS over the dlPFC.

S-1G5

Gender-specific stressors and behavioral addictions in caregivers of Parkinson's disease patients: Implications for care quality and patient well-being*ARTEMIS LEUNG¹, FULVIA PREVER², GIULIO MALDACEA³, GIOVANNI ALBANI⁴*¹New Life Psychiatric Rehabilitation Association, Hong Kong²National Health System Addictions Clinic Milan, Italy³Italian Parkinson Associations Committee,⁴Movement Disorders Centre, Clinical and Research Istituto Auxologico Italiano, Verbania, Italy

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Female caregivers of patients with Parkinson's disease (PD) face unique stressors due to the distinct personality traits and rigid moral frameworks associated with PD patients, who often exhibit introversion and a preference for solitary activities (Menza et al., 1993). This stoic and emotionally reserved demeanor imposes significant psychological and emotional burdens on caregivers. Given that PD is more prevalent in males, with a ratio of approximately 2 to 1 (Miller & Cronin-Golomb, 2010), female caregivers, often spouses, bear a heavier caregiving load, leading to elevated stress levels and lower resilience (Yan et al., 2023). Socio-cultural expectations further limit women's access to recreational and support resources, inadvertently increasing their vulnerability to local gambling opportunities as perceived safe outlets for stress relief (Du Preez et al., 2021). This literature review aims to examine the unique stressors faced by female caregivers of PD patients and explore whether caregiver gender serves as an additional risk factor for developing behavioral addictions. The synthesis of clinical observations and existing literature reveals that female caregivers not only experience higher caregiving stress but also exhibit a greater tendency towards compulsive behaviors, including gambling, internet addiction, and shopping addiction. These behavioral addictions can contribute to dysfunctional caregiving dynamics, where caregivers may become overly intrusive and controlling, adversely affecting the patients' physical and psychological well-being. Moreover, there is a significant correlation between the stress experienced by family caregivers and the quality of life (QoL) of PD patients. High levels of caregiver stress can lead to poorer health outcomes for the patients, including increased symptoms and reduced overall well-being. The mental and emotional state of the caregiver directly impacts the care they provide, thereby influencing the patient's QoL. Addressing caregiver stress is thus essential not only for the caregivers' well-being but also for improving the QoL of PD patients. By providing a nuanced understanding of the gender-specific risks and stressors faced by female caregivers of PD patients, this review aims to inform the development of effective strategies for mitigating behavioral addictions among this vulnerable population and improving the QoL for both caregivers and patients.

S-1H1**What is chemsex? A critical account of its definition***CÉLINE BONNAIRE*

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Background: Sexualized drug use (SDU), otherwise the association between sex and licits or illicit psychoactive substances, is not new. Nevertheless, the arrival and widespread of new substances, particularly cathinones, has been associated with a new specific kind of SDU: chemsex (and one of its variants, slam). In the scientific literature, chemsex is not operationalized consistently among studies. *Method:* Critical analysis of available literature. *Results:* Five main characteristics are generally present in the definition: (1) intentional and planned use of psychoactive substances; (2) the use of specific psychoactive substances, generally methamphetamine, cathinones, and GHB/GBL; (3) the fact that these substances are consumed before or during sex to facilitate, sustain, disinhibit or enhance the experience; (4) among gay communities, mostly men who have sex with men; (5) with multiple partners (in the same session or in a row). Recently, various substances, notably cathinones (3-MMC and 4-MMC) but also GHB/GBL, have become highly accessible and available (without using the darkweb). As a result, the intentional and planned use of these specific psychoactive substances before or during sex has spread to heterosexual circles. Thus, in addictive behaviours health care treatment centers, several in-treatment patients are now heterosexual men and women who use these substances whether within a couple or in relationships with multiple partners. *Conclusions:* The extent of these sexual practices outside the gay community raises the question of the definition of chemsex and the criteria for defining it. This also has an impact on the treatment and prevention of chemsex.

S-1H2**Feasibility, acceptability and preliminary outcomes of a cognitive behavioral intervention for the treatment of help-seeking patients with a problematic practice of chemsex**

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Context: Estimates of the prevalence of chemsex among men who have sex with men (MSM) range from 3% to 29%. There are several health risks associated with chemsex such as higher exposure to STIs, depression, anxiety, cognitive impairments and social consequences. Very few validated psychotherapeutic interventions have been designed or tested for this popula-

tion, even though chemsex is a public health issue. *Objective:* To examine the feasibility, acceptability and preliminary efficacy results of a specific 8-session group cognitive and behavioral therapy (CBT) intervention for MSM seeking treatment for problematic chemsex practice. *Method:* We included 38 participants in a weekly group CBT program that combined psychoeducation, harm reduction, and exercises on topics related to addiction and sexuality. Participants were assessed at the inclusion, 4 and 8 weeks, on the frequency of chemsex practice (TimeLine Follow back), substance use disorder (Drug Use Disorder Identification Test) and craving (Craving Experience Questionnaire). *Results:* Acceptability was 95%, median attendance was 6 out of 8 sessions [IQR=4-7] and 19% of participants attended all sessions. Significant decreases were observed between baseline and week 8 in the DU-DIT ($p = 0.005$; $r = 0.63$) and CEQ scores (frequency: $p=0.025$; $r=0.5$; intensity: $p=0.019$; $r=0.55$). *Perspectives:* There is evidence of good feasibility and promising results for this intervention. Assessment of quality of life and further evaluation of sexual behavior should be included in future research. Controlled, randomized trials should be designed to state on the efficacy of this program.

S-1H3

Exploring the motivations of slammers: The QualiSlam study

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Background: Slamming, a chemsex practice with intravenous drug injection, has been developing since 2008 as an international phenomenon mostly among men who have sex with men. The objectives of QualiSlam were to characterize the motivations of slammers to engage in the practice, based on the point of view of the users involved in slam; to shed light on the rationale and meaning given to slamming by users; and to identify risk, vulnerability, precipitating and maintenance factors in the practice. *Method:* We used a qualitative research method involving individual interviews and focus groups. Participants had a current or past slam practice and were recruited within the Nantes University Hospital or via the AIDES association according to the theoretical sampling method. *Results:* We conducted 6 individual interviews and 3 focus groups, 9 themes emerged concerning the motivations of the slammers. *Conclusions:* Our results highlighted the facilitating and empowering role of drugs in sex, but also the willingness of slammers to seek a coping strategy in the face of trauma, sexual dysfunction or psychological suffering in a context of socialization and identity or community issues.

S-2A1

Social media and adolescent mental health: Perspectives of clinicians on the potential impact of social media, training needs, and screening recommendations

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Social media is integral to adolescents' lives and experiences. Despite the potential for benefits, some adolescents, especially those with underlying mental health conditions, may be at risk for problematic social media use and stressful online experiences, such as cyberbullying. The complexity of social media and its related impacts on adolescent mental health necessitates an understanding of mental health clinicians' and other service providers' perspectives on what they witness with their clients, how they support youth in navigating social media, and suggestions for clinical priorities to address barriers their clients encounter in developing resilient and prosocial interactions online. This qualitative study aimed to identify these perspectives in a sample of service providers across mental health-related disciplines. In Fall 2022-Spring 2023, 14 stakeholders were interviewed regarding their perspectives on social media and mental health, how they assess or screen for harmful experiences online, and their approach to supporting youth who may have experienced online stressors. Nine themes were identified reflecting clinicians' perceptions of positive and negative experiences on social media for youth; clinicians' experiences with how they communicate about social media; clinicians' preferences for screening for harmful social media experiences; and barriers experienced in addressing social media use and impacts. We outline strategies for implementing a screening process for problematic social media use, a protocol for healthcare providers to adopt when responding to harmful online experiences, and future clinical research directions to fill gaps in training and service provision related to adolescents' problematic social media use.

S-2A2**Parenting and problematic social media use: A systematic review**

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Research on the relation between parenting and adolescents' problematic social media use (PSMU) reveals rather mixed findings. This is likely due to a focus on different parenting factors and social media outcomes. This paper aims at reviewing existing literature on parenting and adolescents' PSMU and provide a reference for future research and intervention. There is consistent evidence that positive parent-child relationships, as well as a positive family climate at home are related to less PSMU. Likewise, most studies indicate that positive parenting, and parenting that is characterized by affection, responsiveness and demandingness is associated with less PSMU, whereas parenting characterized by inconsistency and control is associated with more PSMU. Findings concerning Internet-specific parenting are far less consistent. Restrictive mediation shows a dual influence. When restrictive mediation constitutes rule-setting, than a negative correlation with PSMU is found. However, when it refers to reactive restrictions, a positive association is found. Active mediation is not consistently correlated to PSMU. Finally, a clear and consistent positive correlation between parental phubbing and PSMU was found.

This review indicates that there is more consistent evidence that positive parent-child interactions and positive general parenting practices may help to prevent adolescents' PSMU than internet-specific parenting practices that aim at guiding or restricting adolescents' internet use. However, studies largely used a cross-sectional design and varied significantly in the conceptualization and operationalization of parenting practices. This review justifies further investigation to provide an integral prevention approach that includes parenting to support optimal adolescent development, including the prevention of PSMU.

S-2A3**Vocational students' needs and motivations for using smartphones in school**

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The aim of the current study is to gain more insight into the smartphone use among students in vocational education and their perspective on smartphone use in school setting. As of January 1st 2024, Dutch schools are required to ban smartphone from schools. Yet, little is known

about the perspective of vocational students on this matter. In the current study, data will be collected among students on one location of vocational education in the Netherlands (estimated sample size: N=250; age range 16-20 years). Students will be asked to fill out an online questionnaire about problematic social media use, online coping, motivations for internet use, risks and benefits of smartphone use in school and their needs. Descriptive analyses will be conducted to examine students' perspectives and their social media use, whereafter regression analysis will be carried out to gain insight into the relation between the online coping and motivations for use on one hand and their problematic social media use on the other. Implications for school policy around smartphones will be discussed.

S-2A4

Do problematic media habits in parents forecast socio-emotional problems in preschoolers?

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Problematic media use by parents, which can include greater length of screen use or an excessive preoccupation with screens, may disrupt parent-child interactions by undermining their sensitivity and responsiveness to children's needs, which in turn could undermine child socioemotional development. The objective of the present study is to examine associations between problematic media use by parents at age 3 and child socioemotional development by age 5. *Methods:* Data are from 315 Canadian parents of preschoolers (mean age=3.46). Parent problematic media use includes parent screen time outside of work on different devices (ex, television viewing, smartphone use). They also reported behaviors indicative of excessive preoccupation with their mobile phone (e.g., "I sometimes feel 'addicted' to mobile media like smartphones or tablets"). Child socioemotional problems were measured using the National Institute of Health scales of sadness, anger, and social withdrawal. *Results:* Structural equation models were used to estimate two latent variables for problematic parent media use and later child socioemotional problems. As control variables, we included parent educational attainment and child baseline anger and frustration at age 3. The model showed a good fit (RMSEA= 0.033; CFI = 0.096; PNFI=0.622). In terms of the associations, more problematic parent media use was associated with more socio-emotional difficulties ($\beta = .29$, $p < .05$) two years later. *Conclusions:* The present study suggests that preschoolers' development of socio-emotional skills may be linked to their parents' screen use and larger family media ecology.

S-2B1**Psychological and structural risk factors involved in cryptocurrency trading and related digital asset technologies**

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Background: Blockchain and other modern trading technology has fostered the development of highly accessible and speculative behaviour involving cryptocurrencies and related digital assets (e.g., NFTs). Such behaviour has been likened to a form of gambling in that trading outcomes are often based on limited information, assets with limited underlying intrinsic value (e.g., meme tokens) and highly volatile and unpredictable markets. *Methods:* Using recent research evidence, we highlight the principal psychological and structural risk factors that heighten the addictive potential of this form of trading behaviour. *Results:* We highlight the similarities and differences between speculative crypto trading and more established wagering products, including sports betting, and the implications of these factors for future research and clinical interventions. *Conclusions:* Crypto trading highlights distinctive features in the development and maintenance of addictive behaviour, including the strong rule of social media influences, sunk-cost and FOMO effects that can maintain both short-term impulsive behavior as well as long-term downward investment cycles.

Keywords: cryptocurrency, addiction, harm

S-2B2**The association between structural characteristics in videogames and wellbeing**

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Background: Although the wellbeing of videogame players (VGP) is an emerging concern, part of the literature also suggests that videogames may be associated with improved wellbeing. This study therefore investigated how the structural characteristics of videogames may be associated with wellbeing as the increasing popularity of videogames warrants further investigation into this relationship. *Methods:* The sample consisted of 65 non-videogame players (NVGP), 210 VGP and 125 former videogame players (FVGP) (n=400). Information was collected on gaming habits and preferences (VGP only) using the Gaming Motivation Inventory and The Addiction Engagement Scale. Information on perceived wellbeing was collected using The Warwick Edinburgh Mental Wellbeing Scale, The General Health

Questionnaire and The Quality of Life Questionnaire. *Results:* A stepwise regression among VGP and FVGP revealed a significant model. The final regression model indicated that addiction, strategy, graphics and cooperation are significant predictors of wellbeing, explaining 9.6% of variance in wellbeing. *Conclusion:* We aimed to explain the relationship between structural characteristics and wellbeing. The final regression model explained a proportion of the variance in wellbeing, indicating that addiction, strategy, graphics, and cooperation may be important predictors of wellbeing among VGP and FVGP. Addiction and graphics were negatively associated with wellbeing, which could be due to unrealistic expectation of gameplay based on high resolution graphics. Preference for strategy and cooperation was positively associated with wellbeing. Strategic and cooperative features may enhance the gaming experience and support players' mental health. Further research in this area is needed to understand other variables that may influence wellbeing.

Keywords: gaming, wellbeing, structural characteristics

S-2B3

Toward a classification of technology design features promoting potentially addictive online behaviours

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Background: Following the official recognition of gaming disorder as an addictive disorder in the ICD-11, other problematic online behaviours have been discussed as possible further candidates. However, further study is needed to understand the psychological mechanisms involved in their emergence and maintenance. An important but underdeveloped research line is the ways in which technology design features of web-based sites and applications may affect users' capacity to control uses, thereby amplifying dysregulated and, perhaps, addictive involvement in online activities. *Method:* We examined the available evidence on the relationships between technology design features and loss of control in various online activities, including online video gaming, online gambling, cybersexual activities, online buying-shopping, social networking, and on-demand streaming of TV series. We then proposed a theory-driven taxonomy of design features of online applications that facilitate dysregulated and potentially addictive online behaviours. *Results:* We classified the identified design features in theory-informed categories including: a) reinforcement schedules, b) personalized

triggers, c) overvaluation of positive outcomes, d) features interfering with deliberation, e) partial goal fulfilment, and f) features boosting cognitive biases. We thus emphasized common psychological mechanisms contributing to the development of potentially addictive online behaviours, and the specific design features that promote such mechanisms in online activities. *Conclusions:* The current taxonomy enriches understanding of the underlying drivers of problematic and addictive involvement in online activities, which can help prevention and intervention efforts.

Keywords: structural characteristics, technology design features, taxonomy, addictive online behaviours, behavioural addictions

S-2B4

A longitudinal study on the convergence of gambling, gaming, and problems of excess

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In recent years, gambling and digital games have increasingly shared some of their core elements with each other. Electronic Gaming Machines now have character and story arcs, whereas some digital games encourage players to make monetary microtransactions for in-game benefit. This longitudinal study focused on the convergence of these two game types, investigating how gambling- and gaming-related problems predict later problems within and across their respective domains on a population-level. Representative survey data of 18–75-year-olds from mainland Finland were collected in 6-month intervals between April 2021 and May 2023. A total of 4,060 observations from 812 individuals were analyzed. Cross-lagged models were formed using the Problem Gambling Severity Index (PGSI) to measure gambling problems and the Ten-Item Internet Gaming Disorder Test (IGDT-10) to measure gaming problems. The results indicate that while both gambling and gaming problems predict later problems of the same type, gambling problems can also exacerbate gaming problems. In conclusion, the convergence of gambling and gaming seems to mainly make those who experience gambling-related problems also vulnerable to problematic digital gameplay. The results emphasize the importance of addressing gambling-related issues as they might contribute to or intensify problematic behaviors in gaming and accumulate the harms experienced by these individuals.

Keywords: gambling problems, gaming problems, cross-lagged model

S-2C1

Shift from goal-directed to habitual behavior in persons with problematic buying-shopping behavior

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Background: The shift from goal-directed to habitual behavior has been linked to the development of substance use disorders and partly to behavioral addictions (e.g., gaming disorder), but is understudied in compulsive buying-shopping disorder. *Method:* A Pavlovian-to-instrumental-transfer (PIT) paradigm was administered to persons with problematic buying-shopping behavior (currently, n = 65) and a control group (currently, n = 62). The PIT-paradigm consists of three phases: A Pavlovian training phase (in which a formerly neutral stimulus was associated with shopping images), an instrumental training phase (in which buying-shopping specific button presses were intermittently rewarded), and a transfer phase, in which the influence of conditioned cues on instrumental responding (i.e., PIT-effect) was assessed. In the transfer phase, shopping-related rewards were devalued after half of the blocks. *Results:* Persons (esp. those aware of the association of CSShopping with shopping images from Pavlovian phase) from both groups chose the shopping-related response significantly more after presentation of CSShopping than after CSNeutral. The devaluation of shopping-related rewards reduced shopping-related button presses (esp. in persons aware of contingency). Both groups showed a reduced, yet evident PIT-effect after devaluation. Symptom severity did not significantly predict the size of the PIT-effect after devaluation over and above the effect of strength of conditioned response. *Conclusions:* These preliminary results mirror the importance of the shift from goal-directed to habitual shopping-related behaviors. The devaluation of shopping-related rewards only decreased but did not eliminate the PIT-effect in both groups. This indicates that specific interventions targeting the PIT-effect (e.g., cognitive bias modification trainings) are needed.

S-2C2**Hopelessness depression, alexithymia and buying disorder**

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Background: Depression, closely related to hopelessness, has been linked to buying-shopping disorder. For example, at the time of the pandemic and confinement there was an increase in buying disorder. As with most addictive behaviours, compulsive buying also serves as an emotional regulation function. Hopelessness people who suffer from alexithymia, which makes emotional regulation difficult, are expected to use maladaptive strategies such as buying to regulate themselves. The aim of this study was to investigate the differences in hopelessness, depression and alexithymia according to the level of buying-shopping disorder. *Method:* The study used a quantitative and qualitative methodology. Regarding the quantitative sample, 493 Spanish young adults participated with a mean age of 22.60 years (SD = 3.32), 78.5% women. Hopelessness, alexithymia and buying-shopping disorder were measured. In terms of qualitative methodology, in-depth interviews were conducted with adult women with a diagnosis of buying-shopping disorder. *Results:* The results of the quantitative part showed differences in hopelessness, depression and alexithymia according to the degree of compulsive buying. In the case of the in-depth interviews with adult women, emotional factors were shown to precipitate and maintain problematic compulsive buying. *Conclusions:* These results are in line with previous literature showing compulsive buying as a symptom of emotional distress. Given the limitations of the study, further studies by severity level and longitudinal cut-off are needed.

S-2C3**What can we learn from the identification of specific characteristics in buying shopping disorder with other comorbid impulse related disorders?**

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Background: The aim of the present study was to explore if eating disorders and more specifically, Bulimia Nervosa (BN) patients, who present a comorbid Buying Shopping Disorder (BSD), could constitute a specific subtype considering its neuropsychological profile. Moreover to present a descriptive analysis of different clinical traits and to analyze how the relationship of these variables could influence the cognitive-behavioral therapy (CBT) out-

come. *Method:* A clinical sample of 75 women, 25 with BN, 25 with BN and comorbid BSB (BN+BSD), and 25 Healthy Controls (HC), completed a comprehensive battery of clinical, psychometric and neuropsychological instruments. Dimensions such as cognitive flexibility, decision-making, BN symptomatology, emotional distress and personality temperament and character traits were assessed. *Results:* BN+BSD was the group with the most severe clinical profile and the worst treatment outcome. The comorbid group showed more neuropsychological impairment than the non-comorbid one and the HC. Path-analysis indicated that deficits in decision-making were directly and positively associated with poor therapy outcome, while deficits in flexibility with the comorbid presence of the disorders. Specific personality traits such as self-directedness and novelty seeking were associated with the neuropsychological impairment and the comorbidity. *Conclusions:* BN+BSD presented a worse clinical and neuropsychological profile that seems to be related with the therapy outcome. These results must be taken into account in order to implement specific approaches.

S-2C4

Investigating the motivations behind compulsive shopping and hoarding

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Background: Cognitive-behavioral models of compulsive shopping and hoarding posit that motivations to acquire and save possessions are driven by positive (e.g., excitement) and negative emotions (e.g., avoiding distress). However, research on this topic has been piecemeal both in the compulsive shopping and hoarding literature, likely due to the absence of a comprehensive and theoretically driven measure. We aimed to fill this gap in the literature. *Methods:* Two self-report measures were written based on a review of the literature and consultation with 22 experts in the field. We modified our measures based on expert feedback and factor analyses after administering them to three large non-clinical samples (N=432,481,653). In the final administration, there were 102 acquiring items and 110 saving items; 75 items were common to both measures, reflecting the similar motivations for acquiring and saving/hoarding behaviours. Participants also completed measures of compulsive buying and hoarding symptoms. *Results:* Factor analyses indicated there were 14 acquiring motives and 14 saving motives. Regression analyses indicated that compulsive shopping was predicted by motives about finding shopping rewarding, coping with negative emotions, and avoiding mistakes. Hoarding symptoms were predicted by wanting to reuse possessions, enjoying collections, sentimental motives, and avoiding mistakes. We replicated these findings in a clinical sample with compulsive buying and hoarding diagnoses (N=159). *Conclusions:* Findings highlight the number of different motivations that drive acquiring and saving/hoarding behaviors. Our research aligns with behavioral addiction frameworks because we found that acquiring and saving/hoarding were motivated by both “liking/feeling better” and “compulsion/must do” systems.

S-2D1

The validity and appropriateness of tolerance as a criterion for Internet Gaming Disorder

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Tolerance is defined in DSM-5 (APA, 2013) as the “need to spend increasing amounts of time engaged in gaming”. Although most existing questionnaires use the DSM-5 conceptualization, both this conceptualization and the tolerance criterion were criticized (Castro Calvo et al., 2021). The aim of this systematic literature review was to critically assess evidence about the psychometric validity and the appropriateness of tolerance as a criterion for Internet Gaming Disorder (IGD). The review was conducted by using a keyword combination in WOS, Scopus, PubMed, PsycInfo and Google Scholar databases. Altogether 61 articles were included into the review: 47 quantitative articles, 7 qualitative articles, and 7 articles that included only the operationalizations of the tolerance criterion. Results showed that tolerance mostly had acceptable to high factor loadings on the IGD factor. Tolerance aligned well with the IGD diagnosis in studies that used clinical interviews. However, in other studies tolerance showed a low association with distress and well-being. In qualitative studies gamers rejected tolerance as both a process and an appropriate criterion for IGD. The favourable psychometric characteristics of tolerance displayed in factor analytic, clinical interview and other studies were probably due to the issues related to the IGD construct, which also consists of other previously criticized criteria. The results point to the conclusion that tolerance is not a good criterion for measuring IGD and caution should be taken when interpreting the results obtained using questionnaires that were created under the DSM-5 conceptualization.

Keywords: Internet Gaming Disorder, tolerance, DSM-5 criteria, validity

S-2D2

Comparing psychopathological symptoms, life satisfaction, and personality traits between the WHO and APA frameworks of gaming disorder symptoms: A psychometric investigation

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The inclusion of Internet Gaming Disorder (IGD) in the fifth revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by the American Psychiatric Association and Gaming Disorder in the eleventh revision of the International Classification of Diseases (ICD-11) by the World Health Organization requires consistent psychological measures for reliable estimates. The current study aimed to investigate the psychometric properties of the Gaming Disorder Test (GDT), the Ten-Item Internet Gaming Disorder Test (IGDT-10), and the Five-Item Gaming Disorder Test (GDT-5) and to compare the WHO and the APA frameworks of gaming disorder symptoms in terms of psychopathological symptoms, life satisfaction, and personality traits. A sample of 723 Swedish gamers was recruited (29.8% women, 68.3% men, 1.9% other, Mage = 29.50 years, SD = 8.91). The results indicated notable differences regarding the estimated possible risk groups between the two frameworks. However, the association between gaming disorder symptoms and personality traits, life satisfaction, and psychopathological symptoms appeared consistent across the two frameworks. The results showed excellent psychometric properties in support of the one-factor model of the GDT, IGDT-10, and GDT-5, including good reliability estimates (McDonald's omega) and evidence of construct validity. Additionally, the results demonstrated full gender and age measurement invariance of the GDT, IGDT-10, and GDT-5, indicating that gaming disorder symptoms are measured equally across the subgroups. These findings demonstrate that the IGDT-10, GDT-5, and GDT are appropriate measures for assessing gaming disorder symptoms and facilitating future research in Sweden.

Keywords: gaming disorder, item response theory, measurement invariance

S-2D3

The association between non-suicidal self-injury and problem gambling, problem gaming, and problematic internet use: A systematic review

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The phenomenon of non-suicidal self-injury (NSSI self-harm without suicidal intent) has recently attracted considerable attention and is now recognized as an important public health concern. Here, we systematically reviewed and synthesized the existing literature to provide an up-to-date overview of associations between NSSI, problem gambling, problem gaming, and problematic internet use (PIU).

We searched four databases through March 2024: Web of Science, Scopus, PubMed, and PsycINFO. The JBI tool was used to assess the quality of studies. All empirical studies utilizing quantitative or qualitative methods or case studies that presented evidence on the relationship between NSSI and problematic gambling, internet use, and gaming were included. Thirty-five studies published between 2009 and 2023 were reviewed. Cross-sectional designs and surveys were common. The main findings suggest that gambling is significantly associated with NSSI in college students, adolescents who self-harm are more likely to engage in gambling, and problem gambling is associated with self-harm in adults. There is a strong, significant association between PIU and NSSI, with social support acting as a moderator and impulsivity being a shared factor. Similarly, internet gaming disorder and its severity are linked to self-harm, with anxiety acting both as a mediator and moderator of the relationship. Common limitations of studies entailed self-reported measures, limited generalizability, poor ability to establish causal relationships due to cross-sectional design, and frequent use of single unvalidated questions to assess NSSI. The review provides a comprehensive overview and suggests complex relationships between NSSI, problem gambling, problem gaming, and

PIU. Clinicians and future studies should focus on co-occurring disorders and identify risk factors, predictors, and moderators that influence these relationships.

Registered PROSPERO protocol: https://www.crd.york.ac.uk/PROSPERO/display_record.php?RecordID=511580

Keywords: non-suicidal self-injury, problem gaming, problem gambling, problematic internet use

S-2D4

Video game players' profiles: A longitudinal study of psychological gaming behaviors

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Objectives: Motivation and emotion regulation have been related to the development and maintenance of several psychological disorders, playing a critical role in understanding addiction. Understanding the progression and factors influencing gaming behaviors, distinguishing them between healthy and problematic gaming is crucial in the context of Gaming Disorder (GD). Longitudinal studies investigating these factors and differentiating gaming behaviors from non-problematic to risky and addiction are scarce. To address this issue, the present longitudinal study aims to explore the temporal stability and transitions occurring the four video game players' profiles with GD, determining the predictors for GD, in a comprehensive view of the gaming behavioral spectrum. *Methods:* A longitudinal design with a sample of 2400 English-speaking video game players above 16 years old was conducted. The participants were initially assessed and then followed up after 12 months. The baseline and follow-up questionnaire established psychological gaming behaviors, measuring motives for play video games, emotional regulation and GD. *Results:* Participants were categorized into four profiles on their motivation for gaming and emotional regulation, using Latent Profile Analysis (LPA). The Mplus R3STEP was used to analyse the covariates GD and sociodemographic variables. The four heterogeneous profiles were identified: social (non-problematic gaming), engaged, avoidant, and dysregulated (high risk of GD) and examined the transitions and stability of these profiles over a 12-month period. *Conclusion:* The findings aim to contribute to the understanding of the factors of different gaming behaviors, from healthy gaming and risk of GD, targeting interventions for preventing GD and promoting healthy gaming habits.

Keywords: gaming disorder, profiles, longitudinal study

S-2D5

Links between generalized problematic internet use, problematic social media use, and problematic online gaming among Spanish university students

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Generalized and specific problematic online behaviours often coexist and interact, yet limited research has examined the specific interactions among generalized problematic internet use (GPIU), problematic social media use (PSMU), and problematic online gaming (POG) among university student populations. The present study examined the associations between GPIU, PSMU, and POG through bivariate and network analyses among a university student population. A total of 807 students (57.7% female; Mage = 21.22 years, SD = 3.68) from a Spanish university participated, completing the Compulsive Internet Use Scale, the Bergen Social Media Addiction Scale, and Internet Gaming Disorder Scale–Short Form. Bivariate correlational analysis showed significant associations between the three problematic behaviours: $r = .21$ between PSMU and POG (small effect), $r = .36$ between GPIU and POG (medium effect) and $r = .72$ between GPIU and PSMU (large effect). Exploratory graph analysis showed a nuanced interaction between GPIU, PSMU, and POG symptoms. More specifically, robust connections emerged between analogous symptoms of GPIU and PSMU, while connections between GPIU and PSMU symptoms and POG symptoms were comparatively weaker. Symptoms with the highest centrality indices included coping/mood modification, withdrawal, and preoccupation in GPIU, relapse and withdrawal in PSMU, and continuation despite problems in POG. The study supports the conceptualisation of GPIU as a nonspecific disorder, underscores the independence of PSMU and POG as distinct constructs, and aligns with perspectives that differentiate POG from the GPIU spectrum. The practical implications of these insights extend to inform interventions for problematic online behaviours.

Keywords: problematic online behaviours, college students, network analysis

S-2E1

It's not my fault! Tendencies toward interpersonal victimization and self-reported problematic pornography use

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Background: Recent literature suggests self-reported addiction to pornography and self-reported frequency of pornography use are both related to narcissism, particularly antagonistic narcissism. Even so, the reasons for these links are not fully understood. One potential explanation is that those with higher antagonistic traits often view themselves as victims, and identifying as addicted to pornography may relieve a sense of responsibility for one's own behaviors. *Method:* To test the above, a large U.S. adult sample was recruited and then followed-up with six months later (final N = 1,320). A longitudinal structural equation model was constructed, predicting perceived addiction to pornography (measured by the Cyber Pornography Use Inventory-4) at baseline by gender, age, frequency of pornography consumption, antagonistic traits, and the four subscales of the Tendency for Interpersonal Victimization scale. Then perceived addiction six-months later was predicted by baseline perceived addiction and other pertinent variables. *Results:* At baseline, perceived addiction to pornography was positively associated with male gender, younger age, greater frequency of pornography viewing, antagonism, and ruminative aspects of interpersonal victimization. Longitudinally, baseline levels of antagonistic traits and ruminative tendencies in interpersonal victimization predicted perceived addiction six months later, even after accounting for baseline perceived addiction. *Discussion:* Perceived pornography addiction is clinically relevant though it may not always be diagnostically accurate. Individuals with higher ruminative aspects of victimization tend to identify more as addicted to pornography over time, beyond pornography frequency and other variables. This suggests self-identification as a victim plays a pivotal role in shaping individuals' perception of their pornography addiction.

S-2E2

Approach- and avoidance tendencies and trait sexual motivation in problematic pornography use: Preliminary results from an experimental study

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Background: Changes in implicit approach- and avoidance tendencies towards addiction-related stimuli might play a role in the development of problematic pornography use (PPU). Experimental studies have reported both linear as well as nonlinear associations, however mostly in convenience samples. Trait sexual motivation is a construct that might affect approach-/avoidance tendencies toward pornography-related stimuli. We investigate the relations between approach-/avoidance tendencies and trait sexual motivation in participants with PPU. *Method:* Using data from an ongoing multi-center study (FOR 2974), preliminary analyses includes 26 male, heterosexual participants with PPU and 26 age-matched control participants (diagnosed by clinical interview). Participants completed an Approach-Avoidance Task (AAT) with distal (non-explicit) pornographic stimuli, as well as questionnaires on PPU symptoms and trait sexual motivation. *Results:* Participants with PPU showed higher trait sexual motivation compared to control participants, however the two groups did not differ in their mean approach-/avoidance tendencies. Non-linear regression analysis indicated an inverse U-shaped relation between approach-/avoidance tendencies and PPU symptom severity, indicating that participants with moderate PPU-symptoms showed the strongest approach tendencies towards pornographic stimuli. No correlation between trait sexual motivation and approach-/avoidance tendencies was found, but higher trait sexual motivation was associated with faster responses toward pornographic stimuli compared to neutral stimuli. *Conclusion:* The relation between implicit approach-/avoidance tendencies and PPU is complex. While preliminary analyses with relatively small sample sizes should be interpreted with caution, decreased approach tendencies in later stages of PPU are consistent with the assumed shift from reward-driven, compulsive behaviors over the course of addictive behaviors.

S-2E3**Early pornography use and problematic pornography use**

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Background: Early pornography use has been associated with risky sexual behavior, but no research has explored the relationship between early pornography use and problematic pornography use (PPU).

Method: A nationally representative sample of 1249 American adults (male=75.4%) completed an anonymous online self-report survey assessing their demographics, pornography use behaviors, and PPU. PPU was measured using the Brief Pornography Screen (BPS), which has a psychometrically validated cut-point for identifying clinically relevant symptoms. *Results:* The mean age of first viewing pornography was 14.81 (SD=4.17), while the mean age of regular pornography use (i.e., at least several times a year; self-defined by participant) was 23.80 (SD=10.57). Men (M=14.19, SD=3.61) first viewed pornography at a younger age than women (M=16.71, SD=5.09), ($F(1,1247)=90.90, p<.001, \eta^2=.068$). Similarly, men (M=23.36, SD=11.02) were more likely to begin regularly viewing pornography earlier than women (M=25.15, SD=8.94), ($F(1,1247)=111.16, p=.01, \eta^2=.005$). The prevalence of PPU was 21.9% (n=274). Those who met the cutoff on the BPS (M=20.45, SD=9.38) began regularly viewing pornography younger than those who did not meet the cutoff (M=24.74, SD=10.92), ($F(1,1247)=36.29, p<.001, \eta^2=.028$). There was no significant difference between those who met the cutoff on the BPS (M=14.39, SD=4.27) and those who did not meet the cutoff (M=14.93, SD=4.14) on age of first viewing pornography. *Conclusions:* Regular pornography viewing at an early age may contribute to the development of PPU later in life, though age of first of viewing pornography appears unrelated to PPU. Results highlight the importance of further research examining early pornography use and PPU.

S-2E4

Current understanding of problematic pornography use and future directions

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Background: The ICD-11 diagnosis of Compulsive Sexual Behavior Disorder (CSBD) includes problematic pornography use (PPU) as one specific phenotype. The main diagnostic criteria for CSBD/PPU are diminished control over the sexual behavior, increasing priority, and continuation despite negative consequences as well as functional impairment in daily life and/or marked distress resulting from the excessive sexual behaviors, which are comparable to diagnostic criteria for gaming disorder. It is still debated whether CSBD/PPU are understood most appropriately as impulse control disorders or as disorders due to addictive behaviors. *Method:* Narrative review examining current empirical findings on psychological and neurobiological mechanisms of CSBD and PPU. *Results:* The majority of empirical findings on affective and cognitive mechanisms of CSBD/PPU exists for processes related to substance-use disorders and addictive behaviors: cue reactivity and craving, related to the ventral and the dorsal striatum, reduced prefrontal control, and increased attentional bias. Sexual trait motivation and impulsivity may represent predisposing factors. *Conclusion:* Even though impulsivity is involved in CSBD/PPU, it may be considered a transdiagnostic (unspecific) vulnerability factor. The affective and cognitive mechanisms may indicate an imbalance between positive/negative reinforcement as well as habitual-/compulsivity-related motivations, and reduced self-control and therefore parallel mechanisms known to be involved in addictive behaviors. Future studies should test divergent validities, i.e. the potential differences between PPU and other phenotypes of CSBD, as well as convergent and divergent validities of mechanisms involved in impulse control disorders and obsessive-compulsive or related disorders.

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S-2F1**Attention deficit hyperactivity disorder and hoarding disorder comorbidity: Prevalence, clinical phenotype and methylphenidate treatment**

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Although several studies consistently showed that patients with attention deficit hyperactivity disorder (ADHD) have high rates of hoarding disorder (HD) comorbidity, little is known about the clinical and cognitive presentation of ADHD patients with comorbid HD and the long-term effects of methylphenidate treatment. Thus, the aim of the present study was to compare the clinical and cognitive features of adult ADHD patients with and without hoarding comorbidity and a control sample of healthy controls and to assess the on-year effect of methylphenidate on hoarding symptoms. **Methods:** 57 adult ADHD outpatients with comorbid hoarding disorder (ADHD+HD) and 57 matched ADHD patients without hoarding disorder comorbidity (ADHD-HD) and a control group of 47 healthy controls (HCs) underwent a comprehensive clinical and neurocognitive assessment. A third sample of 40 ADHD patients was assessed at baseline and after one year of methylphenidate treatment. **Results:** ADHD+HD patients showed similar ADHD symptoms but greater attentional impulsivity, mood and anxiety symptoms and a greater functional impairment compared to ADHD-HD patients as well as greater attentional and executive functioning impairments. Data on methylphenidate treatment will be presented. **Conclusions:** ADHD patients with comorbid hoarding disorder present a more complex clinical and neuropsychological phenotype. These results further highlight the relevance of assessing and treating hoarding behaviors in adults with ADHD.

Keywords: ADHD, hoarding disorder, methylphenidate

S-2F2**Eating Disorder symptoms impair adults' social functioning: The role of Attention Deficit/Hyperactivity Disorder**

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Background: This study examined the relationship between eating disorder (ED) and ADHD symptoms and their impact on social functioning. It aimed to clarify the mechanisms whereby the symptoms of ED cause impairment through their impact on general social functioning. *Method:* A community sample of 160 Latino adults completed an anonymous online

survey including self-report measures of symptoms of ED and ADHD, social functioning, and social functioning related to eating behavior. We tested a conditional process model that posits that social functioning related to eating behavior mediates the effect of ED on general social functioning, while ADHD symptoms moderate the effect of ED on general social functioning. *Results:* Overall, increased ED and ADHD symptoms, as well as poorer social functioning related to eating behaviors, were associated with reduced general social functioning. The effect of ED on social functioning is fully mediated by social functioning specific to eating behavior. However, we found no evidence of a significant conditional effect of ED symptoms on general social functioning as being moderated by ADHD symptoms at the levels of ADHD symptoms that we tested. Results partially supported the hypothesized model. *Conclusions:* The findings highlight the important role of social functioning specifically related to eating behaviors as the mechanism whereby ED symptoms cause impairment by diminishing general social functioning. ED and ADHD symptoms are associated with diminished general social functioning. This underscores the importance of screening for and addressing ADHD symptoms in ED populations, and vice versa, in clinical settings. We discuss clinical and research implications.

Keywords: Eating Disorders, ADHD, social functioning, comorbidity, mediation

S-2F3

Non-suicidal self-injury and Attention Deficit/Hyperactivity Disorder in adults: A systematic review and meta-analysis

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Background: Non-suicidal self-injury (NSSI) is associated to adverse outcomes such as increased risk for suicide. Attention Deficit/Hyperactivity Disorder (ADHD) increases the risk for NSSI and suicidality across genders and age groups. The relation between ADHD symptoms and NSSI has been widely studied in adolescent populations. However, the characteristics of NSSI in adults and its relationship to ADHD in adult populations are less well understood. *Objectives:* To examine the association between NSSI and ADHD symptoms in adults, we conduct a systematic review and meta-analysis of peer-reviewed studies, following PRISMA guidelines. *Methods:* Eligibility criteria: We searched for peer-reviewed studies of adult samples published in English or Spanish between 2010- 2023 that report measures of the association between NSSI and ADHD. Data Sources/Search Strategy: We searched PUBMED, EMBASE, EBSCOhost, and PsycINFO databases, using combinations of these search terms: (1) non-suicidal self-injury; NSSI; self- injurious behavior; self-injury; self-harm; AND (2) attention deficit hyperactivity/disorder; ADHD. Study selection/Data collection: We screen preliminary results of our searches and assess eligibility for inclusion in the review. We report pooled odds ratios (ORs) with 95% CIs and use the Newcastle–Ottawa

Quality Scale (NOS) to evaluate article quality. *Results:* Initial searches resulted in 549,765 articles: PUBMED (29,497), EBSCOhost (403,508), EMBASE (83,748) and PsycINFO (33,012). We screen these and assess eligibility; extract measures of the association between NSSI and ADHD; and report pooled ORs with 95% CIs and forest plots, to estimate the size of the NSSI-ADHD association, and discuss conclusions, clinical and research implications and recommendations for research and intervention.

Keywords: non-suicidal self-injury, NSSI, attention deficit/hyperactivity disorder, ADHD, meta-analysis

S-2F4

Prevalence of ADHD in a sample of adults with gender dysphoria

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Background: according to Standards of Care for the Health of Transgender and Gender Diverse People, Version 8 (2022) interventions to address mental health can facilitate successful outcomes from transition-related care. Most studies addressing mental health in the transgender population focus on depressive symptoms, anxiety symptoms, self-harm and suicidal behaviors. In the current literature, data on the prevalence of neurodevelopmental disorders and in particular ADHD in individuals with gender dysphoria are scarce. *Methods:* 69 subjects diagnosed with Gender Dysphoria referred to our center and 64 healthy subjects (with a negative history of psychiatric psychopathology) were included in the study. The symptoms of inattention, hyperactivity and impulsivity were assessed by administering the Barkley Adult ADHD Rating Scale (BAARS Italian version). *Results:* Preliminary results showed a significantly greater presence of ADHD symptoms in subjects with Gender Dysphoria compared to controls ($p < .001$). 35% of subjects with Gender Dysphoria showed a current ADHD diagnosis (score above the cut-off at BAARS-IV) compared to 3% of control subjects. The assessment of childhood ADHD showed that 29% of subjects with Gender Dysphoria had a diagnosis of childhood ADHD compared to 20% of control subjects. *Conclusions:* from these preliminary data, ADHD appears to be extremely frequent in subjects with Gender Dysphoria, future studies will have to assess the impact of these symptoms on the diagnostic assessment of Gender Dysphoria, patients' understanding of medical information and their involvement in the treatment pathway.

Keywords: gender dysphoria, transgender, ADHD

S-2F5

The relationship between problematic Internet use and personal and interpersonal factors in adolescents with ADHD

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Background and aims: Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder frequently associated with Internet addiction. In addition to ADHD symptoms, other psychological and social difficulties frequently associated with ADHD adolescents may contribute to the development of Internet addiction. This research examined the influence of socio-demographic factors (gender, age), intrapersonal factors (self-esteem, psychological distress, generalized anxiety, and social anxiety), interpersonal factors (family support, peer alienation, and school connectedness), and application use (amount of time spent online and per application) on the risk of Internet addiction. *Method:* This research is based on a secondary analysis of data obtained in 2018. The convenience sample was composed of 723 adolescents (57.1% boys; age 14.57 years) recruited in high schools who self-reported having a diagnosis of ADHD delivered by a doctor. A binary logistic regression analysis was performed to study the association of the variables of interest with the risk of Internet addiction. Then, this analysis was repeated for boys and girls to study the influence of gender. *Result:* Logistic regression analysis revealed that being a boy, having a high level of peer alienation, a high level of psychological distress, low self-esteem and spending more time online, including more than 21 hours on video games, increased the risk of Internet addiction in adolescents with ADHD. Boys and girls with ADHD have different risk factors, that will be discussed. *Conclusion:* The results highlight the importance of taking gender into account when studying the role of risk factors on internet addiction in adolescents with ADHD.

Keywords: ADHD, internet addiction, risk factors, gender

S-2G1**Gambling and suicide: a psychological autopsy and qualitative inquiry**

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Recent times have seen a huge increase in gambling. In some instances, gambling leads to gambling-related harms, including poor mental and physical health, domestic violence, and homelessness. Sadly, for some individuals, the most serious consequence of disordered gambling is suicide death or suicide attempt. In a study at the National Problem Gambling Clinic, it was reported that 6.6% individuals had made suicide plans. However, there is a lack of data related to the role of gambling in suicide as it is difficult to measure. There are strong links between gambling and suicide, but what is needed is a greater understanding of factors that increase suicide risk. If we can find out what these are we will be able to better support suicide prevention efforts in the future. Working with individuals and significant others with lived experience of gambling related harm, our project aims to conduct the first full Psychological Autopsy study in Europe. A psychological autopsy study investigates suicide through a fully comprehensive review of a deceased person's history leading up to the suicide by interviewing people who knew them, and fully assessing contextual information. Work includes an in-depth exploration of common themes, significant risk factors, environmental factors, and behaviours to provide a more complete understanding of the socioecological nature of gambling-related suicide. Having accurate information on gambling-related suicide is vitally important for public health approaches which are aimed at prevention. This presentation will discuss the instigation of such an important project and very early findings.

Keywords: psychological autopsy

S-2G2**“But it’s worth it.”: A thematic analysis of in-game risk-taking**

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Background and aims.: Research conducted on motivations to play videogames tended to focus on single specific game genre (e.g., Massively Multiplayer Online Role-Playing Game) or base their scale on previously published ones without considering game genre. Therefore, the current study aimed to explore gamers’ motivations to play diverse game genres to gain further insight into their motivations, and potentially to unveil motivations unexplored previ-

ously. *Methods and results*: 250 Gamers took part in an online survey with open questions about their motivations to play and their preferred videogame genres (e.g., “Why do you play Strategy games, what does it bring you compared to other game genres?”). As some participants reported enjoying virtual risk-taking, further exploration of this topic through semi-structured interviews took place with five participants. Using thematic analysis, three themes were identified: Outlet (i.e., taking risks in videogames rather than real-life); Advantage (i.e., taking risks to improve one’s chances to win); and Positive self-view (i.e., taking risks to improve one’s self-esteem). *Discussion and conclusions*: This study found that gamers had varying motivations to engage in virtual risk-taking: Finding an outlet for taking risks they would not take in real life; using risk-taking as a strategy for winning; and finding a positive self-image through their way of playing. Although risk-taking is usually viewed as negative in the literature, this study showed how virtual risk-taking may be functional for some people. Future studies should explore how this type of risk-taking differs from real-life risk-taking in terms of self-control and potential negative consequences.

Keywords: gaming motivations, risk-taking, thematic analysis

S-2G3

Why is it so difficult to gain control over gaming? Patient’s descriptions of factors that influence their gaming, a qualitative interview study

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Introduction: With the recent introduction of diagnostic criteria for gaming disorder, knowledge is accumulating. There is however still a lack of knowledge about how patients themselves experience reasons for not being able to control their gaming. This can be informative for being able to design effective treatments. **Method:** Patients seeking treatment for gaming disorder (n=15) were interviewed about their gaming, and factors that influence their gaming. The interviews were analyzed with thematic analysis. **Results:** Results show both internal and external factors that make it difficult to control gaming. **Conclusion:** Identifying factors that maintain current gaming behavior is vital in treatments for gaming disorder. Results from the study makes it possible to compare patients own experiences of their difficulties with theoretical models of gaming disorder as well as the diagnostic criteria. Knowledge about factors that is not covered by current theoretical models makes it possible to further develop effective treatments and diagnostic procedures.

Keywords: gaming disorder, treatment-seekers, interview study

S-2G4**Hitting the brick wall – working with gamers who don't want to change their gaming habits***SANNI BEHM, PETRI BEHM*

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Fostering intrinsic motivation is key to successful behavior change. Interventions for problematic gaming and gaming disorder focus on gaining control, cutting back gaming hours or quitting gaming altogether. People in the determination and action stages of change are more receptive to discussing behavior change, but with people who are ambivalent about change it can backfire. Focusing on control and quantity of gaming hours focuses the intervention on external motivational factors like avoiding negative consequences of gaming. This can lead to some clients resisting change and shutting down. Using motivational interviewing with over 100 help-seeking gamers has led us to believe that focusing on the quality of gaming, instead of quantity, is the key to successful alliance building. By discussing the quality of gaming it is possible to reach the client's intrinsic motivation to change and the change usually results in improving their other habits outside gaming. The talk is based on clinical observations and is aimed at clinicians and other professionals hoping to find new angles on how to motivate their ambivalent clients to change their gaming behavior.

Keywords: problematic gaming, treatment, motivation

S-2G5

Perceptions of health changes and support for self-limiting social media use among young adults in Finland: A qualitative study

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Background: Studies have revealed self-limiting strategies for social media, yet regaining control over one's social media use is found to depend largely on dynamic factors in the environment as well as personal traits. The perceptions of individuals who experience issues with social media use remain largely unknown. In particular, qualitative insight into actual help-seekers' experiences of problematic social media use is lacking. The goal of this study was to investigate what kinds of self-limiting strategies young people who experience problems relating to social media use apply and how these efforts to self-limit social media use are supported. *Method:* A qualitative study was used. The data were collected through semi-structured interviews from young adults (n=11) in Finland who self-diagnose their use of social media as problematic and have tried to self-limit their use and/or seek clinical help for their problems. The data were analyzed with inductive content analysis. *Results:* Two overarching main categories were found. Main categories were: 1. Success of self-limiting social media use depends on the environment and individual factors and 2. Lack of knowledge about problematic social media use complicates seeking and receiving support. *Conclusions:* The results highlight that success in regaining control over one's social media use appears to depend significantly on environmental and individual factors e.g., personal motivation and social network factors. A lack of knowledge regarding the potential mental health risks associated with social media use was a key challenge to any effort to improve social media use behaviors.

Keywords: problematic social media use, social media, self-limiting, young people, qualitative study

S-2H1

Establishing the first Gaming Disorder Clinic in a statewide acute hospital in Western Australia

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Introduction: The Gaming Disorder Clinic (GDC) opened in November 2022. It is state-wide service and based at the statewide acute Fiona Stanley Hospital (FSH). The FSH-GDC is the first publicly funded such clinic in Western Australia. *Method:* Succinct report with literature review. *Findings:* The FSH-GDC offers early detection, assessment and treatment of GD and related conditions. Clinicians in FSH can identify GD, Problematic Internet Use and other related behavioural addiction, before the patients self-identify as having such problems, in addition to assessing underlying conditions, such as neurodevelopmental disorders, anxiety, depression and adverse psychosocial risk factors, driving GD. These conditions constitute different types and levels of diagnostic overshadowing. Only a small proportion of FSH patients have sufficient insight to self-identify behavioural addictions as a driver of their acute hospital presentations, including suicidality, aggression and medical complications. Many initially deny having such problems, and only develop insight after screening, psychoeducation and treatment. Patients in the metro area can be assessed in person and patients in rural and regional areas via telehealth and on the phone. Patients who are reclusive and do not attend the clinic can be seen at home. Teaching and International collaborations are ongoing. 43% patient have school non-attendance, and further 25% with limited attendance. For those over 16, 57% are unemployed; 31% employed and remaining are students. Substantial proportion have underlying ASD, ADHD, depression and anxiety disorder. *Conclusion:* We have identified unique values in locating the GDC within an acute hospital, and uncovered different types of diagnostic overshadowing.

Keywords: gaming disorder, ADHD, ASD

S-2H2**Exploring Psychedelic Assisted Therapy in the Treatment of Gambling Disorder**

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Background: Gambling Disorder (GD) is a public health issue leading to serious financial, relational, and psychological problems. The currently available therapeutic and pharmacological options have low to moderate effectiveness, with high drop-out and relapse rates. Exploring new approaches to treating GD could improve the prognosis for people affected by GD. This presentation focuses on the potential application of Psychedelic Assisted Therapy (PAT) as a novel treatment for GD. *Methods:* A review of recent studies examining the therapeutic potential of PAT in treating anxiety, depression, PTSD, and substance use disorders, particularly in treatment-resistant populations. The review will also focus on the potential advantages and risks of PAT in treating GD. *Results:* PAT has shown promising results in treating disorders commonly co-occurring with GD, suggesting their potential effectiveness for treating GD and its comorbidities. However, research on the use of PAT for treating behavioural addictions is still in its early stages. The presentation will postulate the potential of PAT in treating GD based on findings in substance use disorders and other co-occurring mental disorders. *Conclusions:* There is a need for rigorous research to evaluate the efficacy and safety of PAT in the treatment of GD. Future studies should explore PAT in various settings, including retreats and in combination with different therapeutic modalities.

Keywords: gambling disorder, psychedelics, psychedelic assisted therapy, pat, gd, behavioural addictions

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S-2H3

Gaming Disorder, pressure ulcers and social prescribing

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Introduction: Gaming Disorder (GD) is now increasingly recognised to contribute to significant medical comorbidity in addition to worsening of social reclusiveness. ‘Social Prescribing’ is a novel innovation in treating GD by replacing gaming time with designated meaningful activities within a multidisciplinary management framework. *Method:* a case report with succinct review of relevant scientific literature. *Findings:* We present the case of a 34 year single unemployed male with stage 4 pressure ulcers due to prolonged sitting secondary to GD with complex PTSD, alcohol and opioid medication misuse. The Gaming Disorder Clinic at Fiona Stanley Hospital engaged with him as an inpatient and followed him up with home visits and in out-patient clinic, in partnership with addiction clinic, community mental health team, GP, plastics, local pharmacy, peer support worker and family.

A behavioural plan for gaming abstinence and progressive increases in activities in the community by Social Prescribing were implemented. He changed from being isolated and reclusive at home and feeling hopeless to being fully engaged with holistic treatment of his physical injuries and GD; he accepted a daily dispensing of opioid medication and increased his mobility. He engaged in the treatment of his ulcers and enrolled in an educational IT course. His gaming time has reduced and been replaced by social and occupational outings. *Conclusions:* This case demonstrates social prescribing as an effective intervention by linking individual needs and strengths with external resources to replace gaming time with meaningful activities, in partnership with community stakeholders.

Keywords: gaming disorder, social prescribing

S-2H4**Web-based evidence on the treatment of behavioral addictions in United States Model ATOD Treatment Centers**

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Behavioral addictions are highly comorbid with substance use disorders in about 54% of service users receiving substance use treatment. Few studies have examined whether treatment centers are attentive to such other addictions, which may undermine treatment. The 2021 Newsweek America's Best Addiction Treatment Centers website was utilized to examine the mention and treatment of behavioral addictions in 300 leading treatment centers across 25 states in the United States. Of 289 active websites, only 61 (21.1%) treatment centers mentioned anything about behavioral addictions. The highest prevalence was for gambling (n = 38), sex (n = 22), food/eating (n = 21), and internet gaming (n = 12). A total of 49 treatment centers reported treating those addictions (17%). The most prevalent treatments involved 12-step programming (n = 18), cognitive behavioral therapy (CBT; n = 16), individual counseling (n = 16), and group therapy (n = 15). Little formalized importance via websites was provided regarding the mention or treatment of behavioral addictions at treatment centers. A greater emphasis on concurrent and substitute behavioral addictions is needed to improve the quality of life and lower the possibility of relapse among those persons in addictions treatment.

Keywords: web-based, ATOD treatment, behavioral addictions treatment

S-2H5**Gaming disorder treated by combination of social prescribing and digital detoxication**

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Background: Gaming disorder (GD) is characterised by a compulsive and excessive use of gaming that it causes significant impairment or distress upon an individual. Social prescribing refers to a process by which clinicians ‘prescribe’ structured social activities and connect individuals to relevant community organisations and activities. Digital detoxification describes the process in which an individual spends prescribed periods of time refraining from use of electronic devices. Recently, both social prescribing and digital detoxification have been explored as novel ‘combined’ management in treating GD. *Method:* We present a case study of a youth with GD who was managed in the Fiona Stanley Hospital Gaming Disorder Clinic (GDC) through a combined approach of social prescribing and digital detoxification - with succinct review of relevant scientific literature. *Findings:* Patient A is a 17-year-old male with a background of autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD) who was referred to our GDC clinic with concerns regarding excessive and harmful use of online gaming, such that barring him from use of his video games would lead him to express high levels of distress, aggression and suicidal ideation. Working in conjunction with Patient A and his parents, we implemented a strategy of social prescribing and digital detoxification which led to marked reduction in his time spent gaming and reengagement with activities and time spent with his family and wider community. *Conclusions:* This case highlights the relevance of combined digital detoxification and social prescribing as part of managing patients with GD.

Keywords: gaming disorder, social prescribing, detoxication

S-3A1

Recovery in veterans with Gambling Disorder: A scoping review

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Background: While the recovery process from Gambling Disorder (GD) in the general population has been extensively studied, this recovery process is not well understood in military veterans with GD, with limited literature on its nature and course. This review aims to bridge this gap by delving into existing research on GD recovery among veterans worldwide. It also aims to identify the characteristics, prevalent themes, and recovery paradigms in the literature, thereby shedding light on the nuances of GD recovery in this distinct group. *Method:* A literature review focusing on recovery from GD among veterans will be conducted in adherence to PRISMA-ScR guidelines. This review will include searches for articles in English in four peer-reviewed databases: Medline, Embase, PsycINFO, and Web of Science. We will also utilize Google Scholar to enhance and supplement the search process. Two reviewers will independently screen studies based on the inclusion criteria, and any disparities will be resolved by a third reviewer. Additionally, a content analysis will be conducted to characterize recovery from GD among veterans. *Results:* We anticipate a final review pool of 20-40 articles. The findings will be presented, highlighting key topics and central recovery paradigms addressed in the studies. *Conclusions:* This scoping review will offer valuable insights into the recovery process from GD among veterans. The findings are poised to guide future research, inform clinical practices, and shape policy development, addressing the unique challenges and needs of this population.

Keywords: gambling disorder, military veterans, scoping review

S-3A2

**Cognitive control training in problem gambling:
An online randomized controlled trial**

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Introduction: Gambling disorder represents a major challenge in public health, with high prevalence and high treatment gap. Non-face-to-face interventions could be a relevant alternative to traditional health services. In this project, we aimed to assess the efficacy of a web-based intervention of cognitive training of inhibition. *Methods:* This study is a single blinding, randomized, web-based, controlled trial. Any adult problem gamblers with a Problem Gambling Severity Index-recent (PGSI-recent) score ≥ 5 with a French health insurance could be recruited with no face to face interview and randomized in the intervention group, a 6-week computerized cognitive training program targeting inhibitory skills “Let’s train”, or the comparator, a 6-week computerized neutral program. Both programs were carried out under similar conditions: advised biweekly online training and weekly telephone support. The main objective of the study was to assess the clinical efficacy of “let’s train” at 6 weeks, measured with the PGSI. Data analysis were analysed in intention-to-treat. *Results:* We randomized 185 problem gamblers. We lost of follow up 56.8% of participants at the end of the 6-week program. Participants realized respectively 4 and 3 sessions in mean in the active and in the control group (NS). PGSI decreased of 6.3 points in both groups at week 14. No between group significant difference was observed. *Conclusions* The online program showed little acceptability but participants from both groups improved significantly their gambling behavior. The telephone support could have been more efficient than the cognitive training program.

Keywords: gambling disorder, cognitive training, RCT, online, treatment

S-3A3**Internet-delivered therapist-assisted cognitive behavioral therapy for gambling disorder: A randomized controlled trial***ANNA SÖDERPALM GORDH*

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Cognitive behavioral therapy (CBT) is the most promising treatment for Gambling Disorder (GD), but only 21% of those with problematic gambling seek treatment. The aim of this study was to assess the effectiveness of internet-delivered CBT with therapist guidance compared to an active control treatment. 71 treatment seeking gamblers (18-75 years) diagnosed with GD were randomized to 8 weeks of internet-delivered CBT guided by telephone support, or 8 weeks of internet-delivered motivational enhancement paired with Motivational interviewing via telephone (IMI). The primary outcome was gambling symptoms measured at a first face-to-face assessment, baseline (treatment start), every two weeks, post treatment and at 6-month follow-up. Gambling expenditures, time spent gambling, depression, anxiety, cognitive distortions, and quality-of-life were assessed as secondary outcomes. No differences were found between CBT and IMI for any outcome measure. Post-treatment there were no clinical gambling symptoms in either group. Some deterioration was seen between post-treatment and 6-month follow up on gambling symptoms. Additionally, it was observed that the largest reduction in gambling symptoms was between first assessment and baseline. Both treatments offered in this study were effective at reducing gambling symptoms. It is also possible that the process of change started before treatment, which gives promise to low-intensity interventions for GD. Additional research is needed as this approach could be both cost-effective and has the potential to reach more patients in need of treatment than is currently possible.

Keywords: internet treatment, gambling disorder, CBT

S-3A4

**Virtual reality in experimental gambling and gambling treatment:
A review of methodologies**

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Virtual reality (VR) has been used to investigate several mental disorders and addictions, including gambling disorder. The effectiveness of different VR protocols in clinical and experimental settings are still not well understood and there is significant variability in the methodology. The aim of our review is to provide an overview on the VR protocols applied in the study of gambling disorder, as well as to offer some clarification on the differing VR methodologies applied to gambling research. Systematic searches were conducted in several databases, from 2000 until March 2023. Articles were included if they were: a) individual studies providing data about the use of VR methodology in the study of gambling behaviour b) written in English. The literature search yielded 143 articles. After the screening, 16 studies were included in the data extraction. The VR environment generally composed of different gambling-related scenarios set up in a casino, in a café or in a betting shop. Some studies included the presence of avatars performing gambling behaviours. Furthermore, others included background music and the voice of the avatars in the VR environment, or discussions between gambling analysts from TV screens. Some protocols employed the use of a head-mounted display (immersive VR), while others implemented a laptop screen (non-immersive VR), with headphones and a joystick for the movements. The results of these studies showed promise in recreating gambling environments, providing a high sense of engagement. With the ongoing progress in the technology, VR simulations could gain a more personalised and targeted approach.

Keywords: gambling, virtual reality, meta analysis, experiment methods, behavioural addictions.

S-3A5

Immediate insights: Development and validation of a screening tool for identifying momentary harm in online gambling*HARRIET ROSE GALVIN¹, LEROY SNIPPE², MARILISA BOFFO¹*

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Effective interventions in online gambling require timely detection of momentary harm. Existing screening instruments often miss immediate harm indicators due to their retrospective nature, clinical focus, and negatively biased language. However, it is crucial to employ specific, engaging assessment methods to avoid stigmatisation, ensuring accurate resource allocation for those most in need. This study addresses the gap in the online gambling prevention toolbox by developing and validating a context-specific screening tool for momentary (online) gambling harm. The tool is intended to improve the detection of individuals needing immediate stepped-care support, boosting the efficiency and effectiveness of responsible gambling (RG) initiatives. The study employed a two-phase, mixed-methods approach. Phase 1 involved qualitative analysis of recorded calls with at-risk gamblers by a Dutch operator, informing the screener development from themes of gambling behaviour and harm. Phase 2 focused on validating the tool with a sample of online gamblers through quantitative comparison with the PGSI and secondary qualitative analysis of new RG calls, assessing construct and criterion validity in a real-world setting. Phase 1 resulted in the novel screening tool tailored to online gambling behaviour, utilising positively phrased language to avoid stigma. Preliminary findings from phase 2 indicate the tool's improved sensitivity and specificity in detecting momentary gambling harm, correlating significantly with established clinical problem gambling measures. This new positively framed screening tool marks progress in the real-time identification of online gambling harm. Its focus on momentary assessment aligns with the dynamic needs of online gambling, potentially enhancing intervention strategies and RG practices.

Keywords: online gambling, momentary harm, screening tool, behavioral addiction, responsible gambling

S-3B1

Comparison of different assessment tools for problematic pornography use: Insights from the International Sex Survey

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Background: Problematic pornography use (PPU) is a common manifestation of the newly introduced Compulsive Sexual Behavior Disorder diagnosis in the 11th edition of the International Statistical Classification of Diseases. Although cultural, gender-, and sexual-orientation-related differences in sexual behaviors are well documented, there is a relative absence of data on PPU outside Western countries and among women as well as gender- and sexually-diverse individuals. We addressed these gaps by validating the long and short versions of the Problematic Pornography Consumption Scale (PPCS and PPCS-6) and the Brief Pornography Screen (BPS) and examining PPU risk across diverse populations. *Methods:* Using data from the preregistered International Sex Survey (Böthe et al., 2021) (N=82,243; Mage=32.4 years, SD=12.5), we evaluated the psychometric properties of the PPCS, PPCS-6, and BPS, and examined their associations with relevant correlates (e.g., treatment-seeking) (Böthe et al., 2024). We also compared PPU risk across diverse groups (e.g., three genders). *Results:* The PPCS, PPCS-6, and BPS demonstrated excellent psychometric properties. A total of 3.2% of participants were at risk of experiencing PPU (PPU+) based on the PPCS, with significant country- and gender-based differences (e.g., men reported the highest levels of PPU). No sexual-orientation-based differences were observed. *Conclusions:* This study is an important step towards validating PPU assessments across a range of populations and providing free, valid, and reliable measures of PPU in 26 languages. The findings and the state-of-the-art, standardized measurement tools contribute to an improved understanding of PPU in underrepresented and underserved populations and should promote future high-quality research on PPU (Jennings et al., 2024).

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S-3B2**Development of a screening instrument for gaming disorder and social network use disorder based on a clinical interview as gold standard**

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Background: Several screening instruments for gaming disorder (GD) and social network use disorder (SNUD) are available. However, they do not differentiate between GD and SNUD in a single tool. Moreover, their development was mostly based on theoretical assumptions and not empirically based on a diagnostic interview. The aim of this study was to develop an improved screening for GD and SNUD. *Method:* Reduction of a large item-pool from existing instruments was based on a panel sample (n= 1,523). A preliminary instrument with 30 items was completed by a German-speaking sample (n=1,180). Subsequently, 378 telephone interviews were conducted using AICA-SKI:IBS (Structured Interview on Internet Related Disorders) as clinical gold standard. In addition, 114 took part in a retest interview. The optimal item combination was determined using the Ant Colony Optimization algorithm (ACO). *Results:* Metaheuristic algorithms such as the ACO usually do not identify a single optimal solution. For this reason, various models resulting from several runs of the same algorithm were compared with each other and checked in terms of length and content. The Social Network Use and Gaming Disorder Screening (SNUGS) test consists of six items and showed good to excellent validity based on gender-specific and purpose-specific (case finding/prevalence estimation) cut-offs, as well as good reliability. *Conclusion:* With the help of the ACO algorithm, it was possible to select items that best differentiate between participants positive or negative in the clinical interview. SNUGS test can therefore be regarded as optimized screening device simultaneously for GD and SNUD.

S-3B3**Assessment of Criteria for Specific Internet-use Disorders (ACSID-11):
Clinical validation of a comprehensive screening instrument**

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Background: Comparable measures of symptom severity across different behavioral addictions are hardly available so far. The 11-item Assessment of Criteria for Specific Internet-use Disorders (ACSID-11) is a self-report measure of gaming disorder and other (potential) specific Internet-use disorders based on ICD-11 criteria for gaming disorder. Using the same set of items, the instrument serves as an efficient measure that allows comparability across different types of addictive online behaviors. *Methods:* The ACSID-11 was administered to over 900 participants from a multi-center study (FOR2974) within an extensive test battery on gaming disorder and further specific Internet use disorders. Participants were classified into groups with non-problematic, risky, or pathological use based on a standardized clinical interview. We cross-validated the ACSID-11 on gaming disorder (N=336) using the Internet Gaming Disorder Test (IGDT-10). Further validation was carried out regarding psychometric properties and reliability measures. *Results:* Confirmatory factor analysis showed a good model fit confirming the 4-factorial structure. Reliability was excellent. Cross-validation metrics were comparable to that of the IGDT-10. The clinical validation enables the use of a cut-off score for the screening of gaming disorder and other specific Internet-use disorders. Possibilities for a short version are proposed. *Conclusions:* The ACSID-11 has proven to be a valid instrument for an efficient screening of gaming disorder and other (potential) Internet-use disorders. Consistently measuring different types of problematic Internet use offers the opportunity to compare disorder patterns more systematically than is possible with different behavior-specific assessment tools to investigate convergences and divergences across different (sub)clinical use groups.

S-3B4**Psychometric characteristics of the Italian version of the Assessment of
Criteria for Specific Internet-use Disorders (ACSID-11)**

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Background: The importance of a comprehensive screening across different technological addictions was emphasized, since some evidence suggests that they often co-occur. Recently, Müller and colleagues (2022) have developed a measure of specific Internet-use disorders

based on ICD-11 criteria for gaming disorder in order to study the frequency and intensity of various technological addictions with the same items and improve comparability. This study aims to explore some psychometric characteristics of the Italian version of the ACSID-11. *Method:* To date, 988 individuals ($F = 80.4\%$; $Mage = 43.14$, $SD = 13.26$) completed online the ACSID-11 and measures to assess criterion validity. 788 participants ($F = 79.5\%$; $Mage = 42.78$, $SD = 13.26$) also completed measures to assess anxiety, depression, life satisfaction and dissociation. *Results:* Prevalence of online engagement was as follows: 98.5% social media, 89.4% shopping, 37.7% gaming, 24.1% pornography, 5.8% gambling. Due to the highest prevalence, we focused on the results regarding social networking sites (SNSs) use, gaming and shopping. For both problematic SNSs use and shopping, the CFA supported the proposed four-factor solution (i.e., Impaired Control, Increased Priority, and Continuation/Escalation, and Functional Impairment), which showed a superior fit compared to the unidimensional solution. Moreover, we found moderate-to-large correlations with the criterion variables. We will further explore the gaming scale with a larger sample since the fit indices at the moment do not indicate a good fit. *Conclusion:* The Italian version of the ACSID-11 may be a useful instrument for studying technological addictions with the same items and improving comparability.

S-3B5

Assessing problematic video streaming or just another “fishing addiction”? – The Streaming Disorder Scale for Adolescents and Parents (STREDIS-A and -P)

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Background: With the inclusion of gaming disorder (GD) in the ICD-11, criteria have been formulated to assess problematic media-use patterns. Under Disorders due to addictive behaviours, unspecified (ICD-11: 6C5Z) related phenomenon can be addressed. There is an ongoing debate whether video streaming (VS) could also become addictive. Research has been conducted on TV series binge watching suggesting addictive potential and associated negative psychological outcomes for affected people. However, no consistent conceptualization exists and other video streaming formats have not been considered yet. *Methods:* By applying the ICD-11 criteria of GD on VS patterns, the Streaming Disorder Scale for Adolescents (STREDIS-A) and for Parents (STREDIS-P) was developed to assess potentially problematic VS patterns in adolescents based on self- and parental ratings. Both questionnaires were validated within a large representative sample of $N=1128$ adolescent-parent-dyads in an online survey. In follow-up surveys psychological variables such as emotional dysregulation and hyperactivity symptoms and their association with STREDIS-A were investigated. *Results:* Comparably to related ICD-11 questionnaires on problematic digital-media use, a two-factorial factor structure could be revealed best described as cognitive-behavioral symp-

toms and negative consequences. Internal consistency and criterion validity were shown to be good to excellent. Moreover, an excellent discrimination between affected and non-affected adolescents was found. Positive associations were calculated between problematic video streaming and emotional dysregulation as well as hyperactivity. *Conclusion:* STREDIS-A and STREDIS-P are two reliable questionnaires for a first conceptualization of problematic VS in adolescents. Revealed problematic patterns are similar to other behavioral addictions. Hence, further research is justified.

S-3B6

The investigation of the dimensionality of the Internet Addiction Test – Short Form in adolescents: A contribution into the debate about the conceptualization of addictive behaviors

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Background: The components model of addictions posits that all addictions share six components (salience, tolerance, mood modification, relapse, withdrawal, relapse, and conflict). However, recent research suggests that, in the context of behavioral addictions, certain components constitute peripheral features of addiction. We examined this perspective by testing the adequacy of a unidimensional structure of Internet addiction (IA) with respect to a bidimensional model characterized by central and peripheral features of addiction. *Methods:* High school students (n = 2290, 60% male; mean age = 16.43, SD = 1.19) completed the Internet Addiction Test – Short Form (IAT – SF; Ali et al., 2021) and instruments assessing other addictive behaviors (related to mobile phone use, video-gaming, and gambling). *Results:* Confirmatory factor analysis highlighted that a two-factor structure (Behavior management and Consequences) had a better fit to the data in comparison to the unidimensional one. The two dimensions had a good internal consistency. Moreover, validity analysis showed a different pattern of relationships between the two IAT – SF dimensions, with a bigger size of relationships found for Consequences with respect to Behavior Management. *Conclusions:* Results provide support for a multidimensional conceptualization when measuring IA symptoms among adolescents.

S-3C1**Clarifying and extending our understanding of problematic pornography use through descriptions of the lived experience**

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Problematic pornography use (PPU) is a complex and growing area of research. However, knowledge of the PPU lived experience is limited. To address this gap, we conducted an online qualitative study with 67 individuals who self-identified as having problematic pornography use (76% male; Mage = 24.70 years, SD = 8.54). Results indicated several dimensions that have not been fully explored in the literature. These included various mental and physical complaints following periods of heavy pornography use, sexual functioning deficits with real partners, and a subjectively altered state of sexual arousal while using pornography. Moreover, we expanded on current knowledge regarding the inner conflict associated with PPU and clarified the ways that users can progress to increasingly intensified patterns of pornography use, such as tolerance/escalation and pornographic binges. Our study highlights the complex and nuanced nature of PPU and provides suggestions for future research and clinical practice.

Keywords: problematic pornography use, pornography addiction, behavioral addiction, qualitative research, sexual dysfunction

S-3C2**My Secret Life as an Addict: How I repaired the Damage**

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I am an American medical doctor, wife, and mother. For decades I suffered from sex and food addictions, a very taboo subject in our culture. Finally, after 40 years, I was able to overcome my struggles and write about the method of my recovery. Unlike 12 Step Programs, where an addict is forever an addict, I feel that addictions can be overcome. I am no longer a food or sex addict. I no longer obtain my self-esteem from male attention. I no longer comfort my emotional pain with food. I can now share my experience and expertise with global audiences. I have a recovery program that I am proud to share in my book, upcoming recovery workbook, and oral presentation. The title of my book is My Secret Life as a Sex Addict.

How I repaired the Damage. I am also a mom of triplet adult children, one of whom is severely disabled. My dream is to turn my past suffering, shame, guilt, and pain into preventive learning lessons for young women, to entertain with my story, and to continue my own path to healing.

Keywords: female sex addiction, binge eating, spiritual healing, compulsive sexual behavior

S-3C3

Insights and results from a pilot study for a self-led, digital-health treatment programme for CSBD (compulsive sexual behaviour disorder)

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Background and aims: CSBD (compulsive sexual behaviour disorder) continues to be controversial amongst academics and clinicians. Common criticisms include lack of studies on treatment efficacy and an over emphasis on behaviour change rather than on psychological well-being. This paper explores the efficacy of providing an online, self-guided treatment programme that reduces commonly recognised blocks to treatment seeking, namely stigma, shame, access and cost. *Method:* We recruited 96 participants who self-identified as struggling with CSBD, 68 of whom met the pilot study criteria. Participants completed 3 anonymous surveys at baseline, mid-point and post-course. In addition to basic demographics, participants provided feedback on the programme's content and usability and answered questions relating to psychological well-being, impact on relationships and risk. The programme consisted of 60 podcasts with an accompanying digital workbook that took users through the psycho-educational CHOICE Recovery Model. *Results:* Adherence to the programme was good with 55% completing the course. The relevance of the course content was rated highly and on completion, all but one participant felt more confident about their recovery. Improvements were seen in reduction of unwanted behaviours and preoccupation with those behaviours as well as psychological well-being. There were also improvements in risk, including a reduction in suicidality and the risk of breaking the law. *Conclusions:* The results support previous studies demonstrating the benefits of online interventions and indicates that this treatment model design, based on the CHOICE Recovery Model, is effective, both in terms of behaviour change and improvements in psychological well-being and risk.

Keywords: CSBD, hyper sexuality, porn addiction, sex addiction

S-3C4

Exploratory study of problematic use of cyber erotica

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Background: With the widespread availability of affordable high-speed internet and smart-phones, cybererotica consumption has surged, prompting global research on problematic pornography use. However, such studies remain limited in the Indian subcontinent. *Aim:* This study investigates cybererotica consumption patterns. *Methodology:* A cross-sectional prospective observational design was used. Participants through social media and dating apps were contacted (N=233). Based on predefined inclusion and exclusion criteria and their willingness to give consent, 200 individuals participated in the study. Utilizing socio-demographic proforma, semi-structured questionnaires, and established scales like PPCS, YIAT, and SRQ-20, our research explores nuanced dimensions of problematic cybererotica use. *Results:* Findings revealed a significant association between problematic Internet pornography consumption and informal relationships, higher numbers of sexual partners, and increased sexual activity frequency. Participants with problematic use demonstrated diverse consumption patterns, accessing content through multiple channels, engaging with partners, frequent masturbation, and extensive time investment. Additionally, the study identified a robust connection between moderate to severe internet addiction and problematic cybererotica use. Comparative analysis between male and female participants shows similar time spent on cybererotica, with men scoring higher on PPCS factors. Women exhibit higher distress scores measured by the SRQ-20. Correlation analyses demonstrated strong associations between PPCS factor scores, internet use, and time spent watching pornography, emphasizing the multifaceted nature of cybererotica consumption. *Conclusions:* This research has clinical and public health implications. The findings help in understanding and addressing problematic cybererotica consumption in the Indian subcontinent.

Keywords: compulsive sexual behaviour disorder, problematic pornography use, mixed method model, indian subcontinent

S-3D1

Longitudinal associations between problematic video game playing and social media use and support devoted by family and friends

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Background and aims: Adolescents undergo exciting developmental changes that may be simultaneously confusing and complicated. While seeking support from family and friends is essential, many adolescents rise to find comfort in social media and video games. As these become highly popular, monitoring that the increment in usage is not paralleled with problematic patterns is imperative. *Methods:* Data from the first two waves of the Budapest Longitudinal Study were used. The sample included young adolescents who reported active social media use or video gaming. Associations between support by family, support by friends, problematic social media use, problematic video game playing, as well as weekly time spent on video games and social media were examined. *Results:* Cross-lagged analyses revealed that low support by friends predicted problematic social media use, while low support by family predicted problematic video game use. Problematic use was positively associated with weekly time spent on both activities. Gender differences were also examined. *Discussion and conclusion:* The present study supports a bidirectional relationship between the support of family and friends and the problematic use of video games and social media, suggesting that adolescents may be vulnerable to problematic use directly through low and inadequate support.

Keywords: problematic social media use, problematic video game use, adolescence, familial support, social support

S-3D2

Relationships between problematic internet use, specific lifestyle habits, and academic burnout among Finnish higher education students

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Background: There has been increasing concern about mental health and general well-being among university students throughout the world. The objective of this study was to examine the connections between problematic Internet use, specific lifestyle habits and academic burnout in a population of Finnish tertiary level students. *Method:* A nationally representative sample of 6,258 students (response rate 53 %) participated in the cross-sectional online survey in 2021. The survey incorporated measures on problematic internet use (Compulsory Internet Use Scale), different lifestyle factors (i.e., drug use, smoking, risky alcohol consumption) and academic burnout (School Burnout Inventory). *Results:* Based on regression analysis, snuff use, learning difficulties, problematic Internet use, online shopping, being female, and perceived loneliness related significantly and positively to study burnout. A higher number of study credits earned, a satisfactory financial level, and a perceived good level of health were significantly and inversely related to self-reported study burnout levels. *Conclusions:* These findings provide knowledge that can be utilized in the promotion of study well-being among tertiary level students.

Keywords: problematic internet use, lifestyle habits, academic achievement, students

S-3D3

Understanding the unique temporal relationships between compulsivity and problematic use of the internet: A cross-lagged panel network model

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Background: Previous research has established a general association between dimensions of compulsivity and problematic use of the internet (PUI). However, the directional and unique relationships between specific dimensions of compulsivity and individual PUI symptoms remain unknown. *Methods:* A cross-lagged panel network approach was employed to (1) elucidate the temporal pathways between specific compulsivity dimensions and individual PUI symptoms and (2) pinpoint the influential components that serve to maintain the overall PUI symptom cluster. Data was collected from 362 Australian adults (50.8% female, Mean Age = 27.0, SD = 10.9, 51.4% with PUI), who completed compulsivity (encompassing perfectionism, reward drive and cognitive rigidity) and PUI (12 symptoms from the short Internet Addiction Test) measures at two different time points, spaced three months apart. *Results:* Cognitive rigidity emerged as the most influential component in the longitudinal network, predicting subsequent functional impairments due to internet use. Distinctive pathways between compulsivity dimensions and PUI symptoms were also uncovered. Specifically, reward drive prospectively predicted increased amount of time spent online, and perfectionism predicted a reduced tendency to neglect obligations. *Conclusions:* Our findings underscore the critical role of cognitive rigidity in PUI and highlight the need for tailoring interventions based on individuals' unique symptom profiles

Keywords: compulsivity, network analysis, PUI, transdiagnostic, CLPN

S-3D4

Exploring the forest of factors: Decision trees in the identification of problematic Internet use among Spanish adolescents

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Background: The online space has become the preferred place for adolescents and young people to create their identity, express their emotions or build relationships. As a result, the Internet is one of the most important resources for young people's development, with all the benefits and risks that this entails. In this context, it is important to conduct studies with representative samples to disentangle the socio-demographic and psychosocial factors associated with problematic Internet use patterns. The objective of the current study is to explore some of the relevant variables for explaining problematic Internet use (PIU). *Methods:* A classification strategy via Random Forest was carried out, utilizing the Mean Decrease in Gini coefficient as importance index on a sample of 37952 of Spanish adolescents aged between 11 and 18 years ($M = 13.83$; $SD = 1.31$). Data were collected using the Problematic Internet Use scale in adolescents (PIU), the Children's Worlds Survey (HBSC), the Patient Health Questionnaire (PHQ-9), the Cantril Self-Anchoring Striving Scale, the Parental Control of Internet Use by Adolescents, and Internet use sociodemographic and familiar variables. *Results:* Preliminary results show that emotional variables (depression and well-being), time of use and conflicts with parents due to Internet were the most important predictors in our model. *Conclusions:* Our results provide valuable insights into the multifaceted nature of problematic Internet use, emphasizing the need for comprehensive strategies that consider emotional well-being, habits of use, and familiar conflicts in addressing and preventing problematic Internet use.

Keywords: problematic internet use, depression, adolescence, emotions, parental control

S-3D5

Interoceptive phenomenology in gaming

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Background: Gaming is a powerful modulator of physiological and affective states, which may contribute to its addictive potential. These internal bodily changes are perceived through a process called interoception, which may thus represent a central mechanism in the development of gaming disorder. This hypothesis is consistent with theoretical models postulating that interoceptive alterations contribute to addictive disorders. In the present study, we aim to pave the way for the study of interoceptive processes in gaming behavior and disorder. *Methods:* We will examine the bodily sensations experienced by gamers during typical gaming sessions. To this end, we will use an innovative body-mapping methodology that assesses the core dimensions of interoceptive phenomenology: valence and intensity of bodily sensations. Our main hypotheses are that gaming involvement and disorder will be associated with more positive and less negative bodily sensations during gaming (vs. before). *Results:* Ethical clearance has been obtained. Data collection will end in January 2024. *Conclusion:* To our knowledge, these core hypotheses have never been empirically tested. Yet, if confirmed, they would provide the most fundamental evidence that conscious interoception plays a role in gaming behavior. Finally, we will discuss future steps for investigating the mechanisms underlying this role.

Keywords: interoception, gaming disorder, bodily sensations

S-3E1

Investigating the relationship between attitudes to gambling and gambling frequency in relation to problem gambling risk*MAL FLACK*^{1,2}, *KIM M CAUDWELL*^{1,2}¹Faculty of Health, Charles Darwin University, Australia²Researchers in Behavioural Addictions, Alcohol and Drugs, Charles Darwin University

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This study investigates the complex interplay between attitudes towards gambling, gambling frequency, and problem gambling. A subsample (N = 1629) of participants were drawn from the 2018 Northern Territory Gambling Prevalence and Wellbeing Survey who completed measures of attitudes to gambling, gambling frequency, and problem gambling severity. Analyses tested whether the relationship between attitudes and gambling frequency was moderated by level of problem gambling risk. Results indicated a positive association between attitudes and gambling frequency. However, moderation analyses revealed a notable intensification of this relationship with increasing problem gambling risk. Findings suggest that individuals at risk of problem gambling may engage in cognitive rationalisation that perpetuates positive attitudes towards gambling despite manifesting behavioural addiction tendencies and experience of negative consequences of gambling. This suggests that gambling behaviour change interventions must extend beyond relying on providing information about the detrimental consequences of gambling for attitudinal change, and should consider the rationalisation processes of at-risk and problem gamblers. The intricate dynamics between attitudes towards gambling, gambling frequency, and problem gambling indicate a multifaceted health behaviour change strategy is needed to better manage problem gambling. Future research may extend these findings through adopting a longitudinal approach and novel digital interventions that can more closely monitor the relationship between gambler attitudes and gambling behaviours in relation to risk.

Keywords: problem gambling, gambling frequency, gambling attitudes, attitude change, PGSI

S-3E2

An exploratory study of the association of sports stars with football betting and gambling disorder

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Background: Football betting accounts for more than half of Hong Kong's overall betting revenue and has become one of the favorite gambling forms. Previous findings suggest that celebrities may heighten susceptibility of their fans to addictive behaviors (e.g., substance use and abuse) that the fans, whose idols are addicts, are more susceptible to be substance-related disorder. However, empirical evidence of the association between sports idols and gambling disorder (GD) is lacking and this study aims to address this knowledge gap. *Method:* Using an anonymous online survey, we obtained the self-reported data of 1201 Chinese adults, residing in Hong Kong (Mage=42.90, SD=11.40; 54% female) during the 2022 FIFA World Cup quarter-final to final stages in December 2022. *Results:* Nearly 60% of participants, mostly younger and males, reported that they had favorite football teams/stars. T-test results showed that participants with favorite teams/stars were more likely to be football gamblers and engage in gambling before and during the World Cup than their counterparts. They also showed higher gambling motivation for supporting their favorite teams/stars. Moreover, they reported more GD symptoms. The degree of obsession with football teams/stars was positively correlated with not only gambling motivation but also GD symptoms. *Conclusion:* This study is the first to explore whether football stars would be associated with an individual's gambling behaviors and GD tendency. Our findings preliminarily suggest that obsession with football teams/stars may be a risk factor for GD, particularly in males or younger adults, and deserves more research attention in future studies.

Keywords: sports stars; football betting; gambling disorder

S-3E3

How is self-compassion associated with gambling disorder in football gamblers? A cross-sectional study on the role of stress and self-compensation

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Background: Self-compassion is proven to be a protective psychological trait against mental illnesses. The current study aimed to address the knowledge gap on the psychological mechanisms underlying their associations by extending the application of the self-compensation model to gambling disorder (GD), the only behavioral addiction included in DSM-5. Based on the model, the relationship between self-compassion and GD was tested, while self-compensation motivation and perceived stress were considered as the potential mediator and moderator respectively, in this relationship. *Method:* Data from a convenience sample of 515 adult football gamblers were collected via an online survey in Hong Kong, China. Participants' demographic information, self-compassion, perceived stress, self-compensation motivation, and GD tendency were assessed using validated measures. *Results:* Correlation analysis showed that self-compassion was significantly and negatively correlated with GD tendency. Although the simple mediation analysis showed that the indirect effect of self-compassion via self-compensation motivation on GD tendency was not significant, the moderated mediation analysis found the link between self-compassion and GD tendency in participants with high stress was mediated by self-compensation. *Conclusions:* These results suggest that self-compassion may trigger individuals to gamble as a way of compensating themselves under high stress, and such stress may diminish the preventive effects of self-compassion on mental illnesses like GD. Future GD intervention/prevention programs should combine stress reduction training with self-compassion cultivation to maximize the protective effects of self-compassion on GD.

Keywords: gambling disorder, self-compassion, self-compensation, perceived stress

S-3E4

Predicting signs of problem-gambling from online texts using large language models

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Background: There are numerous gambling communities on the internet where users discuss games and putative gambling tactics, and write about gambling-related problems. Survey studies indicate that individuals showing higher levels of problem gambling engage more in online communities. Therefore, it would be beneficial to automatically detect early signs of problem gambling from online texts. *Method:* We collected data from a major German gambling discussion board by means of web scraping. We then fine-tuned a large language machine-learning model to predict signs of problem-gambling from the forum posts. We generated the training material by manual annotation and by taking into account diagnostic criteria and gambling-related cognitive distortions. *Results:* Using k-fold cross-validation, our models achieved a precision of 0.95 and F1 score of 0.71, demonstrating that we can achieve satisfactory classification performance when generating high-quality training material through manual annotation based on diagnostic criteria. *Conclusions:* We demonstrate that we may automatically detect signatures of problem gambling in online communication data using large language models. Such computational approaches may have the potential for the detection of changes in problem-gambling prevalence among online users and may aid monitoring activities in the context of player protection.

Keywords: problem gambling, online gambling, social media, machine learning

S-3E5**Prevalence survey of gambling disorders in addictology health care**

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Background: Gambling disorder is a significant public health problem but help-seeking is low. The detection of problem gambling among patients treated in an addictology unit for another addictive disorder is probably underestimated *Methods/Design:* Participants were patients receiving treatment for at least one addictive disorder in addiction ambulatory and hospital care services in a french region. Data collection was based on the completion of a self-questionnaire (including the Canadian Problem Gambling Index). The main objective was to evaluate the prevalence of gambling practice and problems, whatever the reason for coming. *Results:* A total of 884 questionnaires were collected. The prevalence of problem gambling (moderate risk gambling and excessive gambling) among the patients is higher than that found in 2019 among gamblers during the year in the french general population (28.6% versus 7.6%). Patients with problem gambling were also more likely than others to indicate that they were in treatment for another addiction, attesting to the severity of the overall situation. Finally, while the prevalence of problem gambling represented 13.9% of our sample, gambling problems were only cited as a reason for care for 4.2% of patients. *Conclusion:* Given the results, improved identification, prevention, and treatment efforts are needed to help people with gambling disorder

Keywords: gambling disorder, prevalence, screening

S-3F1

Development and initial validation of the Obsessive Compulsive Exercise Scale*JULIA MARGARETHA HORMES*

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Craving is a key characteristic of the substance addictions and evidence increasingly supports its clinical significance in the domain of behavioral addictions. Exercise is associated with better health; however, it can take on addiction-like features. This study sought to validate the Obsessive Compulsive Exercise Scale (OCEsS), a measure of craving for exercise adapted from the Obsessive Compulsive Drinking Scale and related instruments quantifying the obsessive-compulsive underpinnings of cravings for various substances. In study 1, OCEsS scores from regular runners ($n=130$; 52.3% female) were subjected to principal axis factoring with Oblimin rotation, yielding three latent factors accounting for 68.00% of the total variance in scores and capturing “Interference & Distress,” “Urge & Control,” and “Thought Intrusion & Resistance.” Factor loadings ranged from .36 to .91; internal consistency reliability was acceptable for all subscales. In study 2, OCEsS scores from frequent (>150 min/week) exercisers scoring above the median split (>16) on the Exercise Addiction Inventory (EAI; $n=401$; 44.1% female) were subjected to confirmatory factor analysis. Fit indices for the three-factor model identified in study 1 overall suggested adequate fit, including $CFI > .90$ and $RMSEA < .09$. Participants meeting criteria for the likely presence of exercise addiction ($EAI > 24$) scored significantly higher on all three OCEsS subscales, suggesting good criterion validity. Correlations with measures of mechanisms underlying exercise dependence indicated good convergent validity. Results provide preliminary support for the OCEsS as a psychometrically sound self-report measure of the cognitive underpinnings of cravings for exercise and a useful tool for identifying problematic exercise behavior.

Keywords: exercise dependence, craving, obsessive compulsive exercise scale, factor analysis, psychometry

S-3F2

**Psychological and behavioral correlates of exercise habits:
A questionnaire survey study**

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Background: Exercise habits have been noted to improve mental health (Gillebaart, 2014). However, excessive exercise is considered problematic and it may develop to be exercise addiction (Corazza, 2019). *Objectives:* This study aimed to examine the relationship between exercise habits and psychological factors, and drinking behavior as a life habit, in preparation for the future survey of exercise addiction in healthy individuals. *Methods:* Three hundred thirty-five healthy adults fulfilled the International Physical Activity Questionnaire Short Version (IPAQ-SF). In addition, they fulfilled NEO-Five Factor Inventory (NEO-FFI), Behavioral Inhibition System/Behavioral Approach System (BIS/BAS), and Core Alcohol Use Disorders Identification Test (Core-AUDIT). Correlation analyses between activity intensity (Mets) of IPAQ-SF and other variables was conducted by SPSS ver. 26.0. Spearman's rank correlation coefficient was used for correlation analyses. *Results:* The activity intensity of IPAQ was found to be correlated with the following; the Extraversion factor ($\rho=0.265$, $p<0.001$) and the Conscientiousness factor ($\rho=0.220$, $p<0.001$) of NEO-FFI, BIS ($\rho=-0.201$, $p<0.001$), and Core-AUDIT ($\rho=0.188$, $p<0.001$). *Conclusion:* Individuals with higher exercise habits would be more communicative and ethically-informed, but less sensitive to potential risk of their behaviors. They may tend to be with increased alcohol consumption, suggesting the potential risk of cross-addiction of exercise and alcohol.

Keywords: exercise habits, exercise addiction, ipaq, psychological factors

S-3F3**Interplay of Insecure Attachment, Self-Regulation dimensions, and their associations with Exercise Addiction and Eating Disorders**

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This study investigates the interplay of Insecure Attachment (IA), Self-Regulation (SR) dimensions, and their associations with Exercise Addiction (EA) and Eating Disorders (ED). SR, an individual's ability to manage behaviours, thoughts, and emotions, is a recognized predictor of behavioural disorders. However, its intricacies are magnified when viewed through the lens of attachment theory, particularly IA, known to influence a range of behavioural and emotional patterns. This research aims to explore the mediating role of SR in the relationship between IA and psychological disorders, particularly EA and ED. The study has two primary objectives: to examine how SR acts as an intermediary between IA styles and EA/ED, and to investigate the specific SR dimensions that correlate with these disorders. Previous studies have indicated IA as a predictor of maladaptive behaviours, but the extent to which SR dimensions mediate this relationship is less understood. Additionally, while certain SR dimensions have been linked to various EDs, a comprehensive analysis of how these dimensions influence EA is lacking. Using a mixed-methods approach, the research aims to unpack the complex interactions between IA, SR, and behavioural disorders. The findings are expected to provide a deeper understanding of the psychological mechanisms underlying EA and ED, offering insights into potential therapeutic approaches. This study contributes to the broader discourse on the intersection of psychological theories and behavioural disorders, potentially guiding future research and intervention strategies in the realm of sport and exercise psychology.

Keywords: exercise addiction, emotional regulation, eating disorders

S-3F4

Mechanisms and motives underlying primary versus secondary exercise dependence: The transdiagnostic role of cognitive rigidity in problematic eating and exercise behaviors*JULIA MARGARETHA HORMES, CHRISTINA SANZARI*

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Regular exercise promotes good health but can become compulsive and impairing. The literature distinguishes between primary exercise dependence (ExD) or excessive exercise for its intrinsic reinforcement, and secondary ExD or excessive exercise in pursuit of another goal, often related to weight or shape. This study explores differences between primary versus secondary ExD in underlying mechanisms and motives. Adults ($n=800$) exercising regularly (i.e., $>150\text{mi/week}$) completed the Exercise Addiction Inventory (EAI), a measure of disordered eating (BASE-10), Compulsive Exercise Test (CET), Exercise Motivations Inventory (EMI-2), and Detail and Flexibility Questionnaire (DFlex), a measure of cognitive rigidity. Participants scoring above the median on the EAI and below the BASE-10 clinical cutoff were categorized as “primary ExD” ($n=119$, 15.3% of total sample); respondents scoring above threshold on both measures were categorized as “secondary ExD” ($n=273$, 35.0%). There were significant multivariate main effects of ExD type on combined CET [$p<.001$, $\eta^2=.13$] and EMI-2 subscale scores [$p<.001$, $\eta^2=.11$]. Respondents with secondary ExD endorsed significantly greater “avoidance and rule-driven behavior,” “weight control exercise,” “lack of exercise enjoyment,” and “exercise rigidity,” and were significantly more motivated by “challenge,” “social recognition,” “competition,” “health pressure,” “weight management,” and “appearance.” DFlex scores were significantly and positively correlated with EAI and BASE-10 scores only in those with secondary ExD. In those with secondary ExD, BASE-10 scores fully mediated the relationship between DFlex subscale and EAI scores. Results support the conceptual distinction between primary and secondary ExD and point to cognitive inflexibility as a transdiagnostic mechanism specifically underlying comorbid exercise and eating pathology.

Keywords: exercise dependence, primary exercise dependence, secondary exercise dependence, eating disorders, cognitive rigidity

S-3F5

Testing the validity of the metacognitive hub model of craving for bulimia and binge eating: A study protocol

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Craving is recognized as a key factor involved in the prognosis of addictions and eating disorders according to the recent literature and the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders. Despite a large body of research, theories fail to present the different aspects of craving and to link them together, because they consider it as a unitary process. The metacognitive hub model of craving is a recent theory based on the triadic model and neuroimaging evidence. It considers that craving is threefold: cognitive (reflective system; efficiency of cognitive abilities), automatic (affective system, related to cue reactivity and attentional biases), and physiological (interoceptive system, interpretation of body sensation). The metacognitive abilities act as a hub that makes the craving subtypes explicit, helping to understand, integrate, and manage them.

In this research, we aim to test the model by exploring the relationship between cue-induced craving and the reflective, affective, interoceptive, and metacognitive systems among women with bulimia or binge eating disorder. After a session of self-questionnaires (e.g., food craving, metacognitive abilities, reflexive systems...), participants will go through a food craving induction. A dot-probe task, the attentional network task, and a water load test will be used to respectively evaluate the automatic, reflective and interoceptive systems, while metacognitions will be assessed within each task. Eventually, an approach-avoidance task will help evaluate implicit craving, and questionnaires will be used for explicit craving.

Keywords: craving, food addiction, protocol, model, experimental

S-3G1

**Learning and memory processes in behavioural Addiction:
A systematic review**

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Background: Long-lasting modulation of the neural circuits underlying normal learning and memory processes has been reported in addiction. The current review, therefore, sought to understand how learning and memory relate to behavioural addictions (BAs) and to unravel the neural mechanisms of these cognitive functions. *Methods:* Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, we systematically searched four databases – PsycINFO, PubMed, Scopus, and Web of Science using the agreed-upon search string. The search was conducted in May 2023. *Results:* We established that in BAs, (1) learning processes relying on the executive function (e.g., reversal) are blunted, whereas (2) habit learning is enhanced. In addition, (3) long-term memory efficacy is reduced, and (4) the relationship between WM and BAs is mediated by the addiction type (e.g., gambling disorder vs. internet addiction), and the WM aspect (i.e., visual vs. verbal WM vs WM capacity) and task nature (i.e., complex (operation span task) vs. simple (digit span)). Finally, (5) neurophysiological evidence indicates alterations in brain areas (including prefrontal cortex) and networks (including corticostriatal-limbic circuitry) implicated in learning and memory processes, in BA. *Conclusion:* Our results suggest that, like substance use disorders, alterations in learning and memory processes may contribute to the development and maintenance of behavioural addictions.

Keywords: behavioural addiction, learning, memory, neural mechanisms

S-3G2**Learning and metacognition in Gambling Disorder***RUTH J. VAN HOLST, JUDY LUIGJES, MONJA HOVEN*

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Learning processes are under metacognitive control, with confidence in one's actions guiding future behavior. This coupling between action and confidence can be disrupted, as observed in individuals with high compulsivity symptoms. I will present work demonstrating that patients with Gambling Disorder (GD) sometimes exhibit both higher confidence and deficits in learning. However, studies investigating both processes in the same experiment are lacking. Moreover, I will present our investigation into confidence, action, their coupling, and learning using a predictive inference task originally described by Nassar, Wilson, Heasley, & Gold (2010), and subsequently used in many studies with patients with GD and matched control participants.

Keywords: gambling, learning, metacognition, confidence**S-3G3****Problematic gambling behavior impacts model-based reinforcement learning performance***ANGELA MARIELE BRANDS¹, DAVID MATHAR¹, KILIAN KNAUTH¹,
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Reduced model-based (MB) control has emerged as a reliable computational endophenotype of maladaptive compulsive and habitual responding characteristic of behavioral addictions (Voon et al., 2017). Computational modeling of reinforcement-learning (RL) task behavior has been of great utility in this regard, enabling the decomposition of such measures into latent sub-processes (Montague et al., 2012). In the current study, we leverage this approach to compare a group of participants exhibiting gambling disorder (GD; N=30) with matched controls (MC; N=30) who performed a sequential RL task during fMRI scanning. Participants from the GD group showed significantly lower task performance as well as diverging patterns in reaction times compared to the MC group, which was associated with dampened sensitivity to contingencies inherent to the task. A well-established computational model extended to also account for higher-order perseveration provided the best fit for both groups. Modeling results confirmed reduced MB control in the GD group but further pointed to differences in

complex perseveration and reward-guided behavior at the second stage of the task. Analyses of the fMRI data are pending and will test the prediction that impaired MB control in GD is linked to attenuated prefrontal control mechanisms. Current results mirror and extend previous research efforts, as they replicate reduced MB control in GD, but further allow for a more detailed insight into additional underlying computational mechanisms at play and neural signatures associated with them. We discuss these findings in light of common theories of addiction, their neural underpinnings, and individual self-reported symptomatology.

Keywords: computational modeling, reinforcement learning, fMRI, model-based control, gambling disorder

S-3G5

Gambling disorder is linked to maladaptive decision threshold adjustments

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Gambling disorder is associated with deficits in reward-based learning, but the underlying mechanisms are still poorly understood. Here, we examined this issue using a stationary reward learning task in combination with computational modeling and functional resonance imaging (fMRI) in individuals that regular participate in gambling (n=23, seven fulfilled one to three DSM 5 criteria for gambling disorder, sixteen fulfilled four or more) and matched controls (n=23). As predicted, the gambling group exhibited substantially lower performance, whereas overall response times (RTs) were not reliably different between groups. Extensive computational modeling using reinforcement learning drift diffusion models (RLDDMs) revealed that the learning impairment in the gambling group was attributable to a more rapid reduction in decision thresholds over time, and a reduced effect of value-differences on the drift rate, compared to controls. The gambling group also showed substantially shorter non-decision times. Imaging analyses replicated effects of prediction error coding in the ventral striatum and value coding in the ventro-medial prefrontal cortex, but there was no credible evidence for group differences in these effects. Taken together, our findings show that reinforcement learning impairments in disordered gambling are linked to both maladaptive decision threshold adjustments and a reduced consideration of option values in the choice process.

Keywords: gambling disorder, reward learning, decision making

S-3H1

**Predictors of gambling severity among female gamblers:
Cross-country study with Spanish and Italian population**

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Background. Research on women gamblers remains limited, particularly studies involving women undergoing treatment for gambling disorder, potentially resulting in an underrepresentation of female perspectives and experiences in gambling-related research. In this line, the study aims were two-fold: 1) to identify differences between Spanish and Italian women with gambling disorder in sociodemographic, psychological, and gambling-related variables; and 2) to examine potential predictors associated with gambling severity in a clinical sample of women. *Methods.* A total of 106 women gamblers (mean age: 48.83±12.41 years old, with 59% from Spain and 41% from Italy) participated in the assessment, which included the South Oaks Gambling Screen (SOGS) for evaluating gambling behavior, Toronto Alexithymia Scale (TAS-20), Beck Hopelessness Scale (BHS), and SA-45 for mental health. *Results.* Spanish and Italian women exhibited differences in sociodemographic aspects (e.g., occupational and educational level), psychological factors (e.g., depression, anxiety, hostility, and alexithymia), and gambling-related variables (e.g., severity). Additionally, receiving treatment for gambling disorder, higher levels of depressive symptoms, and difficulties in identifying feelings emerged as predictive factors for heightened gambling severity. *Conclusions.* These findings underscore the need of enhancing existing treatments and developing targeted assessment and prevention protocols tailored specifically for women with gambling disorder.

Keywords: gambling, women, discussion groups, gender perspective, healthcare, prevention

S-3H2

Which news about gambling in girls? A matched-study with data from a prevention of gambling risks among adolescents program (PRIZE) to update quantitative and qualitative research

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Background: Although gambling is more common among male than female adolescents, and boys are more at-risk than girls to develop gambling problems, an increasing proportion of girls gamble and encounter problems. Thus, an update of quantitative and qualitative research about the phenomenology of gambling and the specificity of related factors is needed. Our goal was to analyze gambling behavior among female adolescents and to investigate a set of cognitive and affective variables with respect to gambling severity. Moreover, through a qualitative perspective, we focused on thoughts that girls showed to have with respect to gambling while attending the educational activities implemented inside a preventive intervention (PRIZE program) conducted with students attending high school in Tuscany (Italy). To better identify specificities, we compared girls and boys matched according to age and type of high school, and we employed a sex-invariant instrument to assess gambling problems. *Methods:* Participants were 867 girls (mean age = 16.28, SD = 1.11) matched with 867 boys (mean age = 16.77, SD = 1.29). They completed the Gambling Behavior Scale, Adolescents (GBS-A), other instruments to measure a set of cognitive and affective variables before the implementation of the intervention and responded to open questions about gambling during the intervention activities. *Results:* Compared to their male peers, females present different characteristics in terms of gambling frequency, activities and severity. Differences and similarities with respect to boys emerged for risk and protective factors and pre-conceptions towards gambling. *Conclusion:* Implications to improve the efficacy of prevention for girls are derived.

Keywords: gambling, female, risk&protective factors

S-3H3

“Hazard” violence: A gender-based point of view

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Background: In the last years, several literature findings highlighted the potential associations between violent behaviour and gambling among female gamblers. To this end, the present study aimed to observe the link between gambling and violence and other psychosocial factors among young and adult female gamblers. *Methods:* Data were collected through two representative cross-sectional studies, namely the ESPAD®Italia (15-19 years old) and the IPSAD® (18-84 years old) surveys. At-risk gambling was assessed with the SOGS-RA for ESPAD®Italia, and the PGSI for IPSAD®. Multinomial logistic regression models were conducted to observe the psychosocial factors linked with gambling among females. *Results:* Among young female gamblers, we observed positive associations between gambling and violent behaviors (both perpetrated and suffered), and alcohol use. It was also noted links between at-risk gambling and having a problematic gaming and Internet use profile. Among adult female gamblers, a correlation was observed between gambling and a higher BMI and alcohol use. Regarding at-risk gambling specifically, significant associations were found between having suffered violence (psychological and/or physical) and worse health. Finally, it was observed that a high and a low socioeconomic status increases the probability of having an at-risk gambling profile among young and adult female gamblers, respectively. *Conclusions:* The present work supports literature regarding the potential role of violence in the exacerbation of gambling among females. Additionally, it highlighted psychosocial factors capable of affecting gambling behavior. Accordingly, the development of effective gender-based prevention programs should consider all the hidden environmental factors inherent to the female world.

S-3H4

Cross-cultural view of gambling disorder in Spanish and Italian women through a qualitative study

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Background. This qualitative study aims to identify and explore the perspectives and experiences of women in treatment for gambling disorder. Specifically, the women were asked about their gambling behaviour, reasons for gambling, relationships with their partner and family, and other mental health problems. *Methods.* The sample was composed of 35 women and 6 focus groups were conducted. Five focus groups were conducted in Spain, with a sample of 31 women (Mage = 54,6 years old). In Italy, one focus group was carried out with 4 women (Mage = 62,5 years old). *Results.* In terms of gambling behaviour, many female gamblers started years ago with either family members or friends, simply for entertainment purposes. Their reasons for gambling were often linked to avoiding psychological distress and using it to escape negative emotions. Furthermore, we investigated psychological factors associated with gambling and found a high comorbidity between gambling and other mental disorders, such as bulimia, anorexia, and alcohol use. Women also reported experiencing sexual abuse by close relatives. They underline the importance of family variables, such as attachment, violence by their partners, toxic relationship patterns, and financial insecurity. About social variables, they highlight the high loneliness, their role as caregivers, and the elevated stigma and shame associated with gambling. *Conclusions.* The findings underline the importance of considering the perspectives and experiences of women undergoing treatment for gambling disorder. Women exhibit distinct gambling backgrounds and related variables compared to men, highlighting the necessity for tailored assessments and treatment strategies that align with these specific characteristics.

S-3H5

The intersections of caregiving, gambling, and mental health among women: A cross-cultural qualitative exploration*ARTEMIS LEUNG¹, CHIARA CECHELLI², FULVIA PREVER³*¹New Life Psychiatric Rehabilitation Association Hong Kong SAR²Brain Center, Florence, Italy³SUNNCOOP, Women Gambling Project, Milan, Italy

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Prior research suggests that women are disproportionately burdened with informal caregiving responsibilities for family members with chronic conditions or disabilities, including the elderly and those with mental illnesses.(Sharma, et al, 2016; Morris, 2001). This is often attributed to societal and cultural expectations placed on women to adopt the caregiver role. Emerging evidence indicates that a significant proportion of female problem gamblers may also be informal caregivers (Holdsworth et al, 2012; Leung, 2017). though the relationship between these factors remains poorly understood. This cross-cultural qualitative study aims to explore the lived experiences of female informal caregivers who also struggle with gambling problems. The study seeks to investigate the potential links between societal caregiving roles, mood disturbances, and the severity of gambling behaviors among this population.

Using a snowball sampling approach, in-depth semi-structured interviews have been conducted with 16 female participants from Hong Kong SAR and Milan, Italy. Participants have been assessed for demographic characteristics, caregiving responsibilities, perceived societal view on caregiving duties, mental health status, and gambling problem severity, Thematic analysis has been used to identify key themes and patterns across the data.

This study provided rich, contextual insights into the risk factors and challenges faced by women who navigate the dual roles of informal caregiver and problem gambler. Findings may elucidate how social expectations, caregiving burdens, and associated anxiety and negative self-perception contribute to the development and maintenance of gambling problems, as well as associated psychiatric impacts. Results could inform the development of tailored interventions and support services for this high-risk population.

By examining the intersections of gender, caregiving, mental health, and gambling, this cross-cultural qualitative study aims to advance understanding of the unique experiences and needs of female caregivers with gambling problems. Meanwhile, the presence of a supportive network, access to culturally competent services, and a sense of self-efficacy facilitated women's willingness to engage in treatment. The findings had important implications for clinical practice, community support, and policy initiatives addressing these complex, inter-related issues

Keywords: risk factors, sociocultural, problem gambling, caregivers, women, female, help-seeking, psychiatric

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S-4A1

Prevalence of online behavioral addiction symptoms in adolescents: Results from a large youth study on gambling, video gaming, social media use, pornography use, and online shopping

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Background: Despite the potential impact of online behavioral addictions (gambling disorder, gaming disorder, social media use disorder, pornography use disorder, and shopping disorder) across the entire lifespan, there is a scarcity of epidemiological data on specific symptoms among adolescents, particularly concerning behaviors where minors have limited or no legal access (online gambling, online pornography use, and online shopping). Simultaneously, there is significant overlap between these applications, such as purchasing options, gambling offerings, or pornographic material within the context of video games or social networks. Consequently, it is likely that non-legally accessible behaviors are prevalent among adolescents, yet reliable data are lacking. *Objective:* This youth study investigates the prevalence of various online behavioral addiction symptoms and patterns of use related to corresponding applications. *Method:* In a comprehensive epidemiological school study involving 1,790 students from 92 classes (40 schools), we not only assessed symptoms of video gaming disorder and social media use disorder but also examined the use of gambling, online pornography, and online shopping. *Results:* We will present prevalence data on symptoms of problematic online behavior (gambling disorder, gaming disorder, social media use disorder, pornography use disorder, and shopping disorder) from the first 1,294 adolescents in 62 classes, received until April 2024. *Discussion:* The epidemiological findings on problematic online behaviors will be discussed in relation to personal and sociodemographic characteristics, environmental factors, associated symptoms, comorbid symptomatology (anxiety, depression, ADHD, conduct disorders), and the overlap with substance use (alcohol and cannabis).

S-4A2

Evaluating the effect of a state-wide mobile phone ban in schools on adolescent problematic phone use

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Background: Governments in developed countries, particularly across Europe, have begun to trial policies to restrict the use of mobile phones in schools. Although restricting access to digital technologies appears to be a low-cost, ‘common sense’ approach to promoting student wellbeing and learning, research evidence is limited. This large school-based study aimed to evaluate the effects of a state-wide mobile phone ban. *Methods:* This talk will summarise a survey-based natural experiment that evaluated potential changes in students’ mental health and wellbeing following the mobile phone ban using a 2 (phone ban: yes/no) x 2 (time: baseline, follow-up) design. Secondary school students (n=1,111 at baseline and n=1,059 at follow-up) in Grades 7 to 12 were recruited from five public secondary schools in South Australia. *Results:* The effect of the mobile phone ban policy on students’ problem phone use was evaluated. Of particular interest to this study was the degree to which person-level differences in mental health status and life satisfaction affected the mobile phone ban’s effect. The results also examined the phone ban’s effect on school connection and performance, and peer relationships, including online and offline bullying experiences. *Conclusions:* Many schools face difficulties in regulating students’ personal device use to ensure that such use is appropriate, supportive of learning and social development, and in line with school values. This study contributes needed experimental data to the study of how accessibility affects problematic phone use, and to continuing academic and policy debates on the merits of banning digital technologies in the school context.

S-4A3

Protect-K: Cognitive-behavior therapy for adolescents with high-risk of Internet gaming disorder and problematic smartphone use in Korea

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In current society, adolescents, often termed as “digital natives”, living their daily lives naturally connected to the Internet. However, this pervasive digital engagement has given rise to significant concerns regarding the overuse of smartphones and consequent behavioral issues. Cognitive-behavioral therapy is known as the most effective intervention for preventing and treating Internet use disorder. Notably, the PROTECT program, originated in Germany, demonstrated efficacy in school settings. However, due to cultural differences in teenagers' daily life, school life, and Internet use behavior, the direct application of this program to Korean adolescents presents challenges.

This presentation will introduce the process of developing a cognitive-behavioral therapy for Internet use disorder suitable for Korean adolescents, based on the PROTECT program, resulting in the creation of the PROTECT-K(Korea) program. Additionally, the results of program's effectiveness with 32 adolescents and their parents recruited from local communities and schools will be presented.

S-4A4

Predictive risk factors for DSM-5 Internet Gaming Disorder and Social Network Use Disorder in adolescence: The differential importance of emotion regulation and peer relationship problems*INA NEUMANN, KATAJUN LINDENBERG*

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Background: While the evidence on associated factors of online behavioral addictions in cross-section is extensive, very few findings come from longitudinal studies. Even rarer are clinical-diagnostic interviews used as outcome. Research Question: What transdiagnostic and disorder-specific risk factors predict the development of diagnosed Internet Gaming Disorder (IGD) and Social Network Use Disorder (SNNS) over 12 months? *Methods:* An untreated high-risk sample of adolescent girls and boys (N=215; CIUS ≥ 20 , Age M=15.3 years (SD=1.84); 53.3% female) was repeatedly observed over 12 months. A structured, clinical-diagnostic interview after 12 months served as the primary endpoint, assessing both IGD and SNNS. A full-syndrome IGD or SNNS was defined by 5 or more fulfilled DSM-5 criteria, subsyndromal IGDS or SNNS required 3 or more criteria. In a bivariate logistic regression, the predictive value of emotion regulation strategies and psychopathology was examined, and subsequently, in multivariate comparison, the bivariately significant predictors were simultaneously included. *Results:* In total, n=17 (7.9%) developed a full-syndrome IGD or SNNS, and 30.8% developed a subsyndromal CSS or SNNS. A subsyndromal CSS was significantly predicted by peer relationship problems 12 months prior (OR=1.54). In contrast, a subsyndromal SNNS was significantly predicted by the emotion regulation strategy "aggressive behavior" (OR=1.16) as well as school anxiety (OR=1.11) 12 months prior. *Discussion:* The results provide indications of a differential pathogenesis and disorder-specific predictors for IGD (predicted by peer relationship problems) and SNNS (predicted by emotion regulation problems and anxiety).

S-4B1**From greenwashing to screenwashing? How the tech industry plays around with children's future**

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In this presentation, we introduce the term 'screenwashing', which describes the process whereby social media platforms, such as TikTok and Instagram, pretend to be more socially responsible than they actually are. That is, social media platforms pretend to be thoughtful about children's health and the prevention of problematic social media use, but this often turns out to be nothing more than "a lick of paint. We describe how features like the one-hour notification on TikTok and Instagram are considered screenwashing and why we believe so. Screenwashing is an unethical practice that can mislead parents and youth. We therefore argue that governments should do more to safeguard our youth against the possible risks of problematic social media use.

Keywords: screenwashing, tech industry, adolescents, time-notification, social media addiction

S-4B2**Gambling industry executives identify 'customer interaction' as their top priority for responsible gambling and compliance**

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This study is the first to examine the responsible gambling needs of the online gambling industry. Participants were executives in compliance and responsible gambling representing 100% of companies licensed to provide online gambling services in Gibraltar, a jurisdiction serving approximately 50% of the global market. Mixed methods were used in a sequential explanatory design to build findings in a transparent process. An environmental scan identified issues, a survey assessed those issues across three operational areas (employee training, scientific research, and support services), and in-depth interviews probed survey responses. Statistical analysis of survey data was combined with consecutive deductive and inductive analyses of qualitative data. Findings show three dominant themes, customer interaction, scientific research, and regulatory policy. The highest priority – raised by all participants across

all areas – is customer interaction, including understanding how to effectively interact with customers at risk, training and supporting employees who conduct interactions, and evaluating impact. Scientific research exhibits the greatest need for development in terms of engaging with, trusting, and applying research findings. Regulatory policy was the key driver of responsible gambling, frequently negatively framed with unintended consequences. Inductive analyses uncovered contextual themes that warrant further research, including experience of organizational stigma, evidence of organizational commitment, strain in the regulatory relationship evidenced in compliance fatigue, and a desire for reciprocal accountability.

Keywords: needs assessment, responsible gambling, customer interaction, knowledge translation, mixed methods

S-4B3

Is voluntary gambling ban an effective way to deal with excessive gambling? Situation in France and in European Union

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Background: In France, people who wish to protect themselves from excessive gambling can apply to benefit from the voluntary gambling ban program (VGB). However, this measure does not concern all marketed gambling games. Furthermore, no specific intervention is associated to help gamblers better control their gambling practice, during and after the VGB program. Finally, there is currently no evaluation of its effectiveness. This presentation aims to provide an overview of VGB in France, thanks to three complementary studies, the objectives of which were to (1) characterize the people using VGB; (2) evaluate the link between the use of VGB and the evolution of pathological gamblers seeking treatment; (3) describe VGB programs in other European countries. *Methods:* Study 1 was based on the national file of people who had used VGB. Study 2 was carried out based on our cohort of patients. Study 3 consisted of consulting the official sites of regulatory authorities and interviewing European researchers. *Results:* Study 1 indicates that around 38,000 people were registered in the national VGB file during the analysis. These were mainly men, aged 48 and registered for an average of 6 years. Study 2 shows that only nearly a third of the patients concerned had used VGB. However, the remission rate at 12 months was higher for them. Study 3 concludes that European systems are heterogeneous. *Conclusions:* These results should encourage us to improve the VGB program and evaluate its effectiveness.

Keywords: gambling disorder, gambling ban, harm reduction, remission

S-4B4

Marketing and motivation: Does gambling marketing online shape gambling motives? Insights from a national study

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Gambling marketing utilizes sophisticated strategies to attract interest, raising concerns as it introduces new opportunities for non-gamblers and poses challenges for those attempting to abstain from gambling. Despite the growing prevalence of gambling marketing in the online sphere, its impact on gambling motivations remains underexplored. This study aims to bridge this gap by examining associations between exposure to gambling advertising online and motives of seeking money, excitement, competition, and competence. A longitudinal survey involving five timepoints and 1530 Finnish adults aged 18-75 was conducted. Various psychosocial factors were considered, including mental distress measured using the five-item Mental Health Inventory (MHI-5), excessive alcohol use assessed with the three-item Alcohol Use Disorder Identification Test (AUDIT-C), and involvement in social media identity bubbles assessed using the nine-item Identity Bubble Reinforcement scale (IRBS). Random-effects multilevel regression analyses, observing between-group variation, revealed that encountering gambling marketing online significantly influenced all studied gambling motives, increasing tendencies to gamble for money, excitement, competence, and competition. Mental distress correlated positively with all motives, while excessive alcohol use was linked to all but competence-related gambling. Involvement in social media bubbles was related to all motives except gambling for money. These findings underscore the substantial impact of gambling ads online on diverse motivations, highlighting the role of individual characteristics. Individuals experiencing mental distress or engaging in excessive alcohol use display heightened motivations for various types of gambling, except for competence-related gambling, which might be associated with fewer issues. Importantly, involvement in specific online social environments appears to impact gambling motivations.

Keywords: gambling marketing, online marketing, gambling motivation, longitudinal

S-4C1

Attentional biases in addictive behaviours

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Background: Attentional biases, that is, how a person's perception is affected by selective factors in their attention, have been considered a crucial element involved in the transition from being an occasional user to being addicted to substances such as alcohol, tobacco, or other drugs. Interestingly, earlier research has suggested that attentional biases also play a significant role in maintaining addictive processes and contributing to the risk of relapse. More recently, investigations related to behavioural addictions provided evidence that biased attention towards gambling stimuli contributes to the development and maintenance of this harmful gambling. However, research on the role of attentional biases in other behavioural addictions, such as problematic video gaming or problematic internet use, is still scarce. Investigating the attentional cognitive mechanisms underlying behavioural addictions could help us better understand how the addictive processes develop and ultimately design effective intervention programs using additive cues to extinguish those conducts. The current paper aims to overview the cognitive abilities (e.g., attentional and perceptual processes) underlying behavioural addictions. *Method:* The study will use data from self-report anonymous online surveys, from a behavioural task on a secure online platform and from electrophysiological techniques such as EEG. *Results:* Will be updated later. *Conclusions:* This would include a discussion of the results of current neuropsychological research on attentional biases in gambling and video gaming and examine the future directions. Moreover, clinical implications will also be discussed.

Keywords: gambling, loot box, cognitive processes, biases, behavioural disorder

S-4C2**The effect of spin speed on gambling behaviour: A virtual reality study**

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Slot machine gambling is often viewed as one of the more harmful gambling products available. However, little is known regarding the impact of specific constructs within slot machine gambling on gambling behaviour. From a legislative perspective in the UK, spin speed is often considered as a way of reducing the harm associated with slot machine gambling, however experimental evidence to substantiate altering this construct is sparse. Using a novel Virtual Reality paradigm, the present study sought to examine gambling behaviour on a slot machine simulation, with different spin speeds. Participants were randomly allocated to one of three conditions (spin speed 2.5 seconds, 5 seconds, or 10 seconds). The study measured persistent gambling behaviour through the number of spins the participants chose to play. We also measured participant enjoyment to ascertain the effect of spin speed on gambling experience, and estimated number of jackpot wins, to understand how spin speed effects gambling session recollection. Data is currently being collected. Results from this study can be used to inform legislation and policy regarding the impact of spin speed on gambling behaviour, and gambling session perceptions.

Keywords: gambling, within game constructs, disordered gambling, spin speed

S-4C3**Extended computational models of sequential reinforcement learning for application in gambling disorder**

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Computational psychiatry has vastly aided our understanding of mental disorders by shedding light on underlying neurocomputational dynamics which ultimately result in observable symptomatology. These advances are largely based on thorough investigations utilizing cognitive computational models depicting these latent constituent processes (Maia et al., 2017; Montague et al., 2012). In the realm of compulsive responding and habit formation as characteristic of behavioral addictions including gambling disorder (GD), reinforcement learning (RL) theory has been especially informative. Here two processes related to cognitive control mechanisms take a prominent role in the explanation of dysregulated action control:

model-based RL and directed exploration (Addicot et al., 2017; Voon et al., 2017). Despite their shared relevance, these have thus far mostly been studied in isolation. In the current study, we apply an extensive computational modeling approach that incorporates insights from the exploration-exploitation research into more traditional accounts of sequential RL. We are currently in the process of applying our novel model variants to behavioral data stemming from the same task (Daw et al., 2011). To this end, we collected previously published data sets comprised of individuals with GD symptomatology (total N=189) and matched controls (N=147). All computational accounts are compared with regard to their ability to account for the empirical data, with the best-fitting version being chosen for further in-depth analyses. These include the evaluation of emerging group differences, their association with self-reported symptoms, and empirical findings thus far.

Keywords: computational modeling, reinforcement learning, explore-exploit, model-based control, gambling disorder

S-4C4

Problem Gambling subtypes based on the Pathways Model: Results of a systematic review

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Background: This review explores problem gambling within the framework of the Pathways Model developed by Blaszczynski and Nower (2002). The Pathways Model posits that etiological differences exist amongst gamblers resulting in 3 pathways: Behaviourally Conditioned (BC), Emotionally Vulnerable (EV), and Antisocial Impulsivist (AI), each with distinct risk profiles. This review focuses on subtyping methodologies employed and aims to analyse identify gaps and guide further exploration into the Pathways Model. *Method:* Following PRISMA guidelines, a literature search was conducted on 29 June 2023 on Web of Science, PubMed, and PsycINFO databases using the search algorithm: "Gambl*" AND ("pathway* model" OR "pathway* questionnaire"). A total of 117 records were identified and screened, focusing on empirical studies that investigate the Pathways Model. At the end of the screening, it was determined that 29 studies were to be included in this review. *Results:* Of 29 studies, 21 identified subtypes aligned with the Pathways Model, while 8 explored alternative insights. Findings revealed three predominant subtypes: BC, EV, and AI consistent with the Pathways Model. Some studies proposed variations, yielding four or five-class solutions. Despite methodological differences, all studies supported the Pathways Model, with BC gamblers exhibiting lower problem gambling levels, EV gamblers showing higher risk, and AI gamblers displaying the highest risk and impulsivity. *Conclusions:* This

systematic review provides an overview of empirical studies on problem gambling subtypes. While supporting the Pathways Model, subtype variations highlight the complexity of gambling behaviour. The findings contribute to refining our understanding of problem gambling etiology and informing targeted interventions.

Keywords: pathways model, problem gambling, subtypes, systematic review

Reference

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S-4C5

Developing a utility value set for the Gambling Quality of Life Scale -brief (GQoLS-brief) using a discrete choice experiment

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Introduction: The Gambling Quality of Life Scale -brief (GQoLS-brief) is a Patient Reported Outcome assessing the subjective impact on quality of life of gambling. Preference-based quality of life measures are used to generate quality-adjusted life years (QALYs) in economic evaluations. In this study, we aimed to generate a utility value set that allows the GQoLS-brief responses to be converted to QALYs. *Methods:* An online survey was administered to a representative sample of French adults. Participants completed a discrete choice experiment incorporating survival duration (DCETTO), consisting of 160 choice sets, blocked into 20 survey versions, such that each respondent answered 8 choice sets. Each choice set presented two health state-survival duration combinations. Data were analyzed using a conditional logit model, parameterized to fit the QALY framework. Utility weights were computed, with estimated coefficients transformed to the 0 (being dead) to 1 (full health) scale to generate a value set suitable for application in quality assessment and for the calculation of QALYs. *Results:* A total of 928 respondents completed the survey. The model confirmed that utility increased with survival duration and generally decreased according to quality-of-life impairment levels. The value set for health states defined by the GQoLS-brief ranged from -1.48 (worse than death) to 1.0 (full health). *Conclusion:* This newly developed utility value set will enable the calculation of utility values for economic evaluations of interventions related to gambling disorder. This will facilitate resource allocation for gambling specialized services and the identification of gambling related burden and benefits from treatments.

Keywords: economic evaluation, DCETTO, gambling, quality of life, QALY; utility

S-4D1

Double whammy: The clinical characteristics of problem gambling and compulsive sexual behavior disorder in an American community sample*TODD L JENNINGS¹, BAILEY M WAY¹, SHANE W KRAUS²*¹University of Nevada, Las Vegas²University of Nevada, Las Vegas, United States of America

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Background: Recent evidence suggests that compulsive sexual behavior disorder (CSBD) often co-occurs with many psychiatric disorders such as substance use, depression and anxiety, suicidality, and with behavioral addictions such as problem gambling. *Method:* A community sample of 488 American adults (women=61%, White=77%, Mage=51.1, Heterosexual=87.7%, Married=47.5%) reporting current problems with gambling completed an anonymous online self-report survey assessing their demographics, problem gambling severity, depression, anxiety, alcohol use, past two-week suicidal ideation, and CSBD symptom severity. *Results:* The mean problem gambling severity score was 17.56 (SD=5.54), which did not significantly differ between men and women, $t(484)=1.14$, $p=0.25$. The mean CSBD symptom severity score was 0.93 (SD=1.82, range=0-7), which did significantly differ between men ($M=1.69$) and women ($M=0.45$), $t(484)=7.76$, $p<.001$, Cohen's $D=1.82$. Roughly 29% ($n=143$) of sample screened positive for CSBD, though this difference was most pronounced among men (47.1%) relative to women (18.2%), $X^2=46.48$, $p<.001$, $V=0.31$. CSBD symptom severity scores were weakly correlated with depression symptoms ($r=0.13$, $p<.001$), anxiety symptoms ($r=0.13$, $p<.001$), and past year alcohol use ($r=0.11$, $p<.001$). Roughly 39.1% of participants who screened positive for CSBD also endorsed past two-week suicidal ideation compared to those without CSBD (24.5%), $X^2=11.48$, $p<.001$, $V=0.16$; however, this effect was only significant for men (65.5%) compared to women (22%), $X^2=11.44$, $p<.001$, $V=0.25$. *Conclusions:* CSBD appears to frequently co-occur among Americans reporting issues with problem gambling and thus requires further screening among help-seeking populations. The implications of current findings for research and clinical practice will also be discussed.

S-4D2**Treatment program PornLoS: Preliminary results**

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Background: Pornography use disorder (PUD) is the most common form of compulsive sexual behavioral disorder. While knowledge about the mechanisms of its development and maintenance is constantly increasing, empirically validated treatment programs are rare. PornLoS is a 6-month intensive cognitive behavioral and interdisciplinary treatment program that combines individual and group psychotherapy. A digital app supports therapy through daily ecological momentary assessment and provides interventions in emergency situations. *Method:* In a randomized controlled trial, two forms of the new treatment program are compared with therapy as usual and a waiting control group. The two forms differ with regard to the treatment goals “abstinence from pornography” or “reduced use of pornography”. Seventy-nine participants take part in each of the four groups. Around 180 psychotherapists carry out the individual and the group therapies after 20 hours admission to the new treatment program. Both the patients and the psychotherapists are randomly assigned to the four treatment groups. *Results:* The results of a pilot study with 15 patients are very promising. Diagnostic data as well as experimental data on the mechanisms of PUD (e.g., cue reactivity) at the beginning of treatment will be presented at the conference. *Conclusions:* Once PUD has been recognized as a clinical diagnosis, treatment strategies are urgently needed. The treatment PornLoS will add new insights especially with regard to the treatment goals “abstinence” and “reduced use”.

S-4D3

Associations of different trauma types and PTSD with compulsive sexual behavior and problematic pornography use

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Background: Although compulsive sexual behavior disorder (CSBD) has consistently been linked to post-traumatic stress disorder (PTSD) and past sexual and non-sexual trauma experiences, the role of trauma has rarely been examined in relation to problematic pornography use (PPU), one of the common manifestations of CSBD. *Method:* A cross-sectional, self-selected sample of 4,363 US adults participated in an online survey via YouGov polling, responding to validated self-report scales on CSBD, PPU, PTSD symptoms, and lifetime trauma experiences (sexual, non-sexual, or combined). Linear regression models were employed to predict CSBD or PPU symptoms based on PTSD symptoms, with consideration given to the moderating effects of gender and trauma type. *Results:* Preliminary results indicated that PTSD is significantly and positively linked to CSBD and PPU symptoms. These associations were significantly stronger for men than women, while non-binary gender did not significantly moderate the relationship. The trauma type did not moderate the PTSD-CSBD association, but sexual trauma significantly weakened the link between PTSD and PPU compared to those without trauma history. Although further investigation is needed to explain this result, it is possible that avoiding pornographic content is more common among individuals with sexual trauma, not excluding that a smaller subset of them may still be at risk of developing PPU. *Conclusions:* Exploring the moderating effects of gender and trauma type on the relationship between PTSD and CSBD/PPU may help us gain a more nuanced understanding of the links between trauma and different manifestations of CSBD and promote tailored treatments and interventions for clients.

S-4D4

The relations between child abuse, sexual compulsivity, and manifestation of violent sexual behavior in adulthood treatment seeking sample

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Background: Violent sexual behaviors (VSB) are rarely investigated in the clinical context of Compulsive Sexual Behavior (CSB). We delineated a cross-sectional study with individuals with CSB to investigate whether symptoms of impulsivity, sexual compulsivity, anxiety, and depression mediate the association between child abuse and VSB. *Methods:* Participants who met the criteria for excessive sexual drive (ICD-10 F52.7) and Goodman's criteria for sex addiction were considered individuals with CSB (247). Those who did not meet were considered controls (117). Participants underwent psychiatric structured interviews and completed Sexual Compulsivity Scale (SCS), Compulsive Sexual Behavior Inventory-22 (CSBI-22), Beck Anxiety Inventory, Beck Depression Inventory, Barratt Impulsivity Scale and Childhood Trauma Questionnaire. Exclusion criteria involved paraphilic, gender dysphoria, psychotic, current hypomanic or manic episodes and other mental disorders due to brain injury, dysfunction and physical illness. We built the Sexual Violence Factor (SVF) after a factorial analysis of the sexual violence subscale of the CSBI-22. We conducted a structural equation model (SEM). *Results:* Presenting at least one psychiatric diagnostic was associated with the CSB group. The SEM analysis showed an association between child abuse and impulse (coef. = 0.37, $p < 0.001$), and mood (coef. = 0.61, $p < 0.001$). Child abuse and impulse were associated with SVF and sexual compulsivity (coef. = 0.58, $p < 0.001$). Sexual compulsivity was not associated with SVF. *Conclusion:* CSB is formed by multiple axes of psychopathological manifestations, especially impulsivity, which relates to SVF. We could infer that the history of abuse associated with changes in impulsivity could predict VSB.

S-4E1**Exploring the links between problematic gaming, emotional well-being, depression and life satisfaction**

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Background: An increasing number of studies have shown interest in the emotional and mental health effects of excessive video game use among adolescents. These studies have mostly shown ambivalent results in terms of subjective well-being, while there seems to be more evidence for a possible association with various psychiatric comorbidities, such as depression, anxiety, or emotional distress, among others. *Methods:* The sample consisted of 32.748 Spanish adolescents aged between 12 and 16 years ($M = 13.70$; $SD = 1.21$). We analyzed the possible relationship between this behavior and emotional well-being and depression, and we also attempted to test the validity of the various criteria used to define gaming disorder. Data were collected using the Game Addiction Scale for Adolescents (GASA), the Children's Worlds Survey (HBSC), the Patient Health Questionnaire (PHQ-9), and The Cantril Self-Anchoring Striving Scale. *Results:* 14% of adolescents with problematic gaming patterns reported moderate or severe levels of depression. In older adolescents, this pattern seems to be exacerbated. Item-based analyses showed that the GASA allowed us to observe how the criteria of salience and withdrawal seemed to be associated with positive emotional states and well-being, while the criteria of mood alteration and problems were associated with cases of greater emotional impact. *Conclusions:* There appears to be an association between gaming disorder and depression, which may be reflected in well-being and life satisfaction. Furthermore, this study suggests that the appropriateness of the instruments used to assess these problem behaviours needs to be further questioned to avoid over-pathologizing healthy gamers.

S-4E2

The association between emotion intensity and variability and gaming time among adolescents: An ecological momentary assessment study

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Background: global rising trend of excessive gaming has been alarming to health and social scientists. Previous research has suggested that negative emotions are one of the important factors in the etiology and maintenance of gaming disorder (GD). This study aimed to contribute to literature by investigating the associations of emotion intensity and variability with gaming time. *Method:* A total of 17,752 assessment data were collected in the school summer holidays (July – August) of 2023 in Hong Kong. We recruited 317 adolescents (118 females) aged 12 – 18 who reported as regular gamers. All participants took part in a two-week ecological momentary assessment, which involved repeated measures of participants' behaviors and experience in real time and in their natural environment. During the 14 days, participants responded to a self-administered survey via a smartphone app at four periods each day to measure their positive and negative affect (PANAS-SF) and daily gaming time. *Results:* Multivariable linear mixed-effect models showed within-person effect of positive affect was associated with game time among risky gamers ($\beta = 1.0179$, 95% CI 1.0033, 1.0327, $p = .0162$). Within-person effect of negative affect fluctuation, operationalized by root mean square of successive difference (RMSSD) on the PANAS scores, was associated with game time ($\beta = 1.0191$, 95% CI 1.0014, 1.0371, $p = .0341$) among general gamers. *Conclusions:* Associations of emotion intensity and fluctuation with gaming duration might vary across gamers of diverse GD risk. Findings might serve as useful reference for future development of emotion-based prevention approaches.

Keywords: gaming disorder, emotion variability, ecological momentary assessment

S-4E3**The link between video gaming and stress response***GRACE WANG*

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Evidence suggests an association between video game playing time and physical health deterioration indicators including BMI and general health status. However, the implication of this association in immune function is unclear. Given that stress relief has been reported by game players as one of main motivations for gaming, the aim of this scoping review was to survey the literature to determine how data pertinent to the measurement of stress response had been reported in video gaming studies and clarify the link between gaming and stress response. We believe that investigating the stress-behaviour correlation will assist in understanding the biological mechanisms underlying video game addiction and informing the potential targets for addiction-related proinflammatory research.

Keywords: video gaming, stress, neurobiology

S-4E4

Exploring psychological predictors of different problematic online behaviours among Spanish university students

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Problematic online behaviours are a growing concern among university students, necessitating a deeper understanding of their underlying psychological predictors. While previous research has highlighted the impact of psychological distress, cognitive distortions, conscientiousness trait, and emotion regulation strategies (i.e. expressive suppression and cognitive reappraisal) on Generalized Problematic Internet Use (GPIU), Problematic Social Media Use (PSMU), and Problematic Online Gaming (POG), it remains crucial to explore how these factors, taken together, predict each problematic online behaviour. In a sample of 690 Spanish university students (59.1% female; Age: $M = 21.29$ years, $SD = 3.80$; range = 17 to 40 years), the present study examined the relationship of these psychological predictors with GPIU, PSMU and POG. Bivariate correlational analysis unveiled positive associations between GPIU, PSMU, and POG with psychological distress, cognitive distortions, expressive suppression, and cognitive reappraisal, while demonstrating a negative correlation with conscientiousness trait. Regression analysis reported that (1) high psychological distress and low conscientiousness trait emerged as shared predictors for GPIU and PSMU, excluding POG; (2) elevated levels of cognitive distortions and cognitive reappraisal were common predictors for all three behaviours; and (3) expressive suppression exhibited no significant impact on any of the three problematic behaviours. These findings empirically support the hypothesis that Problematic Internet Use can be conceptualized within a spectrum of distinct yet interconnected behaviors, influenced by both common and unique antecedents. The implications extend to the development of targeted prevention strategies for each specific online problem behavior within the university context.

Keywords: problematic internet use, psychological factors, college students

S-4F1

Unraveling the peripheral and core symptoms debate on social media: A cross-country study involving adolescents

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Background: Griffiths' (2005) components model outlines diagnostic criteria for behavioral addictions, with criticism directed at salience and tolerance components in problematic social media use (Fournier et al., 2023). This study aims to assess the connections between symptoms of problematic social media use and psychological indicators. *Method:* Utilizing the 2017–2018 HBSC database, 230,375 adolescents (11–15 years) from 44 countries were included. Ad hoc items asking about nervousness, sadness, irritability, life satisfaction and sleep difficulties were included in a psychometric network joint to all Social Media Disorder Scale-9 dichotomous items (Boer et al., 2022). This network was estimated using EBICglasso and polychoric matrices through the software JASP. The tuning parameter was set at .75 in order to reduce false positive associations. Missing values were addressed using multiple imputation with chained equations (MICE package). *Results:* A sparsity value of .209 was obtained. Symptoms measuring tolerance and salience showed minimal associations with psychological indicators compared to other symptoms (e.g., emotional regulation and conflict). Stability analyses revealed a highly stable network. *Conclusions:* This study provides robust evidence supporting the theoretical differentiation between peripheral and core symptoms in social media use. Subsequent research could extend this distinction to other behavioral addictions using diverse scales.

Keywords: components model, social media addiction, cross-country, large sample

S-4F2**Baby on the web: Why preschool children overuse mobile screen devices?**

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Preschool children in Poland use mobile screen devices contrary to the recommendations of paediatric societies and the WHO and most often in situations when parents need to perform other tasks, rest, when they lack energy to take care of their child or when they want to occupy a bored child with something (according to the results from the project "Baby on the Web 2.0" study). The aim of the project "Baby on the Web 3.0" was an attempt to understand what mechanisms underlie this phenomenon. There were three hypotheses stated in the project: the first one assumes a lack of knowledge about recommendations; the second one assumes parental stress and the role screen devices play in reducing this stress and regenerating parental resources; and the third assumes the parents' incorrect beliefs about the prevalence of a given phenomenon and its desirable nature. The study was conducted on a sample of 1,000 parents of preschool children who use and do not use screen devices. The results showed that lack of recommendation, together with parental and general stress and child difficult temperament predict the time children spend on mobile devices as well as their problematic behaviour related to media use. The obtained results will allow to understand why parents do not follow the recommendations regarding the use of mobile screen devices by preschool children and will also be used to develop recommendations in the area of health promotion and prevention.

Keywords: mobile devices, preschool, child difficult temperament, parental stress

S-4F3**Adverse childhood experiences, and problematic social media use: Mechanism of attachment style, and affective symptoms among adolescents**

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Background: Child maltreatment is a global problem with serious life-long consequences. Many children are subject to neglect, emotional, physical and sexual abuse. It often leads to severe short- and long-term mental problems like insecure attachment, emotional regulation

difficulties and problematic social media use. *Method:* The study consists of 3 phases. 1st phase involves adaptation and validation of Bergen Social Media scale (BSMS) and Patient Health Questionnaire- Adolescents (PHQ-A) tool by calculation of content validity index (CVI) through expert content validation. 2nd was pilot phase where the tools were administered to N=50 adolescents aged 14 to 18 years to ascertain the comprehensibility and feasibility of the adapted tools. 3rd phase involved administration of BSMS, PHQ-A, Relationship Questionnaire and Adverse Childhood experience questionnaire for collection of data from N=500 adolescents in a group setting. *Results and Conclusions:* The study is expected to indicate how adverse childhood experiences negatively influence adolescents' expectations of future relationships leading to genesis of insecure attachment style which in turn increases vulnerability to depressive symptoms. To deal with negative view of self and others they show some strategies. The hyperactivating strategies of anxious attachment may lead to depressive symptoms and a compulsive cycle of problematic social media use as it likely fulfils the needs for constant validation and feeling of belongingness. The deactivation of attachment system due to avoidant anxiety may make social media use a safe and distant way of interacting with others and use of such mechanisms repetitively likely leads to transition towards problematic social media use.

Keywords: social media addiction, adverse childhood experiences, attachment

S-4F4

Associations between uncompassionate self-responding and smartphone addiction: A longitudinal study

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Background: As one of the two core elements of self-compassion, uncompassionate self-responding (UCS; i.e., self-judgement, isolation, and over-identification) has been commonly examined for its relationship with psychopathology, but how distinct components contribute to behavioral addictions remains unknown. The present study aimed to examine the longitudinal relationships between the three individual components of UCS and smartphone addiction (SA). *Method:* Using a two-stage cluster sampling method, a sample of Chinese adolescents (N > 1000) were recruited for a two-wave survey. *Results:* All variables at W1 were significantly correlated with their corresponding variables at W2. All three UCS components at W1 were also significantly and positively correlated with SA at W2. After controlling for demographic variables and autoregressive effects, path analysis revealed that SA at W1

significantly predicted isolation at W2 ($p < 0.01$). *Conclusion:* The present study provided empirical evidence for the longitudinal relationship between UCS and SA. Implications and future research directions are discussed.

Keywords: smartphone addiction, self-compassion, uncompassionate self-responding

S-4F5

Associations between preschooler screen time trajectories and the development of problematic media use

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Background: Child problematic media use reflects an excessive preoccupation with screens and has been linked to child and adolescent impairment. Less research has examined the determinants of problematic media use in preschool-aged children. In particular, high levels of screen time during early childhood, may increase the risk of developing problematic use. The objective of the present study is to estimate how preschooler screen time contributes to problematic media use. *Methods:* Data are from Canadian preschoolers (N= 315) studied longitudinally during the Covid-19 pandemic. Parents reported child symptoms of problematic media use (ex., It is hard for my child to stop using screen media) at age 5. Child screen time was measured repeatedly by parents at the ages of 3, 4, and 5. Covariates measured at age 3 include child sex and parent stress and educational attainment. *Results:* Using latent growth modelling we identified a low (mean=.9 hrs/day, 23%), medium (mean=3.0 hrs/day, 56%), and high (mean=6.38 hrs/day, 21%) screen time trajectory. A generalized linear models adjusted for covariates revealed that children in the low screen time group had lower levels problematic screen use than those in the high screen use group (mean=1.87 vs 2.57, $p < .001$) and those in the average screen use group (mean=1.87 vs 2.35, $p < .001$). *Conclusions:* Our results suggest that helping children follow the pediatric recommendation of spending a maximum of 1 hour per day using screens, may help protect them from developing problematic screen use habits during the school-aged years.

Keywords: preschooler, screen media, trajectories, problematic media use

S-4G1**Affective and physiological processing in standard computer display vs VR Gaming**

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Background: Use of virtual reality (VR) in video gaming is becoming more widespread. The transition from standard computer screen (SCS) gaming to VR gaming using head-mounted displays (HMDs) is increasing rapidly with advancing technology. However, little is known about the implications the intensified emotional experience provided through VR gaming may have on problematic gaming behaviors. The aim of this study was to investigate the difference in emotional and physiological experience during SCS versus VR HMDs in gamers and non-gamers, and how this may correlate with gaming disorder. *Methods:* N=43 participants (21 Gamers/22 non-gamers) completed baseline personality and gaming questionnaires alongside their emotional experience (PANAS, SAM) before and after playing a video game on standard computer screen (SCS) and VR HMD (in counterbalanced order). EEG were recorded. Gaming experience was assessed after each exposure. *Results:* Participants reported higher levels of positive and lower levels of negative affect (PANAS) after VR compared to baseline and SCS exposure (with no differences after SCS exposure compared to baseline). Participants reported greater pleasure, arousal and dominance (SAM) during baseline than after VR and SCS exposures, and greater arousal and dominance after VR than SCS exposure. There was no difference in pleasure between the VR and SCS condition or between gamers and non-gamers. Significant differences in Beta-Motor and Theta-Temporal power between VR and SCS exposures. *Conclusion:* Initial results support greater self-reported physiological and positive affective experience in VR as opposed to SCS, though pleasure was the same. This experience does not differ for gamers versus non-gamers.

Keywords: virtual reality, gaming disorder, EEG, head mounted display

S-4G2**A systematic review of ERPs studies in behavioral addictions**

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Background: Neurophysiological studies provide important insight into the neurocognitive mechanisms underlying different types of behavioral addiction (BA), allowing for more accurate diagnostic classification. Event-related brain potentials (ERPs) have been widely used in the context of BA to investigate different cognitive processes. *Method:* The present systematic review included ERPs studies in individuals with BA to resume main neurophysiological correlates of cognitive processes in BAs. Eighty studies met the inclusion criteria and finally entered in the review. *Results:* The majority of the ERPs studies on Internet addiction (n=29), followed by gaming disorder (n=20) and gambling disorder/problem gambling (n=12). Six studies addressed compulsive sexual behavior disorder or problematic pornography use using ERPs. Six studies focus on smartphone or social networks addictions. There is limited evidence for food addiction (n=3), binge watching (n=2), and exercise addiction (n=2). *Discussion:* Overall, the results showed altered ERP components related to different cognitive processes. Evidence for altered decision-making and feedback processes has been reported for gambling. ERPs reflecting altered attentional processes or attentional biases have been more extensively studied in Internet, gaming, and pornography addiction. ERPs indexing low inhibitory control have been reported more consistently across all addictions. *Conclusions:* ERPs alterations at early and later processing stages have been consistently found across BA when compared to healthy control samples, although there is a heterogeneity of the studies in terms of cognitive process and diagnostic criteria used. Limited evidence is present regarding some types of BA and future ERPs studies should compare between different BA.

Keywords: behavioral addictions, ERPs, neurophysiological

S-4G3**Presentation of a study protocol: rTMS targeting the reward system in adolescents with behavioural addictions and/or depressive disorders**

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Introduction: Many adolescents engage in various behaviours that offer immediate and short-term rewards, often leading to excessive behaviour despite negative consequences, resembling patterns observed in substance use disorders. These behavioural addictions (BA) encompass conditions such as pathological media consumption, (internet) gaming disorder, and internet addiction. The presence of high comorbidity rates with depression further amplifies distress among affected individuals. Both disorders involve dysfunctions within the reward system. Although effective therapeutic methods, including CBT, are available, additional research into innovative, non-invasive treatment modalities to better address the needs of affected individuals is required. Recent evidence suggests the potential of neurophysiological approaches like Repetitive Transcranial Magnetic Stimulation (rTMS). However, existing knowledge primarily stems from studies involving adults, emphasizing the necessity for further exploration within adolescent populations. *Methods:* A randomised controlled experimental study with underaged treatment-seeking participants diagnosed with any BA and/or depression will be included in the study. *Results:* The conference contribution will be a presentation of the study protocol, no data will be available yet. After conducting the study, results will help to understand the role of the reward system in adolescents with BAs and/or depression. Further, knowledge on the effects of rTMS as a therapeutic approach will be deepened. *Discussion:* The study protocol will be presented and embedded in the discussion on the neurobiological mechanisms of the reward system in BA and depression and in previous literature. We also discuss how rTMS can constitute an effective treatment for BAs.

Keywords: behavioural addictions, depression, rTMS, new treatment options

S-4G4

A comprehensive evaluation of the neurocognitive correlates and predictors of problematic alcohol use, eating, pornography, and internet use: A 6-month longitudinal study

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Background: Despite consensus in the field that addiction is associated with and predicted by aberrant neurocognitive functioning, empirical evidence articulating specific neurocognitive functions that underpin addictive behaviours is lacking. This presentation will cover a comprehensive evaluation of the neurocognitive correlates and predictors of addictive behaviours including problematic eating (PE), problematic use of the internet (PUI) and problematic pornography use (PPU). *Method:* In an Australian sample of general community members, we conducted a large prospective, cohort study, stratified by age and gender. Participants completed a comprehensive battery of neurocognitive measures evaluating expert endorsed (Delphi) RDoC domains including, inhibitory control, performance monitoring, reward learning, delay discounting, flexible updating, and shifting, as well as self-report addictive behaviour scales. *Results:* Cross-sectional regression analyses ($n=475$) revealed poorer performance monitoring was associated with more PPU and PUI ($\beta=-0.02$, $p=.013$; $\beta=-0.02$, $p=.015$), and a higher preference for delayed gratification was also associated with higher PUI ($\beta=-0.40$, $p=.010$). No neurocognitive domain was associated with PE ($p>.05$). Longitudinal regression analyses predicting behaviour over a 3-month period ($n=206$) revealed poorer performance monitoring ($\beta=-0.16$, $p=.005$) and more reward-related attentional bias ($\beta=0.14$, $p=.032$) predicted higher PE. However, less reward-related attentional bias ($\beta=-0.14$, $p=.006$) and less risk-taking ($\beta=-0.11$, $p=.019$) predicted PUI. None of the neurocognitive functions predicted PPU. *Conclusion:* Our findings reveal neurocognitive functions that underpin addictive behaviours may differ according to behaviour type. This supports the need for tailored treatments targeting behaviour-related neurocognitive functions acknowledging that neurocognitive dysfunction may vary across addictions.

Keywords: neurocognition, mechanisms, longitudinal, pornography, internet

S-4G5**Altered Habenula volume in people with problematic internet use**

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Background: The term problematic internet use (PIU) refers to internet use that causes problems in many areas of life. The Habenula (Hb) region which is involved in reward processing has never been studied in PIU population. We aimed to evaluate the Hb volume (HbV) and its correlation with PIU tendency in healthy population, along with its relationship with depression and autistic traits. *Methods:* We employed an MRI-neuroimaging design using a 3T-scanner in 111 participants. The Hb was segmented by one researcher and confirmed manually by two researchers with high inter-rater agreement. The HbV was analyzed in the form of relative HbV (HbV divided by total intracranial volume). PIU, depression, and autistic traits were evaluated using the internet addiction test (IAT), Beck Depression Inventory-II (BDI-II), and Autism Spectrum Quotient (AQ). Correlational analyses were performed while controlling for age and sex, and mediation analyses were conducted using 2000 bootstrap samples. *Results:* Total IAT scores were negatively correlated with relative HbV ($r=-0.151$, $p=0.024$). Obsession and impulsion subscale of IAT was negatively correlated with relative HbV ($r=-0.239$, $p<0.001$). Total IAT score was positively correlated with total score of BDI-II ($r=0.336$, $p<0.001$) and AQ ($r=0.232$, $p<0.001$). However, there are no mediation effects of depression and autistic traits on PIU and HbV correlation. *Conclusion:* We provide evidence for the involvement of the Hb in PIU and suggest that reduction in HbV may have functional consequences which contribute to the risk for developing PIU. It strengthens the rationale for further exploration of HbV for behavioral addiction.

Keywords: behavioral addiction, habenula, problematic internet use

S-4H1**Female gamers' experiences with online harassment and the mechanisms involved in gaming**

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Research on female online gaming is still limited, and there is a growing concern about the social issues surrounding online harassment and the psychosocial mechanisms women use in online gaming. To address this gender gap, we conducted twenty interviews with European adult female gamers and used thematic analysis to examine the contextual and psychological factors associated with this research problem. The study found that female gamers often face harassment and negative comments from male gamers, leading to feelings of isolation and a lack of belonging in gaming communities, albeit they also applied other resilient strategies. Female gamers also reported using various coping mechanisms, such as distancing themselves from online interactions or other actions to manage these negative experiences. The study also found that female gamers often face negative perceptions from others who do not view them as "real" gamers, leading to feelings of inadequacy and a lack of confidence in their abilities, albeit others acted against this fact with different outcomes. Overall, the findings of our study highlight the need for action to promote change, equity, education, and security for female gamers, as well as their male counterparts, in online gaming. We believe that game developers could benefit from improving the overall gaming experience by considering the findings of our study and working towards creating a more inclusive and welcoming environment for all gamers.

S-4H2**Online harms and their impact on females: An Instagram case study**

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The social media platform Instagram, owned by Meta, is the world's third most-used social platform with two billion active monthly users. On Instagram, sophisticated algorithms present users with content which is tailor-made to their previous searches, post popularity, recent

interactions on the platform and content engagement. Concerns have been raised about the possible harmful effects of exposure to Instagram, especially in girls and women. A case in point is that of 14-year old Molly Russell, committed suicide in the UK in 2017, following months of engaging with Instagram posts on suicide, depression and self-harm. Attention has been drawn to online harms which may derive from problematic Instagram use. Relevant research indicates problematic Instagram use which users are exposed to has been associated with appearance anxiety, body image dissatisfaction, Body Dysmorphic Disorder, addiction, depression and suicide. On Instagram, users are exposed to visual content which is often digitally altered to represent an 'idealised' reality. Females appear particularly susceptible to wanting to adhere to the often very unrealistically beauty ideals represented on Instagram. Research shows that appearance-based comparisons are associated with body image dissatisfaction, and frequent Instagram use can be considered a potential risk factor in the development of body dysmorphic disorder symptoms. In this talk, I will discuss Instagram use in women, and will draw attention to online harms and the potentially problematic uses of this social media platform, supported by relevant research and case studies. I will make a call for user protection, harm prevention and corporate social responsibility.

S-4H3

Embodied contemplative approaches for the treatment of Compulsive Sexual Behavior Disorder

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Background: A growing body of research is elucidating the benefits of integrating mindful interoceptive embodied contemplative self-healing practices in treatments for addiction and for promoting sexual health. *Method:* Basic framework of contemplative self-healing sees human suffering in terms of the cumulative impact of obsessive, addictive the compulsive behaviors driven by chronic exposure to the psychobiology of stress and trauma. The triadic neurocognitive model of addiction provides a framework of understanding the association between the three components of impulsivity, interoception and addiction. Interoceptive awareness has been identified as a significant dynamic in impulsive behaviors, in challenges with managing cravings and interoceptive embodied awareness. An eight-module embodied contemplative self-healing training, Compassion-Based Resilience Training (CBRT), will be presented in the context of CSBD treatment. *Results:* Embodied contemplative practices, including Compassion-Based Resilience Training (CBRT), have been shown to be of benefit for promoting wellbeing, increasing resilience, increasing interoception accuracy, and for reducing the harmful effects of stress and trauma on mental, physical, and sexual health. *Conclusions:* Contemplative learning, healing, recovery and positive health strategies involve insight-oriented mindfulness and compassion-based methods of reducing stress-prone patterns at the level of worst-case cognition, aversive affect, hypothalamic-autonomic reactivity

and addictive-compulsive behavior. More research investigating the efficacy of embodied contemplative practices such as CBRT in treatment for prevention and intervention of CSBD is warranted.

S-4H4

Mindfulness to let go of the past: A case study of a female pathological gambler

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Background: Literature on women and gambling disorders shows gender specificities: high comorbidity, late onset and rapid escalation of symptoms, low distress tolerance and gambling as a strategy to cope with negative emotions and past violence. Mindfulness-based interventions (MBIs) seem to be helpful for these particular characteristics, on its own and as a complement to usual treatment, reducing craving and improving emotion regulation.

Methods: The present study aims to explore the case of a woman gambler, with a history of domestic violence, who received a tailored combined intervention based on individual and group mindfulness-based therapy, psychoeducation and pharmacological therapy. *Results:* Cultivating present-oriented and non-judgmental attitude and body awareness seem crucial to support changes in reduction of symptoms and improvement of quality of life in terms of emotions and relationships. *Conclusions:* Taking the current case as an example of gendered approach to behavioural addiction, it is necessary to focus more and more on tailored research and treatment.

S-5A1**Associations between higher neuroticism/lower conscientiousness and higher TikTok Use Disorder tendencies are mediated by depressive tendencies**

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Background: The social media platform TikTok is used by more than one billion people. In contrast to Western platforms, such as Facebook and Instagram, empirical insights into the addictive potential of the Chinese TikTok platform are relatively rare. *Method:* To gain more knowledge regarding the character of TikTok overuse, a new measure to study “TikTok Use Disorder tendencies” (TikTok Use Disorder Questionnaire: TTUD-Q) was developed by studying data from a convenience sample with more than 350 participants. The items of the TTUD-Q were modified from the Gaming Disorder Test, which assesses the criteria for Gaming Disorder according to the WHO framework. The TTUD-Q was investigated in the context of personality (BFI-10) and depressive tendencies (PHQ-8). *Results:* In line with findings from a meta-analysis on personality and its link with social media overuse, we observed that both higher neuroticism/lower conscientiousness were associated with higher TTUD tendencies. Further, we observed in the present work that these personality-TTUD associations are mediated by depressive tendencies. *Conclusions:* In sum, the well-known personality associations observed from research on addictive use of other social media platforms seem to be valid when studying TTUD tendencies. Link: <https://doi.org/10.1186/s40359-024-01541-y>

S-5A2**Lower distress tolerance mediates relations between depression and problematic social media use severity**

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A great deal of research has found psychopathology related to increased problematic social media use (PSMU). Yet little research has examined affective or cognitive regulation variables that may account for this relationship. Couched within the I-PACE theoretical model of internet use disorders, we present data collected from a medium-sized Midwestern U.S. university. 337 undergraduate psychology students reporting current use of social media completed a cross-sectional web survey. Participants were administered the Patient Health

Questionnaire-9 for depression, Generalized Anxiety Disorder Scale-7, Distress Tolerance Scale, and Bergen Social Media Addiction Scale. Confirmatory factor analyses (using Mplus) for all scales fit well. Then we tested a structural equation model, in which latent constructs of depression and anxiety were specified to predict distress tolerance, in turn predicting PSMU. Age and sex were used as additional covariates of PSMU. The full structural model fit reasonably well, Chi-Square(697) = 1688.12, $p < .001$, RMSEA = .07, CFI = .93, TLI = .93, SRMR = .09. Only depression (but not anxiety) was significantly associated with lower distress tolerance (standardized $B = -.52$, $SE = .11$, $p < .001$). Distress tolerance was significantly associated with decreased PSMU ($B = -.47$, $SE = .06$, $p < .001$), adjusting for age and sex (neither covariate was significant). Lower levels of distress tolerance significantly mediated relations between depression (but not anxiety) and PSMU severity ($B = .24$, $SE = .06$, $p < .001$). Distress tolerance may be an important affective regulation mechanism influencing why some depressed individuals engage in PSMU.

S-5A3

Emotion dysregulation factors are associated with problematic smartphone use severity: The mediating role of fear of missing out

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Based on current theoretical frameworks, there has been increasing research examining psychopathology leading to problematic smartphone use (PSU). However, less is known about the affective and cognitive processes linked to PSU. The present study aimed to analyze the fear of missing out (FoMO) as a mediator in the association between emotion dysregulation factors and PSU severity. Participants were 343 U.S. undergraduate students (64.7% female, $M_{age} = 19.3$, $SD = 2.51$) who completed online measures of emotion dysregulation, FoMO, and PSU. A fully latent structural equation model was analyzed. Results indicated that the greater impulse control dysregulation was associated with heightened PSU via increased FoMO as a mediator. Our findings present evidence suggesting that emotion dysregulation factors and FoMO might be affective and cognitive mechanisms associated with PSU, with FoMO serving a mediating role between impulse control difficulties and PSU severity. Clinical implications are discussed. Link: <https://doi.org/10.1016/j.addbeh.2023.107708>

S-5A4

Investigating the reward-seeking and fear-driven components in problematic use of social networks

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Background: Problematic social networks use (PSNU) has been considered a potential disorder due to addictive behaviors. Theoretical models outline reward-seeking components, such as the experience of gratification, and fear-driven components, such as fear of missing out (FoMO) and the experience of compensation, as key mechanisms of PSNU. We investigate the relevance of these components and assume differences between non-problematic, risky, and pathological use. *Method:* The sample is part of a multi-center study investigating affective and cognitive mechanisms of specific internet use disorders (FOR2974). In the current study, we focus on PSNU (N=232). Following a clinical interview based on DSM-5 criteria for gaming disorder, participants have been classified as individuals with non-problematic, risky, and pathological use of social networks. Questionnaires have been used to assess reward-seeking and fear-driven components. *Results:* Multivariate analysis of variance indicate significant differences in experiences of gratification and compensation. Post-hoc analysis outlines that individuals with pathological behavior showed higher experienced gratification and compensation compared to non-problematic use. Consistently, individuals with pathological behavior also showed higher trait- and state-FoMO than individuals with non-problematic use. FoMO is significantly correlated with experienced compensation but not with experienced gratification. Further analyses addressing the interplay of rewarding-seeking and fear-driven constructs will be included. *Conclusions:* The results highlight the importance of gratification and compensation in PSNU. Especially, the importance of further fear-related components is emphasized, whereby these components should not be considered in isolation in accordance with the fear-driven approach. Addressing these specific pathways might be important when defining interventions and treatment possibilities.

S-5A5

Comparing the degree of functional impairment in vocational students with Social Network Use Disorder and Internet Gaming Disorder

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Background: Social Network Use Disorder (SNUD) is suggested by scholars as a putative behavioral addiction. At the same time, it has been discussed whether this condition constitutes a clinical disorder with significant functional impairment. This has become particularly important since the ICD-11 approach of classifying behavioral addictions requires the presence of significant impairment or suffering. *Methods:* Based on a screening sample in vocational schools (n= 8.607) and a diagnostic interview (n=973) of screening positives, 279 fulfilled DSM-5 adapted criteria with 70 indicating social network use as main activity and 29 gaming. For screening, the Compulsive Internet Use Disorder Scale (CIUS) was used and the Internet Use Disorder – Criterion-based Assessment Tool (I-CAT) served as diagnostic measure. Impairment was assessed by a subset of items taken from the WHO Disability Scale (WHODAS) 2.0. *Results:* Bivariate analyses revealed no significant differences between SNUD and Internet Gaming Disorder (IGD) except for one impairment measure. Students with IGD compared to those with SNUD had to reduce everyday activities or work due to their Internet activities more often ($p = 0.035$). After controlling for gender, mental health and severity (number of DSM-5 criteria) in a logistic regression model, participants with SNUD and IGD showed no differences in functional impairment in the 6 WHODAS items as well as the frequency of their occurrence and the number of days being partly or complete out of role. *Conclusion:* Based on findings participants with SNUD and IGD suffer from similar impairment due to their Internet Use Disorder.

S-5B1

Gambling meets my needs: Towards a deficit model of gambling motives and problems

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Background: Gambling motives play a role in the development of problem gambling. However, research has yet to sufficiently examine the socio-contextual mechanisms by which differing motives increase vulnerability to gambling problems. Particularly, gaps exist in the understanding of how deficits in various domains may relate to the function gambling is serving, namely compensatory behavior. Given the growing interest in the complex interplay between biopsychosocial determinants and motivational orientations associated with gambling problems, a need exists for a deficit model of gambling motives and problems. *Method:* A systematic review of relevant literature to evaluate support for the proposed model was conducted in a variety of databases. Additionally, preliminary tests of the model will be conducted in a national, census-matched U.S. sample (N = 2,806). *Results:* Results of the systematic review will be synthesized and summarized to reveal established findings relevant to the proposed model. Moderation analyses will be conducted on the above-mentioned sample demonstrating that many motives for gambling (e.g., social motives, financial motives, coping motives) differ in their relationships to problem gambling based on the context in which they occur. *Conclusions:* Current evidence supports a framework of understanding the process by which deficits work in conjunction with motives to predict problems with gambling. When gambling is motivated by a desire to compensate for unmet needs, problems arise. The implications of this model for research and clinical practice will be discussed, as will directions for future research.

S-5B2

Problem gambling and other addictive behaviors among US military populations

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Background: Recent research studies suggest that US military populations (service members, veterans) are a high-risk population vulnerable to the development of problem gambling. The current study examined how military experience (i.e., active-duty service members, veterans, and civilians) was related to prevalence of problem gambling and other addictive behaviors. *Method:* US adults were recruited by YouGov Opinion polling and taken from two US samples: a weighted, nationally representative sample adults (N=2,806) and an oversample of sports-wagering individuals (N=1,557). We used the NIDA-Quick Screen and NIDA ASSIST to assess a range of substances and behaviors, as well as to calculate a three month severity score for each behavior, and also problem gambling severity via the Problem Gambling Severity Index. *Results:* After adjusting for sociodemographics, a series of multinomial logistic regressions revealed that service members status was associated with increased odds of alcohol (Adj OR=2.21), tobacco (Adj OR=1.77), prescription drugs (Adj OR=2.91), illicit drugs (Adj OR=2.07), cannabis (Adj OR=2.72), gambling (Adj OR=2.30), pornography (Adj OR=2.41), and video-game play (Adj OR=2.67) severity relative to civilians. However, veteran status was associated with higher odds for prescription (Adj OR=1.50), cannabis (Adj OR=1.62), and pornography use (Adj OR=1.33) severity compared to civilians. Service members (68.6%) as compared to veterans (16.7%) and civilians (18.7%) reported the highest levels of problem gambling severity. *Conclusions:* Problem gambling and other addictive behaviors are prominent among US military service members compared to civilians which require further study for the development of effective addiction treatments and prevention policies.

S-5B3**The interplay of self-directed and interpersonal violence in gambling disorder: A comprehensive study**

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Background: Violence may be categorized into three main groups: self-directed violence, interpersonal violence, and collective violence. Self-directed violence includes non-suicidal self-injurious (NSSI) behavior, which encompasses various direct, deliberate, and violent acts performed with the purpose of harming one's own bodily tissues (e.g., burning, cutting, self-hitting) without the intention of dying. Studies analyzing relationships between NSSI, victimization in the context of interpersonal violence and gambling disorder (GD) remain scarce and have multiple limitations. *Aims:* This study investigated the relationship between violence and GD, focusing on self-directed and interpersonal violence, assessing both perpetration and victimization. *Methodology:* The clinical sample included participants of both sexes aged 18 years or older. Specifically, patients who met diagnostic criteria for GD (DSM-5) and sought treatment for GD at the Pathological Gambling Unit of Bellvitge University Hospital (Barcelona) were included. Specialized psychologists conducted clinical interviews and a battery of questionnaires was administered to assess GD, victimization (adverse childhood experiences), NSSI, alcohol and substance use, emotional regulation, personality features, impulsivity, and psychopathology. *Results:* The relationship between NSSI, victimization, and GD will be detailed. Additionally, the potential mediating role of various sociodemographic and clinical factors in this association will be discussed. *Discussion/conclusions:* This study provides valuable insights into the understanding of how self-directed violence and victimization are interconnected with GD. Implications for the treatment and prevention will be discussed, emphasizing the need for integrated and personalized therapeutic approaches.

S-5B4**Development of a mobile app to deliver cognitive behavioral therapy for gambling disorder intervention**

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Background: Only a small proportion of people with gambling disorder (GD) access treatment services. Contributing factors may include limited resources (e.g., travel costs, child-care, and time constraints), barriers to seeking treatment (e.g., shame, denial, and stigma), and scarce access to trained treatment professionals who deliver evidence-based interventions. Digital therapeutics may help improve accessibility, engagement, retention, and outcomes for treatment of people with GD. *Methods:* To generate a digital app to provide the core concepts and skills of cognitive behavioral therapy (CBT), we are utilizing a strategy previously used to develop and validate computer-based CBT for people with substance use disorders (CBT4CBT) and adapting this program for GD. Based on empirically validated CBT for GD, we are developing gambling-specific modules featuring video vignettes of fictional characters whose situations reflect individuals struggling with gambling problems. These characters will share experiences and model the application of CBT skills (such as identifying triggers, conducting functional analyses, addressing cognitive distortions, and learning and implementing alternate behavioral strategies) to address GD. *Results:* Data will be presented on how a review of apps for addressing GD and existing CBT manuals, qualitative individual interviews, and consultant feedback have been employed in conjunction with clinical experience and CBT4CBT expertise to design and develop an app that will be subsequently tested in a randomized clinical trial. *Discussion/Conclusions:* A digital app for delivering CBT to people with GD is in development and may ultimately help improve treatment for people experiencing GD.

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S-5C1

Tests for the behavioral addiction model of compulsive sexual behavior disorder (CSBD)

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Background and aims: Three experiments investigated mood-modification, withdrawal, and sensitization in order to test the behavioral addiction model of compulsive sexual behavior disorder (CSBD). *Method:* Experiment 1 involved 44 participants (M age=26, SD=5.5; 22 CSBD, 22 non-CSBD) who rated positive and negative emotions and pornography craving while viewing positive, negative and neutral short movies in counter-balanced order. Experiment 2 included 92 participants (M age=30.8, SD=11.5; 44 CSBD, 48 non-CSBD) who rated liking and wanting in response to an erotic movie with increased sexual explicitness. In Experiment 3, 30 participants (M age=30.8, SD=9.1; 16 non-CSBD, 14 CSBD) abstained from sexual activity rated withdrawal symptoms over 10 days of abstinence. *Results:* In experiment 1 CSBD individuals showed similar emotional responses to non-CSBD following mood induction movies. They showed decreased pornography craving after the unpleasant movie. In experiment 2, CSBD participants reported more "withdrawal symptoms" regardless of length of sexual abstinence. In CSBD, the symptoms were lower with each time point, until the 7th day (no difference over time in non-CSBD). In experiment 3, CSBD showed higher ratings of both liking and wanting to increased sexual explicitness. *Conclusions:* In CSBD, there was evidence for similar emotional responses to non-CSBD and decreased craving after a negative movie. They showed greater withdrawal symptoms compared with non-CSBD. Third, they showed evidence for incentive sensitization (higher liking but also wanting) in response to increased sexual explicitness. Further experiments are needed to test the alternative frameworks for conceptualizing CSBD.

Keywords: compulsive sexual behaviour, sex addiction, sensitization, withdrawal, mood-modifications

S-5C2

Insights on epigenetic and hormonal dysregulation associated with CSBD

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Background: Compulsive sexual behaviour disorder is defined as a recurrent pattern of failure to regulate sexual impulses that leads to significant distress in daily life. Despite several theories on its pathomechanisms, the epigenetic and hormonal alterations underlying CSBD remain largely unknown. Previous studies have found a dysregulation of the HPA axis whereas results along the HPG axis saw an increase of LH in the CSBD group but no difference in other hormones or the methylation status. Counterintuitively, higher levels of oxytocin along with altered methylation were observed in subjects with CSBD. Preliminary evidence suggests that oxytocin levels can be normalised through cognitive behavioural therapy. *Method:* Blood samples of 43 individuals with CSBD and 36 men without CSBD, taken as part of the sex@brain study, were analysed. Through bisulfite-sequencing method, methylation of different serotonin and dopamine genes was examined. *Results:* After controlling for confounding variables, no differences were found between the two groups in the dopaminergic system. However, a higher methylation of the peripheral 5HTT/SLC6A4 serotonin transporter gene was observed. Correlations with sexual outlet differed. *Conclusions:* Evidence on neurobiological correlates remains inconsistent. For most target areas, only singular studies with small sample sizes have been conducted with these lacking replication. Further analysis of different genes and hormones on our available sample, including hormones along the HPG axis and oxytocin, is planned. A better understanding of the epigenetic and hormonal changes in people with CSBD and their relationship with behavioural markers may help to understand the pathophysiology and improve treatment.

Keywords: epigenetics, compulsive sexual behaviour disorder, hormones

S-5C3

Influence of stress on cue-reactivity and decision making in gaming and pornography users

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Background: Apart from gaming there are several other types of internet usage with features which may become harmful to their users. One of those is pornography usage, which may develop to problematic/addictive use patterns based on mechanisms known to be involved in addictive behavior. One main mechanism is cue reactivity. Addiction-related stimuli trigger automated neural responses and a strong craving to engage in the behavior that might result in diminished control over the behavior. This process may also influence other executive functions like decision making. Potentially, the influence of cue reactivity on executive functions is further affected by acute stress. *Method:* In this talk we will present experimental data collected in a subproject of a multi-center study (FOR2974). Gaming and pornography users underwent stress induction (Trier Social Stress Test), followed by a cue reactivity paradigm, during which visual stimuli were being rated, and a decision-making task modified with explicit addiction-related visual material (Iowa Gambling Task). *Results:* Higher symptom severity was associated with higher cue reactivity. Participants with heightened cue reactivity showed impaired decision making, a relation that is further amplified under acute stress. *Conclusions:* Our results demonstrate cognitive reductions in individuals with risky and pathological gaming and pornography use, which may be driving factors in the development and maintenance of behavioral addictions. Differences between the two types of behaviors that arise will be subject to further analyses. Specifically, the effect of stress may vary depending on the type of behavior engaged in.

Keywords: cue-reactivity, decision making, stress

S-5C4

Tolerance and pornography binges as key features of problematic pornography use: A psychological network analysis with two independent samples

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Modern internet pornography allows users to harness sexual novelty in numerous ways, such as progressing to greater amounts and/or more stimulating genres to overcome desensitisation (tolerance/escalation), skipping between stimuli (tab-jumping), delaying orgasm ('edging'), and engaging with pornographic binges,. However, existing research has not yet evaluated how these reinforcing consumption patterns relate to problematic pornography use (PPU). To this end, we engaged two independent samples of male pornography users (N1= 1,356, Mage=36.86 +/- 11.26; N2= 944, Mage= 38.69 +/- 12.26) and examined the relationships between these behavioural dimensions and self-reported difficulties in controlling one's use through a network analysis approach. As hypothesised, Gaussian graphical models indicated that tolerance/escalation i) was centrally placed within the overall network and ii) acted as a statistical bridge node between other patterns of pornography use (e.g., binges) and all measured facets of PPU. Our results are consistent with other emerging literature and confirm tolerance/escalation, pornographic binges, tab-jumping, and edging behaviours as relevant features to PPU. Clinical and theoretical implications as well as future research directions are discussed.

Keywords: problematic pornography use, pornography addiction, behavioral addiction, binge behaviors, network analysis

S-5D1

Do we understand impulsivity the same way across different countries of residence, languages, and gender identities?

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Background and aims: Over the past decade, the UPPS-P Impulsive Behavior Scale has emerged as a prominent psychometric instrument for assessing impulsive traits in clinical and research settings. Given its well-established psychometric properties and relevance to various problematic behaviors, it was adapted to numerous populations. Nevertheless, there remains an evidence gap concerning the comparability of its test scores across such populations, notably across diverse countries of residence, languages, and gender identities, including gender-diverse individuals. *Methods:* Using data from the International Sex Survey (N = 82,243), we conducted confirmatory factor analyses and measurement invariance analyses on the pre-established five-factor structure of the 20-item short version of the UPPS-P Impulsive Behavior Scale (Billieux et al., 2012). Our primary aims were to investigate (1) its psychometric validity and reliability and (2) its psychometric (quasi-)equivalence across 34 country-of-residence-related, 22 language-related, and three gender-identity-related groups. *Results:* Our results extend the well-established relevance of this psychometric instrument to 26 countries, 13 languages, and three gender identities. Notably, psychometric validity and reliability were evidenced across nine new translations included in this study (i.e., Croatian, English, German, Hebrew, Korean, Macedonian, Polish, Portuguese – Portugal, and Spanish – Latin American). However, psychometric (quasi-)equivalence was only established across all three gender-identity-related groups (i.e., women, men, and gender-diverse individuals). *Discussion and Conclusions:* Considering these promising findings, we invite researchers to participate in further psychometric validation of these new translations of the UPPS-P Impulsive Behavior Scale. Nonetheless, we caution against comparing test scores when conducting impulsivity research across multiple country-of-residence-related and language-related groups.

Keywords: confirmatory factor analysis, impulsive behaviors, International Sex Survey, measurement invariance analysis, UPPS-P Impulsive Behavior Scale

S-5D2

**A 4-factor revision of the Pathological Buying Screener:
The structure of compulsive buying and its relationship with five
personal characteristics***SUNGHWAN YI¹, HANS BAUMGARTNER²*¹University of Guelph, Canada²Pennsylvania State University, USA

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Commonly used scales of compulsive buying do not adequately capture the complexity of compulsive buying as a multidimensional construct, and it is impossible to gain insights into the structure of the dimensions of compulsive buying and their relationship with other individual differences when the items measuring compulsive buying are aggregated into an overall score. The first objective of this paper is to offer a revision of Müller et al.'s (2015) two-factor Pathological Buying Screener (PBS). Based on online surveys with three large samples of English-speaking Canadians (N = 2,000, 1151, and 941), we propose a revised scale (the 4FPBS) consisting of four dimensions: excessive buying (EB), the phenomenological experiences (PH) associated with compulsive buying (which incorporate preoccupation with buying, buying urges, and mood repair), and both the financial problems (FP) and interpersonal problems (IP) resulting from compulsive buying. The second objective is to demonstrate the benefits of retaining four separate dimensions. We propose a structural model of the 4FPBS according to which EB leads to PH, which in turn leads to FP and IP. In addition, both the linear and interactive effects of five personal characteristics (depression, trait self-control, self-esteem, and overt and covert narcissism) on the four compulsive buying dimensions and the relationships between the four dimensions are investigated.

Keywords: compulsive buying, scale revision, pathological buying screener

S-5D3

Understanding the influence of negative affectivity, mentalization, and decision-making styles on compulsive online shopping

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Background: Shopping, often a recreational pursuit, can spiral into dysfunctional buying behavior, prompting compulsive shopping habits that disregard adverse consequences. The rise of e-commerce has only fueled this behavior, providing an avenue for anonymous shopping and easy access to a vast array of products. While previous studies have linked negative affectivity and impulsive decision-making styles to problematic online buying behavior, surprisingly, there's been a lack of investigation into how deficits in mentalization might exacerbate online shopping tendencies. This study aimed to explore the interplay between negative affectivity, mentalization, decision-making styles, and compulsive online shopping behavior.

Method: One hundred fifty-five Italian adults (aged 19-80) completed the Depression Anxiety Stress Scale (DASS-21), the Mentalization Scale (MentS), the General Decision Making Style (GDMS), and the Compulsive Online Shopping Scale (COSS). *Results:* Linear regression analysis showed that younger age, high scores on anxiety and avoidant decision-making style, and poor motivation to mentalize were significant predictors of compulsive online shopping behavior. Furthermore, the mediational analysis uncovered that the presence of an avoidant decision-making style mediated anxiety's impact on the COSS score. *Conclusions:* Our research highlights that individuals exhibiting an avoidant decision-making style tend to engage in dysfunctional online shopping behaviors, particularly when facing heightened anxiety levels. This inclination might stem from the possibility of compulsive shopping serving as a coping mechanism to manage negative affectivity, notably anxiety. Additionally, tendencies to delay or avoid decisions and a lack of motivation to engage in mentalizing significantly contribute to the likelihood of participating in online shopping behaviors.

Keywords: online shopping, decision-making styles, mentalization, negative affectivity

S-5D4**Love addiction and personological profiles:
An empirical study of an Italian sample of love addicts**

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Background: Love is a complex emotion to analyze and define, especially when this feeling becomes pathological, as in the case of love addiction, defined by many authors as a behavioral addiction, in which the object of addiction is the loved person. This condition is still little studied; there is no univocal definition or diagnostic standards recognized in the literature. The aim of this research is to contribute to the study of the phenomenon and broaden knowledge about it, in particular, with respect to some personality characteristics that might be relevant in love addiction. *Method:* To this purpose, a sample of love addicts (N=127) and a control sample (N=127) were administered a battery of tests measuring perceived social support, the five personality trait domains of the DSM-5, the personality traits according to the Big Five, self-efficacy and social desirability, and their results and correlations were then evaluated. *Results:* From the data that emerged, it is possible to observe the presence of significant personological differences between people with love addiction and the control group. Interestingly, in people with this condition there is a significantly lower degree of perceived self-efficacy, a higher degree of negative affectivity and a significant correlation with the neurotic personality trait. *Conclusions:* Such information can be a valuable support for therapists in the treatment of love addiction.

Keywords: love addiction, self-efficacy, personality traits

S-5D5**How to prevent cyberchondria in clinical settings?**

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This review discusses how the healthcare industry is trying to find solutions to reduce the prevalence of cyberchondria, a psychiatric condition that has become more common in clinical settings in recent years. Cyberchondria is related to health anxiety and stress, problematic internet use, obsessive-compulsive disorder, and hypochondria, which can lead to problems in daily functioning and altered healthcare utilisation, such as searching and visiting multiple doctors. Although cyberchondria is not officially considered a mental health disorder, it is important to prevent it by encouraging patients to use online health information responsibly, which requires new approaches from healthcare providers. The study suggests a possible solution to address this internet-based psychological issue by using the shared decision-making (SDM) healthcare model. This approach can help manage excessive worry associated with diagnoses and treatments, especially when patients are dealing with serious health conditions and are unsure about the possible outcomes of treatment. It empowers patients by giving them reliable and valid tools to make informed decisions through cognitive processes. SDM could help patients better understand their options and potential consequences based on evidence-based practices, thereby reducing the risk of cyberchondria.

Keywords: cyberchondria, internet addiction, shared decision-making, prevention

S-5E1

Stress and compulsive buying-shopping disorder: A systematic review

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Background: Theoretical frameworks of behavioral addictions mostly consider stress to be an important factor contributing to the development and maintenance of addictive behaviors. Theoretical models of compulsive-buying shopping disorder (CBSD), however, have rarely included stress as contributing factor. Currently and to the best of our knowledge, there is no work that systematically reviews the literature on the association between stress and CBSD. *Methods:* A systematic review including original articles on the association between stress and CBSD was carried out. A comprehensive search string was used to systematically search in three databases (PubMed, Scopus and Web of Science). *Results:* 16 studies were included. Correlative studies showed a significant correlation between perceived general stress and CBSD symptoms. Few studies that used mean comparisons found significantly higher perceived general stress levels in persons with CBSD compared to control participants. Regression/structural equation models with perceived general stress predicting CBSD provided mixed results. Mixed results were also found in studies employing ecological momentary assessments. One study that intended to induce stress observed more pronounced CBSD symptoms in participants with high stress. *Conclusions:* The majority of studies are cross-sectional and limited to correlative evidence. The studies are heterogeneous regarding design, operationalization of stress and samples. Clear conclusions are thus limited, but at least the correlative studies suggest a possible link between stress and CSBD symptoms. Future research could focus on experimental manipulation of stress and its impact on CBSD symptoms. Longitudinal studies that assess objective markers of stress could also be conducted.

S-5E2

Mediating role of the emotion regulation between RS and Compulsive Buying Shopping Disorder*EMELINE CHAUCHARD*¹, *GAËLLE CHALLET-BOUJU*²

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Background: Reject sensitivity (RS) is a cognitive-affective process defined as the tendency to anxiously anticipated and overreact to reject situations from others. When perceived rejection occurs, individuals are inclined to experience unpleasant emotions (sadness, anxiety, loneliness...) that required regulation. Rejection sensitivity and unpleasant emotions are related to increased compulsive buying shopping disorder (CBSD). Individuals may buy in order to regulate unpleasant emotion resulting from rejection sensitivity. This study aims to investigate the mediating role of the emotion regulation dimension between RS and Compulsive Buying Shopping Disorder (CBSD). *Methods:* A total of 340 participants (mean age=24.3, SD=8.52; 72.1% women) completed an online survey comprising the Reject Sensitivity Questionnaire (RSQ), the Difficulties in Emotion Regulation Questionnaire (DERS), and the Compulsive Buying Scale (CBS). General Linear Model (GLM) mediation analyses were conducted. *Results:* Out of the participants, 36 (10.6%) exhibited potential CBSD. Total mediations were observed, with the impulse and non-acceptance dimensions of the DERS fully mediating the relationship between RSQ and CBS. *Conclusions:* Direct correlation between RSQ and CBS was not found. Instead, the impulse and non-acceptance dimensions of the DERS emerged as mediating factors. This suggests that the connection between RS and CBSD is evident in individuals facing challenges in accepting their own emotions and regulating behavior during distress. Further research is necessary to comprehensively understand the roles of RS and emotion regulation in CBSD, including factors such as negative emotion, self-esteem and shopping motives.

S-5E3

Cue-induced craving, working memory and decision-making performance in the context of compulsive buying-shopping disorder

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Background: In compulsive buying-shopping disorder (CBSD) individuals frequently decide to choose the short-term rewarding option of buying despite negative long-term consequences, such as feelings of guilt, conflicts in partnerships, or indebtedness. Recent models for behavioral addictions (e.g., I-PACE) focus on craving reactions and decision-making deficits as potential correlates of CBSD. The aim of the current study is to investigate the effect of addiction-related cues (online shopping pictures) on decision-making performance with respect to symptoms of online CBSD. *Methods:* We investigated participants from a predefined sample (N=98) with the Game of Dice Task (GDT), a frequently used paradigm to investigate risky decision-making. Simultaneously to the GDT, participants had to respond on a 3-back working-memory task that contains online-shopping cues. Tendency towards online CBSD as well as craving reactions towards online shopping pictures were assessed by questionnaires. *Results:* In a three-way moderated regression analysis, the relationship between decision-making performance and symptoms of online CBSD is moderated by craving and 3-back working memory performance. *Conclusions:* In line with current models for behavioral addictions, results emphasize the role of cue-induced craving and diminished executive control in the context of CBSD.

S-5E4

Factors influencing criminal behavior in the context of Compulsive Buying-Shopping Disorder

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Background: Research in the field of Compulsive Buying-Shopping Disorder (CBSD) has increased in recent years. However, not all associated factors and behaviors are yet known. In particular, the criminal behaviors that occur in some patients are mostly unexplored. The aim of this study was to enhance the understanding of the psychological factors, person's characteristics and personality traits associated with criminal behavior in the context of CBSD.

Methods: The study was conducted as an online survey at one measurement point. Inclusion criteria were sufficient German language skills, age of majority and voluntary participation. Recruitment was carried out by mailing lists, online social networks, word-of-mouth recommendations and in counseling and treatment facilities. Standardized and self-developed questionnaires were used. Questions were asked about buying behavior and preferences, tolerance development, general sociodemographic variables and information on potential criminal behavior in the context of CBSD. The following standardized questionnaires were used: Pathological Buying Screener, Rosenberg Self-Esteem Scale, Materialistic Value Scale, Short Scale for Assessing the Big Five Dimensions of Personality and The Dirty Dozen: A Concise Measure of the Dark Triad. *Results and Conclusions:* Data collection has not yet been completed at the time of submission. The results will be available at the time of the presentation.

S-5F1

Reducing addictive behaviors by using ecological momentary interventions: A systematic review and meta-analysis

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Background: Ecological momentary intervention (EMI), which adopts real-time monitoring and feedback, has been increasingly utilized in improving behavioral health in recent years. Its timely and personalized support is suggested to be effective in enhancing the self-management of addictive behaviors. However, inconsistent evidence has been observed regarding its efficacy. This systematic review seeks to summarize the literature findings and provide synthesized evidence on the efficacy of EMI for addictive behaviors. *Method:* Electronic bibliographic databases, including PsycINFO, Embase, Medline, and CINAHL will be searched using predefined search terms to identify relevant studies of which the primary outcomes are quantitative empirical findings on the efficacy of EMIs on any addictive behaviors without date restrictions. Study designs include randomized controlled trials and quasi-experimental studies. Two independent reviewers will extract information according to the eligibility criteria and evaluate the quality of the final selected studies. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines will be followed. Quality and risk of bias will be assessed using the Cochrane Collaboration tool. *Results:* Findings will be presented by computation of pooled estimate and forest plot. Potential stratified analysis may be performed per study types and outcomes should it be applicable. *Conclusion:* This review and meta-analysis will be among the first to systematically integrate the available evidence on the efficacy of EMI on addictive behaviors. By synthesizing the up-to-date evidence, the findings from this study will provide directions for future research and provide practitioners with an understanding of the usage of EMI in managing addictive behaviors.

Keywords: ecological momentary intervention, addictive behaviors, meta-analysis

S-5F2

Compulsivity-oriented treatment of behavioral addictions: a meta-analysis

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Background: Compulsivity, defined as feeling ‘forced’ to engage in a certain activity despite severe negative consequences, is at the core of addictive behaviors. The automatic or cue-driven nature of compulsive behavior has led researchers to develop techniques aimed at (a) extinguishing or counterconditioning cue-compulsive response associations through exposure, (b) retraining these responses, or (c) curbing or modulating them. However, a systematic evaluation of these methods in behavioral addictions is lacking. *Method:* This study presents a pre-registered meta-analysis, conforming to PRISMA guidelines, of the efficacy of compulsivity-oriented behavioral or neuromodulation interventions. The analysis is restricted to group studies with clinical or high-risk samples, and includes RCTs and other study formats, as long as they contain measurable treatment effect sizes. These effects will be pooled using multilevel random-effects models. Heterogeneity, influence of moderators, and signs of bias will also be assessed. *Expected results:* These techniques are hypothesized to be effective, either as primary or as adjuvant treatments. Moderation by specific technique type, disorder label, and design type will be also analyzed, although hypotheses regarding such moderators remain open. The analysis will incorporate debiasing methods if needed. We expect these interventions to remain efficacious after adjusting for biases.

Keywords: compulsivity, behavioral addictions, intervention techniques, meta-analysis

S-5F3

Multi-behavioral digital intervention on Internet Use Disorders, alcohol, tobacco, and cannabis use, social competence, and stress regulation: A cluster-randomized control trial

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Background: Preventive measures to tackle Internet Use Disorders could ideally be part of a multi-behavioral intervention that addresses as well other behaviors such as drinking alcohol, smoking or using drugs. To date, there are few evidence-based, multi-behavioral addiction prevention approaches for young adults. This study investigated such an approach in a vocational school context. *Methods:* After an app-based screening in the classroom, all participants received individualized feedback. The cluster-randomized assignment to the intervention group (IG) or control group (CG) took place at class level. Students in the IG chose two of six available modules (alcohol, tobacco, cannabis, social media/gaming, social skills, stress) and received app-based coaching for 8 weeks per module. Participants in the CG received information on improving health behavior. Follow-ups took place after 6 and 12 months. *Results:* A total of 2,568 vocational school students (participation rate = 47%) took part. Multilevel regressions were performed assuming a random intercept at individual level. The models were adjusted for group differences in the respective addictive behaviors at baseline. Based on an intention to treat approach (N=2,545), positive intervention effects were found for Internet use ($p = 0,007$), social competence ($p < 0,001$) and stress regulation ($p = 0,015$). No effects were found for alcohol, tobacco, or cannabis use. *Conclusion:* Results indicate the effectiveness of the app-based intervention with regard to compulsive Internet use. In addition, skills-based approaches focusing on social competence and stress regulation were effective too. Findings speak in favor of a multi-behavioral intervention.

Keywords: prevention, multi-behavior, internet use disorder

S-5F4**My experience utilizing semaglutide and ketamine to treat my own addictions**

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I am presenting on my lived experience as a sex and food addict and the modalities that I used to help me recover. I am an American medical doctor. For decades I suffered with sex and food addictions. Finally, after 40 years, I was able to overcome my struggles and write about the method to my recovery. Unlike 12 Step Programs, where an addict is forever an addict, I feel that addictions Can be overcome. I am no longer a food or sex addict. I no longer obtain my self-esteem from male attention. I no longer comfort my emotional pain with food. I will speak about My 5 Steps to recovery. I will also speak about my experience with medications that helped me to overcome my addictions. I used semaglutide to ease food cravings while I concurrently worked on my mindset regarding food addiction. Semaglutide has been anecdotally shown to curb cravings for addictions such as alcohol, shopping, and possibly sex. I will provide scientific references to support this in my oral presentation. I used IV and oral ketamine to help me overcome depression, anxiety, and PTSD which were the root cause of my addictions. Ketamine has been scientifically proven to be an effective treatment modality for depression, anxiety, and PTSD. Perhaps it can play a role for people with behavioral addictions. I will provide scientific references to support this in my oral presentation.

Keywords: female sex addiction, binge eating, ketamine, semaglutide, compulsive sexual behavior

S-5F5**Drugs and behavioral addictions**

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Introduction: The intricate relationship between drugs and addiction is multifaceted. Certain substances directly contribute to substance use disorders, while others play a role in the manifestation of behavioral addictions. Dopamine agonists are already well known, but are they the sole contributors? *Methods:* Drawing insights from a comprehensive analysis of VigiBase®, the World Health Organization's expansive pharmacovigilance database, encompassing over 35 million reports detailing suspected adverse effects of medications from more than 120 countries worldwide, we aim to identify all drugs that have been reported as potential culprits ("suspected") in inducing behavioural addictions in individual case safety reports without any time limitation. We have specifically selected the terms "behavioural addiction", "gambling disorder", "gaming disorder", "compulsive sexual behaviour", "bulimia nervosa", "binge eating" and "compulsive shopping" reported by health professionals. We selected 'suspected' drugs that were cited more than 5 times. *Results:* One thousand thirty-eight cases matching the search, including 43 suspect drugs. The most common were dopaminergic medications indicated in Parkinson's disease (37%), followed by antidepressants (23%), antipsychotics (16%, including dopaminergic partial agonist aripiprazole), anti-epileptics (7%). *Conclusions:* Accordingly, to reward system physiology, the association of dopaminergic agonists or partial agonists with the initiation of behavioural addictions is widely found. However, the presence of several other pharmacological classes in this context may come as a surprise. A detailed analysis of such cases sheds light on the roles and contexts of these 'suspected' drugs, belonging to diverse pharmacological classes, in the manifestation of adverse effects resembling behavioural addictions.

Keywords: drugs induced, behavioural addiction, pharmacovigilance database

S-5G1

Examining the link between general internet use, multitasking, and problematic smartphone use: Insights from a correlational and mediation analysis

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Background: Problematic Smartphone Use (PSU) encompasses various internet-related behaviors using smartphones, leading to mental health problems and impaired daily functioning. PSU involves many activities, such as browsing social media, messaging, videos, and the internet, in the form of General Problematic Internet Use (GPIU). Therefore, PSU is considered to be affected by multitasking; however, studies confirming these relationships are scarce. *Objectives:* The study aimed to investigate the relationship between PSU and Internet Use, considering the possible influence of multitasking on the relationship. *Methods:* 171 healthy participants (age mean/SD=36.62/13.34, Male/Female=98/78) participated in the questionnaire survey. The questionnaires used were the Generalized Problematic Internet Use Scale-2 (GPIUS-2), Mobile Phone Problematic Use Scale (MPPUS), and Media Multitasking Questionnaire (MMQ). Statistical analyses were conducted using SPSS (Ver.26.0) for correlational analyses among the scores of the questionnaires, and mediation analysis (Bootstrap method, 5000) with GPIUS-2 as the independent variable, MPPUS as the dependent variable, and MMQ as the mediator. *Results:* The analyses revealed significant correlations between GPIUS and MPPUS ($\beta=0.690$), GPIUS and MMQ ($\beta=0.369$), and MMQ and MPPUS ($\beta=0.502$), with $p<0.001$. Mediation analysis showed a direct effect of $\beta=0.559$ ($p<0.001$) and an indirect effect through MMQ ($\beta=0.0929$) with a total effect of $\beta=0.652$ ($p<0.001$). This indicates that while GPIU directly predicts PSU, it also amplifies the tendency towards PSU through the induced multitasking behaviors. *Conclusion:* The results suggest an association between Internet Use and PSU, partially mediated by multitasking tendencies. In the presentation, neural correlates of PSU by 7T fMRI analyses will be partially introduced.

Keywords: problematic smartphone use, general problematic internet use, multitasking

S-5G2

Understanding pathways to smartphone distraction and problematic smartphone use: A structural equation model

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Background: Smartphone distraction occurs as an interruption in attention from daily activities to engage with online content, relationships, and self-presentation via smartphone use. Smartphone distraction may lead to unintended loss of time, reduced productivity, and interference with higher-order cognitive processes. This process has been found to be used as an emotion regulation strategy to relieve emotional distress. However, the psychological pathways of how smartphone distraction occurs and how it may be implicated in problematic smartphone use have not been adequately investigated. *Method:* The present study assesses the hypothesised relationships examining smartphone distraction determinants and their association with problematic smartphone use for emotion regulation through a structural equation model. The study analysed data collected in a sample of (N=1,001) British University students (M=21.10, SD=2.77). *Results:* The hypothesised model highlighted how fear of missing out, nomophobia, and online vigilance, lead to higher smartphone distraction and smartphone use for emotion regulation, mediated by anxiety and lack of metacognition. *Conclusion:* Understanding the determinants and mediators of this model linking smartphone distraction to problematic smartphone use can help design intervention strategies to promote focused productivity and less reliance on smartphone use for emotion regulation in emergent adulthood.

Keywords: smartphone distraction, problematic smartphone use, emergent adulthood

S-5G3**The role of trait and state fear of missing out on problematic social media and problematic smartphone use severity**

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Background: Previous research has reported mental health variables and maladaptive cognitive emotion processes to be associated with severity of problematic social networking site use (PSNSU) and problematic smartphone use (PSU). The present study examined trait and state fear of missing out (FOMO) dimensions and their potential mediating roles in explaining relations between PSNSU and PSU severity. *Method:* A sample of 461 participants completed an online survey protocol measuring trait and state FOMO, PSU, and PSNSU. *Results:* Structural equation modelling revealed that trait and state FOMO were significantly associated with PSNSU severity, and PSNSU severity was associated with PSU severity. State (but not trait) FOMO mediated relations between PSNSU and PSU severity. *Conclusions:* The study demonstrates the role of FOMO, especially state FOMO, in association with PSNSU and PSU severity.

Keywords: fear of missing out, problematic smartphone use, problematic social networking site use, mental health

S-5G4**Generalized anxiety, depression, distress and mindfulness: An in-depth latent profile analysis of problematic smartphone use antecedents***JOSHUA R WILLIAMS, JON D ELHAI*

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This study explored problematic smartphone use (PSU) using latent profile analysis (LPA) and the relationship PSU has with subscales of the measures that assess generalized anxiety disorder (GAD), major depressive disorder (MDD) symptoms, distress tolerance, lack of perseverance, and trait mindfulness. Using Qualtrics, we conducted a web-based survey of undergraduate students of a large American university's introduction to psychology courses ($N = 379$; 209, 58.54% female; ages 18 – 42 years). The data were collected over three semesters from January 23, 2023, through October 6, 2023. Using Mplus 8.9, we conducted an LPA on the full 33-item Smartphone Addiction Scale (SAS) to discover latent profiles and relationships to subscales of Generalized Anxiety Disorder-7 (GAD-7), Patient Health Questionnaire-9 (PHQ-9), Distress Tolerance Scale (DTS), and the Psychological Mindedness Scale (PMS). A two-profile PSU solution fit the data best as per the fit indices and likelihood ratio tests. SAS item responses were least severe in profile 1 and medium-to-high severity in profile 2. Individual PSU profiles in the model noted significant differences only on the PMS subscale of interest in meaning and motivation of own and others' behavior, the DTS subscale for tolerance, and the lack of perseverance subscale of the Short Urgency, (lack of) Premeditation, (lack of) Perseverance, and Sensation Seeking Impulsive Behavior Scale. No significant differences in profile severity for age or sex were noted. These findings demonstrate the need to further investigate how/if the components of covariate scales are related to PSU.

Keywords: problematic smartphone use, latent profile analysis, social anxiety, generalized anxiety, fear of missing out

S-5G5**Lifestyle interventions for the prevention of problematic smartphone use and the promotion of mental health: Results of an experimental longitudinal study on the effects of regular physical activity and conscious smartphone use**

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Theoretical background: The COVID-19 pandemic contributed to an increase in mental health issues and problematic social media and smartphone use. Primary and secondary prevention approaches are urgently needed. Therefore, the present study aimed to identify and test effective, easily applicable, and cost-efficient lifestyle interventions for the prevention of problematic digital media use and the promotion of overall mental health. *Methods:* N = 503 persons participated in the experimental longitudinal study. For 14 consecutive days, they either (a) reduced their daily smartphone use by 60 minutes, (b) increased their daily level of physical activity by 30 minutes, (c) combined both conditions, or (d) continued their behavior as usual. Outcomes were assessed via online surveys at five measurement time points up to three months after the intervention. *Results:* All interventions led to a significant increase in physical activity and reduced symptoms of problematic smartphone use, depression, and anxiety. In addition, the reduction of smartphone use time and the combination of both conditions resulted in a significant reduction of participants' smartphone use and higher levels of positive mental health. The effects of the smartphone reduction were larger and more stable than the effects of the increase in physical activity. The combination of both measures yielded positive effects similar to the mere reduction of smartphone use. However, they partly occurred earlier. *Discussion:* In combination with regular physical activity, conscious digital media use seems to be a promising strategy for the prevention of addictive tendencies of digital media use and the promotion of mental health.

Keywords: lifestyle interventions, regular physical activity, conscious digital media use, problematic smartphone use, mental health

S-6A1

What is the sex in sex addiction?

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Background: Recent years have seen a surge in research related compulsive, excessive, or out-of-control sexual behaviors. Yet, little is known about which behaviors people might experience as compulsive. *Method:* Using YouGov America, a non-probability sample was collected, matched to U.S. representative norms, stratified, and weighted based on sample characteristics to ensure representativeness (N=2,806; Mean Age=48.9, SD=17.3). Participants reported if they had experienced any concerns about their sexual behaviors being either “out of control” or “an addiction.” Participants who endorsed such concerns then asked to indicate which behaviors had led to such concerns, using a checklist of 11 potentially overlapping sexual behaviors (e.g., frequent casual sexual encounters, using apps to find sexual partners). *Results:* Men and gender diverse individuals were more likely than women to report concerns that their sexual behaviors were out of control or addictive. Relative to heterosexual women, heterosexual men were more likely to report solitary sexual behaviors as primary behavioral concerns and less likely to report partnered sexual behaviors. Relative to heterosexual women, gay men were more likely to report partnered sexual behaviors as behavioral concerns. More religious participants were more likely to endorse masturbation as a behavior of concern and less likely to endorse frequent casual sexual encounters. *Conclusions:* Sexual behaviors that people find to be problematic or addictive are extremely variable across sexual orientation and gender, suggesting that the etiology and presentation of compulsive sexual behavior disorder will be heavily influenced by demographic factors.

S-6A2

Assessment and predictors of CSBD and PPU in a Polish sample

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Background: Inclusion of Compulsive Sexual Behavior Disorder (CSBD) in ICD-11 have contributed to fast development of research on the disorder in recent years. The same is also true for a related symptom cluster of Problematic Pornography Use (PPU). Although significant progress have been made, further effort centered on assessment and predictors of CSBD and PPU are still needed. *Method:* The presented work is based on several declarative studies based on Polish participants, assessing both CSBD and PPU and analyzing CSBD and PPU severity and occurrence. Additionally, a selection of potential predictors of CSBD and PPU will be analyzed, which include factors related to sociodemographic profiles of the participants, personality-related, trait-level variables, emotion-regulation related indicators, as well as attitudes and personal convictions and other related variables. *Results:* The results will include CSBD and PPU symptom severity and statistical models involving predictors of both CSBD and PPU. *Conclusions:* The results show significant predictors as well as help evaluate the available assessment methods for CSBD and PPU, which has meaning both for therapy and diagnosis of CSBD.

S-6A3

Validation of Toronto Alexithymia Scale in a sample of individuals with CSB and controls

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Background: This cross-sectional study investigated the factor, reliability (internal consistency and temporal stability), and discriminant and concurrent validity analyses of the Toronto Alexithymia Scale (TAS) in a sample of individuals with compulsive sexual behavior (CSB) and controls. *Methods:* Men and women, 18 years or older; literate; Brazilians, who did not present paraphilic, gender identity, psychotic, current hypomanic or manic episode and other mental disorders due to brain injury, dysfunction and physical illness, underwent to a semistructured psychiatric interview and completed the Sexual Compulsivity Scale (SCS), Hypersexual Disorder Screening Inventory (HDSI), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), TAS, and Barratt Impulsivity Scale (BIS). Those who met the criteria for excessive sexual drive (ICD-10 F52.7) and Goodman's criteria for sex addiction were considered individuals with CSB (n = 324). Those who did not meet were considered controls (n = 127). *Results:* The extracted factors explained 49% of the variance in the TAS. Factor 1 explained 24%, but three items (2, 9, and 21) did not load onto this factor. Regarding internal consistency and reproducibility, the alpha value was 0.84, and the ICC was 0.71. TAS could differentiate individuals with CSB and controls; and the factors (1, 2, 3, 4) correlated with the TAS total score, as well as the scores of SCS, HDSI, BDI, BIS. Surprisingly, anxiety was not correlated with TAS. *Conclusions:* TAS presented good psychometric properties, can be used to identify individuals with CSB who also have cognitive-experiential deficits, in order to provide proper interventions.

S-6A4

Sociodemographic factors and sexual history predictors of compulsive sexual behavior disorder in women: Data from 42 countries

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Background: The present comprehension of compulsive sexual behavior disorder (CSBD) predominantly relies on research conducted with samples of heterosexual, White/European men. This has led to notable gaps in knowledge concerning women affected by CSBD. Since prior work indicate that CSBD could be a considerable concern among women, the current study aims at pinpointing protective and risk factors linked to the severity of CSBD symptoms within this population. *Method:* We used data from the International Sex Survey to explore the associations between CSBD and various sociodemographic factors and sexual history characteristics. Additionally, we explored predictors of CSBD within a group comprising 46,874 women. Our analyses encompassed 42 countries and diverse sexual orientations. *Results:* The results will be announced at the conference. This study represents the first examination of predictors of CSBD among women, encompassing a sizable and culturally diverse participant pool, and it has the potential to lay the groundwork for more personalized care approaches in the treatment of women affected by CSBD.

S-6A5

Reasons for moral disapproval of pornography use and their relation to the severity of compulsive sexual behavior symptoms: Evidence from general adult population sample, and sexual and gender minorities

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Background: Previous research has shown that moral incongruence regarding pornography use significantly influences self-perceived addiction, as well as PPU (problematic pornography use) or CSBD (compulsive sexual behavior disorder) severities. However, the specific reasons for moral disapproval of pornography, and their contribution to CSB symptoms have been rarely investigated. *Method:* We conducted two self-report online studies to explore the reasons why people morally oppose pornography use. In Study 1 (n1=1003), we collected data from the general adult population sample. In Study 2, we focused on sexual and gender minorities (n2=460). Participants finding pornography consumption morally unacceptable in at least some cases listed the reasons for that. The reasons will be coded by three independent judges and the process will be audited by two researchers with field expertise. Regression models will be created to investigate how specific symptoms predict the CSB symptom severity. *Results:* We expect moral disapproval reasons to emerge in three areas: intrapsychic, interpersonal, and cultural. We predict moral incongruence will contribute to self-perceived addiction and self-reported CSB symptoms. Based on previous research, religious reasons are assumed to be most commonly reported and correlated with the level of disapproval. We predict the results to differ for the general population and sexual and gender minority participants.

S-6B1**The psychobiological mechanisms underlying the development and maintenance of problematic use of social media**

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Background: The psychobiological mechanisms underlying the development and maintenance of problematic use of social media (PUSM) and their similarities and differences with mechanisms of addictive behaviors are not well understood. *Method:* A synthetic review of recent literature is necessary to improve our understanding of the psychobiology of PUSM and stimulate further research and discussion. We reviewed results from studies using structural and functional magnetic resonance imaging, diffusion tensor imaging, electroencephalography, and probabilistic tractography of diffusion-weighted images in the context of PUSM to summarize possible similarities and differences with non-substance addictive behaviors. *Results:* PUSM is associated with increased cue reactivity and sensitivity to social media-related rewards, reduced inhibitory control and reduced affective regulation capacity. Striatal-PFC pathways, insular morphology, the corpus callosum may underlie maladaptive behaviors in PUSM. Event-related potential components such as the P3, N2, N1 and LPPs indicate possible alterations in emotional regulation and inhibitory processes and a greater allocation of attentional resources to social-media-related cues in individuals with PUSM. Behavioral and subjective measures have provided mixed or null findings related to PUSM. *Conclusions:* The development of a standardized method for the detection of PUSM as well as for the categorization of PUSM into levels/stages of intensity is necessary. Due to insufficient studies of PUSM, there exist knowledge gaps relating to the definition, identification and understanding of psychobiological mechanisms implicated in PUSM. Future research should attempt to fill these gaps using standardized approaches. How interventions may operate at biological levels may provide important insights into better prevention and treatment efforts.

S-6B2**Effects of acute stress on implicit cognitive mechanisms in social network use disorder**

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Background: Implicit cognitive mechanisms are an important factor in the development and maintenance of behavioral addictions and may influence behavioral performance and habitualized patterns of social network use disorder (SNUD). Situational triggers such as acute stress can have significant impacts on implicit cognitions. We investigate the effect of acute stress on attentional bias and positive implicit associations towards social network sites (SNS)-related stimuli. *Method:* In a multi-center study (FOR2974), 138 female participants were assigned to the group with SNUD (n=74) or the control group (n=64) based on a diagnostic interview using DSM-5 criteria for gaming disorder (applied to SNUD). Participants were randomly exposed to acute stress using the Trier Social Stress Test (TSST) or a placebo-TSST and then performed the Implicit Association Test and the Dot-Probe Paradigm with SNS-related stimuli. *Results:* While no differences were found between the SNUD and control group regarding the effects of acute stress on attentional bias and implicit associations to SNS-related stimuli, without stress induction, higher attentional bias towards SNS-related stimuli was found in individuals with SNUD compared to the control group. *Conclusions:* The results suggest that individuals with SNUD exhibit higher attentional bias, but acute stress in SNUD does not cause significantly greater changes in attentional bias or implicit associations to SNS-related stimuli. Further research should address the extent to which craving and cue reactivity are involved in the process of acute stress experience, and whether the change in implicit cognitions could be suppressed by the strong urge to use SNS.

S-6B3

Testing the role of dysfunctional cognitive strategies and craving in the relationship between psychological distress and Problematic Social Network Sites Use

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Background: The Self-Regulatory Executive Function (S-REF, Wells & Matthews, 1994) model proposes that psychological distress persists because of a particular thinking style, named the Cognitive Attentional Syndrome (CAS), which is activated and maintained as a result of metacognitive beliefs. The CAS consists of a variety of coping styles, including extended thinking (e.g. desire thinking, rumination and worry) and thought suppression that have paradoxical effects on self-regulation and discrepancy reduction. Spada and colleagues (2009) have applied the S-REF model to addictive behaviors. In their formulation, aspects of the CAS, such as extended thinking and disruption in metacognitive monitoring, are associated with addictive behaviors leading to increased levels of craving. The current study aims to test the mediating role of dysfunctional cognitive strategies (i.e., worry, rumination, and desire thinking) and craving in the relationship between psychological distress and Problematic Social Network Sites Use (PSNSU). *Method:* A community sample of 548 individuals ($F=66.4\%$, $Mage: 29.29 \pm 12.04$) completed an online survey. *Results:* The assessed structural model produced adequate fit to the data and accounted for 89% of PSNSU variance. Psychological distress predicted PSNSU through (i) the serial mediation of worry and craving (ii) the serial mediation of desire thinking and craving (iii) the mediation of rumination and desire thinking (without the activation of craving). *Conclusions:* The current findings provide preliminary evidence for the role of aspects of the CAS (i.e. extended thinking) in PSNSU. Worry, rumination and desire thinking may be central cognitive processes in craving and PSNSU for individuals who experience psychological distress.

S-6B4

Longitudinal associations between problematic social media use, self-esteem and ADHD-symptoms in a representative sample of young adolescents

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Background and aim: The research on the association between problematic social media use (PSMU) and low self-esteem, and the association between PSMU and ADHD symptoms has mixed results. Moreover, the cause effects are also questionable. Our 5-year longitudinal study aimed to investigate these associations over time from early adolescence (10-11 years). *Methods:* In the first three waves (T1: 2018-2019, T2: 2019-2020, T3: 2021-2022) of the Budapest Longitudinal Study (www.bls2018.hu), we collected data from Hungarian children who were 5th-grade students at T1 and studying in Budapest (N(T1)=2125, N(T2)=1774, N(T3)=1854). We used multidimensional longitudinal weighting to correct sample attrition. The statistical analysis was performed on the sample of the respondents who were social media users in the previous 30 days (N=626 in the first two waves). Bergen Social Media Addiction Scale, Rosenberg Self-Esteem Scale and Hyperactivity Scale of Strengths and Difficulties Questionnaire were used. A cross-lagged panel model was applied in the statistical analysis. *Results:* Self-esteem at T1 did not explain PSMU at T2, but PSMU at T1 predicted self-esteem at T2. In the case of ADHD symptoms, all the pathways were significant. ADHD symptoms at T1 explained PSMU at T2, and PSMU at T1 predicted ADHD symptoms at T2. The associations will be investigated at T3 as well and presented at the conference. *Conclusions:* Our results suggest that the relationship between problematic social media use and ADHD symptoms is bidirectional. At the same time, low self-esteem seems to be a consequence of problematic social media use in this age group.

S-6C1

Cross-cultural differences in attitudes toward gambling*RICHARD JAMES*

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Attitudes are an important component in understanding the behaviours people engage in. At the population level, public attitudes indicate the demand for, and likely response of, policy changes either to increase gambling opportunities, or enact less permissive gambling regulations. Existing research has shown that people's attitudes towards gambling appear to be quite negative, and differ by individual factors such as gender, socioeconomic background and gambling engagement. However, it is not known whether the degree to which these attitudes are held is consistent across cultures, and over time. This talk reports the findings of a pre-registered pooled cross-national analysis looking at gambling attitudes in the UK, Finland, and Australia from data covering 2007 to 2022 (n = 55,251), testing whether the Attitudes Towards Gambling Scale is cross-culturally invariant, before modelling differences between countries and over time. The findings indicate substantial fluctuations in both, and are examined in the context of the impact of policy changes on public opinion towards gambling, and changes in subsequent gambling behaviour.

Keywords: gambling, attitudes, cross-cultural psychology

S-6C2

**Exploring the role of stigmatization in gambling disorder:
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Background and aims: Numerous studies explored mental illness and substance use-related stigma, highlighting that stigmatisation can impede help-seeking behaviour. However, studies about gambling-related stigma are relatively scarce. Therefore, we have reviewed the literature on gambling-related stigma to have a better understanding of the current state of research on this topic. *Methods:* We searched the peer-reviewed literature (Scopus, PubMed, PsycINFO and Web of Science) to identify studies examining the relationship between stigma and gambling. The study adhered to the Preferred Reporting Items for Systematic Reviews and Meta - Analyses (PRISMA) guidelines. *Results:* A total of 32 articles met our inclusion criteria and were included in the review. Four main topics were identified: (i) Stigma of

gambling disorder; (ii) Stigma and attitudes of non-gamblers toward gamblers; (iii) Stigma and attitudes of gamblers toward gambling; (iv) Stigma within gamblers in underrepresented groups. *Discussion:* The analysis revealed that problem gamblers face social stigma, negative stereotypes, social distance, and emotional reactions. Stigma affects female and minority gamblers more, leading to greater harm but less willingness to seek help. However, in some communities, some gambling practices may be considered acceptable and even foster social connections. *Conclusion:* Addressing and reducing stigma towards gambling, especially among minority gamblers, could help to decrease gambling-related harm and encourage more individuals to seek help. Encouraging more positive attitudes towards gambling could also be beneficial in reducing stigma and promoting support for those struggling with gambling problems. Future studies could explore how tailored anti-stigma efforts affect different cultures.

Keywords: gambling disorder, public stigma, perceived stigma, self-stigma, treatment seeking

S-6C3

A fair share? Effects of social exclusion on decision making in gamblers

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Background: Economic decision-making is shaped by rational financial self-interest, social reciprocity, and emotional fairness motives. Perceived unfairness and a lack of reciprocity can trigger a strong, 'irrational' inclination to penalize norm violators, even at personal costs. Those with Gambling Disorder often face ongoing social isolation, exclusion, and stigma, contributing significantly to treatment avoidance. Lab experiments on non-gamblers reveal that arbitrary social exclusion influences prosocial behavior and the desire for money. Yet, the impact of social rejection on the economic decisions of individuals with gambling problems (PGs) remains underexplored. *Methods:* In a field study, 170 gamblers were actively recruited outside gambling venues and randomized to experience social inclusion or exclusion using a virtual ball-tossing game (Cyberball). They subsequently played an online version of the ultimatum game, deciding whether to accept fair and unfair offers, and completed the Problem Gambling Severity Index (PGSI). *Results:* Social exclusion increased acceptance rates of unfair offers for PGs, but reduced them for low-risk gamblers. Conversely, social inclusion lowered acceptance rates for PGs and increased them for low-risk gamblers. Excluded PGs exhibited the highest acceptance rates, while included PGs displayed the lowest acceptance rates of unfair offers. No effects were found on acceptance rates for fair offers. *Conclusions:* These findings validate the causal role of inclusion in reducing utilitarian deci-

sion-making and behavior in social exchange situations among PGs. The results highlight the imperative for initiatives targeting exclusion and stigma to enhance community engagement and treatment participation rates. Theoretical implications for affiliation and norm violation models are discussed.

Keywords: gambling, ultimatum game, social exclusion, cyberball

S-6C4

A longitudinal study of loneliness, gambling to escape, and problem gambling

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Background: Evidence concerning the relationship between loneliness, gambling to escape and problem gambling is mixed. The objective of this study was to investigate the associations between loneliness, gambling to escape and problem gambling using a longitudinal study design. *Method:* Data from a five-wave longitudinal survey were analyzed to examine how loneliness and gambling to escape are related to problem gambling. The data were collected from Finnish residents between April 2021 (T1) and April-May 2023 (T5). Only respondents who participated to all time points and had gambled at least once in the previous six months were included in the study ($n = 727$, female = 46.35 %, Mage = 51.39 years). Loneliness was measured with the 3-Item Loneliness Scale and escape motive was measured with three questions concerning escapism from the Motivations to Play Inventory. Problem gambling was measured with the Problem Gambling Severity Index. Age, gender, and psychological distress measured with the Five-Item Mental Health Inventory were used as controls. Cross-lagged panel analysis was used to analyze the associations. *Results:* The results showed that problem gambling predicted future loneliness, but loneliness did not predict future problem gambling. However, loneliness predicted escape motive, which in turn predicted future problem gambling. *Conclusions:* The results provide a valuable longitudinal perspective on the role of loneliness and escape motive in gambling problems. According to our findings, the role of loneliness in gambling problems should be better recognized and considered when developing prevention and treatment for problem gambling.

Keywords: loneliness, escape motive, problem gambling

S-6C5

Violence and gambling: A gendered perspective

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Background: Gambling is considered a public health issue. In particular, the literature pointed out the importance of observing the phenomenon from a gender perspective focused on the psychosocial aspects potentially linked with problematic gambling. In keeping with this, the work aimed to observe the characteristics and psychosocial factors able to exacerbate gambling behaviour by gender. *Methods:* Data were collected through a Italian representative cross-sectional study among 5,160 people (18-84 years old) called IPSAD® (Italian Population Survey on Alcohol and Other Drugs). Problematic gambling was assessed with the Problem Gambling Severity Index (PGSI). Both descriptive analysis and multinomial logistic regression models were carried out to observe the characteristics and factors associated with problematic gambling by gender, respectively. *Results:* 8.3% and 2.8% of male and female gamblers had an at-risk profile, respectively. Men and women share some risk factors, such as having a low socioeconomic status, an inhibitory control impairment, and having been a victim of psychological violence. Among women only, it is also observed that having problems within the domestic environment is associated with at-risk gambling. Among men, having experienced a traumatic episode during life and participating in brawls and fights increases the probability of being an at-risk gambler. *Conclusion:* Experiences of both physical and psychological violence, whether suffered or inflicted, are strongly linked to gambling behaviors.

Keywords: violence, gambling disorder, gender, survey, inequality

S-6D1

A registered exploratory pilot program using offline Tabletop Role-Playing Games (TTRPGs) to reduce social anxiety and problematic involvement in multiplayer online videogames

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Background. Gamers with poor self-concept, high social anxiety, and high loneliness are at risk of problematic involvement in online videogames. There is a research gap in treatment approaches for such types of problematic gamers. This study tested the feasibility and initial efficacy of a structured protocol in which socially anxious online gamers were exposed to offline social skills in real-life social interactions while playing a Tabletop Role-Playing Game. *Methods.* The experiment lasted 10 weeks and involved 10 sessions organized within 3 modules. Each module deployed one written role-playing scenario designed to challenge the players in terms of gameplay, and to involve them in a story based on maturing relationships with other characters and on solving challenges through social means and investigation. Our study used a single-case experimental design with a 3-week baseline across 4 groups of 5 gamers and a 3-month follow-up. Outcomes assessed included social anxiety and gaming disorder symptoms, self-esteem, loneliness, and assertiveness. *Results.* 18 out of the 20 enrolled participants completed the whole program and 17 out of the 20 enrolled participants completed the follow-up. Single-case analyses showed that a subgroup of participants benefited from the intervention through a reduction in social anxiety and a reduction in problematic gaming, although the effect sizes for the whole group were of small or small-to-medium magnitude. *Conclusion.* This pilot study shows that our approach is feasible and can be used to reduce social anxiety and gaming disorder symptoms. Our program now has to be tested with clinical participants.

Keywords: gaming disorder, treatment, videogames

S-6D2

A quasi-experimental study on the effectiveness of the restart program for problematic gaming

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Background: Problematic gaming is a persistent or recurrent behaviour that may cause significant impairment or distress in personal, social, or other areas of functioning. In addition to problematic gaming treatment protocols, a need to provide low-threshold interventions for those at high risk of developing problematic gaming has been recognised.

The Restart program is an online-based intervention planned to help and support digital gamers to enhance their control over excessive gaming behaviour. The Restart program integrates an online cognitive-behavioral therapy (CBT) workbook and motivational interviewing (MI) phone sessions. *Aim:* The aim of the present study was to evaluate the effectiveness of the Restart program on problematic gaming behaviour and wellbeing among Finnish adults, and to determine the program's effects over time. *Methods:* The present study was based on a quasi-experimental study design method without a control group where participants were assessed at the baseline (N = 138), post-program, and three months after the intervention. Self-reporting measurements included factors related to life situations, gaming and internet behaviours and subjective well-being. *Results:* It was found that the Restart program had a positive effect on the participants' gaming control with regard to gaming time and problematic gaming tendencies. Participants' exhibited improvement in subjective wellbeing over time. *Conclusions:* The findings demonstrate the effectiveness of the online intervention, especially in terms of gaming behaviour control. Further studies with randomised control trials are warranted to strengthen the understanding of this intervention's efficacy.

Keywords: problematic gaming, intervention, treatment, web-based intervention

S-6D3**National survey on treatment facilities of Gaming Disorder in Japan**

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Background: Despite the World Health Organization's inclusion of Gaming Disorder (GD) in ICD-11 in May 2019, there is a scarcity of medical institutions providing treatment for GD, and the specifics of treatment programs and patient demographics remain largely unknown. Therefore, this survey targeted treatment facilities that actually provide consultation and treatment, and aims to explore the landscape of GD treatment facilities and patients in Japan. *Method:* A nationwide survey of 89 treatment facilities based on a preliminary 2019 survey conducted in collaboration with mental health and welfare centers. *Results:* Of the 68 facilities responding (76% response rate), results reveal an increasing trend in the number of new GD patients over the past five years, with a threefold rise in new internet addiction patients. Treatment is predominantly provided by psychiatric departments (92.7%), and age restrictions exist in 37.9% of facilities. Concerningly, over 60% of facilities reported waiting lists for GD patients, with varying waiting periods. Smartphones emerged as the most frequently used devices among patients. Treatment programs vary widely, with 68.2% offering specialized outpatient treatment by doctors. Challenges in treating GD patients include prioritizing other disorders, low motivation for treatment, and patients not seeking help independently. COVID-19's impact on GD treatment is explored, revealing diverse changes in the number of patients, symptoms, and treatment interruptions. *Conclusions:* The study underscores the need for standardized treatment programs and increased collaboration with social resources to address the complexities of GD treatment effectively.

Keywords: gaming disorder, treatment facilities, national survey

S-6D4**Treatment seeking patients with gaming disorder:
The impact of age and family history of addiction**

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Introduction: Research about gaming disorder is rapidly evolving. Many clinical studies focus on younger populations with gaming disorder, but adult patients are also seeking treatment for this disorder and less is known about this older group. Research about alcohol use disorder show a connection between age of onset and heritability for addiction. In this study we also wanted to investigate if the same pattern can be identified in patients with gaming disorder.

Method: Patients seeking treatment for gaming disorder at an out-patient clinic (n=70) filled out questionnaires about gaming, other psychiatric symptoms and family history of addiction. The sample was divided in a younger group with teenagers and young adults (up to 25 years old) and an older adult group (above 25 years old). The younger and older groups were compared regarding the variables in interest. *Results:* Results show the differences between the age groups, as well as the distribution of family history of addiction depending on age of onset. *Conclusion:* This study adds to the knowledge about common psychiatric co-morbidities in clinical samples which is important to be able to implement and deliver treatments for this group of patients. It also adds new knowledge about the influence if heritability in gaming disorder.

Keywords: gaming disorder, co-morbidity, t-seekers, ADHD, autism

S-6D5**Virtu-A treatment: Preliminary results**

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Worldwide, nearly 3% of youths have a video game disorder. In Quebec (Canada), the government's addiction action plan provides for the availability of free treatment throughout the province. Our research team has been mandated to develop and implement this new treatment called Virtu-A. The Virtu-A treatment is aimed at 15-25 year-olds. It comprises 8 modules designed to address either video gaming disorder or social media addiction. In order to carry out a preliminary evaluation of this treatment, a control group was set up before the implementation of Virtu-A began. This presentation will show the initial implementation data for this intervention. A pre-post comparison of the control group (n=26) and the experimental group (n=28) will be made on the variables screen time, video game problems and psychological distress. In discussing the results, the pitfalls encountered when implementing a new intervention will be discussed.

Keywords: treatment, youth, pre-post evaluation, gaming disorder, Internet disorder

S-6E1

Changes over time of diagnostic criteria for gambling disorder: A classification based on the likelihood of having each criterion over a 5-years follow-up

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Background. Gambling disorder (GD) is characterised by a non-linear evolution over time. Beyond the alternation between problem and non-problem gambler status, the different diagnostic criteria for GD may have a changing weight throughout a gambler's trajectory. The objective was to identify clusters of gamblers with various evolution over time of the 9 diagnostic criteria of GD, and to characterize them based on clinical variables. *Method.* Data were extracted from a multicentre cohort of adult gamblers with or without GD (JEU cohort; NCT01207674), which included a five-year follow-up. Participants were assessed at inclusion and each year using a structured clinical interview and self-report questionnaires. We selected only participants who completed at least one follow-up assessment and who met at least one GD diagnostic criteria during the follow-up (n=209). We used a mixture model in which each participant is represented by the evolution over time of the probability of having each criterion according to a Bernoulli distribution whose parameter follows a logistic function. *Results.* We identified 4 clusters of gamblers with different profiles related to the evolution of the presence of the 9 diagnostic criteria of GD over the follow-up. The "preoccupation", "distress", "chasing" and "lies" criteria were those for which the profile of evolution differed the most between clusters. Two clusters were characterised by a higher proportion of participants with GD, either mild (cluster 2) or severe (cluster 4) GD. *Conclusions.* This study improved knowledge on the dynamics of evolution of GD, and may allow to adapt therapeutic targets during treatment.

Keywords: gambling, diagnostic criteria, evolution over time

S-6E2

Clinical profile of patients with gambling disorder at risk of engaging in self-harming behaviors

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Background: Gambling disorder (GD) is associated with psychiatric comorbidities including self-harming behaviors. The present study aimed at examining the prevalence as well as the sociodemographic and clinical correlates of self-harming behaviors including non-suicidal self-injuries (NSSI) and suicide attempts (SA) in a sample of patients with GD.

Method: Treatment seeking patients with GD were assessed at a hospital specialized unit for the treatment of addictive behaviors. Participants completed self-reported questionnaires to explore socio-demographic and gambling-related variables, psychological symptoms, personality traits, impulsivity, emotion dysregulation and NSSI. The assessment of previous SA was conducted during a semi-structural clinical interview. *Results:* Results indicated that 13.9% of the participants reported engaging in NSSI during the last year and 9.8% reported a lifetime history of SA. Most participants engaged in NSSI to decrease negative emotions (automatic negative reinforcement function). Younger age, lower social class, higher GD symptomatology, worse psychopathological state, higher levels of emotion dysregulation, low self-directedness and high self-transcendence appeared as the most relevant correlates of NSSI. Regarding SA, female gender and older age were found as two critical factor that increase its risk. *Conclusions:* The present study contributes to identify a clinical profile of patients with GD at risk of engaging in self-harming behaviors. In addition, the results point out the importance of systematically assessing the risk of self-harm in individuals with GD.

Keywords: gambling, suicide, self-harm

S-6E3

A better understanding of gaming disorder and problem gambling among people with first-episode psychosis: A new path towards recovery

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Treatment approaches for psychotic disorders are shifting to prioritize overall patients' recovery beyond symptom management. Comorbid conditions, such as gambling disorder (GD) and problem gambling (PG), remain understudied. The first studies on GD and PG in young adults with First-Episode Psychosis (FEP), conducted by our team, revealed an increased prevalence of these comorbidities and a significant impact on patients' recovery. Follow these preliminary results, a prospective multicenter cohort study is being conducted in two clinics for FEP in Quebec, Canada. This study should include over 600 adults aged 18 to 35, with a diagnosis of FEP followed for 36 months. These patients will undergo a systematic screening for GD and PG at admission and every 6 months, which will allow to: 1) quantify the prevalence of these 2 comorbidities among people with FEP; 2) identify potential risk factors for developing problematic behaviors. Additionally, qualitative interviews will be performed with a sample of individuals with GD and PG to describe motivations underlying video gaming and gambling behaviors, their consequences on patients' lives and the efficiency of available treatment modalities for these conditions. These findings will lay the groundwork for enhancing screening, prevention, and treatment of GD and PG in the FEP population. FEP is often associated with problematic gambling and video gaming habits. However, limited data exist regarding both GD and PG in individuals with FEP. This study will help filling this gap by providing essential insights to better support the recovery of young individuals dealing with FEP.

Keywords: internet gaming disorder, gaming disorder, psychotic disorder, schizophrenia, psychosis

S-6E4

Problematic Gambling Behaviour in a sample of regular gamblers: Deepening the role of alexithymia, dissociation, and locus of control

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Background: The addictive potential of gambling behaviour has been extensively described and acknowledged by the scientific community, leading to the inclusion of Gaming Disorder in major international diagnostic classification systems. Due to the significant impairment in various life areas for individuals affected by this condition and its clinical relevance, research in this field has understandably focused on exploring its antecedents. In line with this framework, the present research focused on exploring the relationship between potential risk factors and their association with Problematic Gambling Behaviour in a sample of regular gamblers. Specifically, emphasis was placed on alexithymia, dissociation, and locus of control. *Method:* Participants were recruited using a snowball procedure, and the survey was administered online through the Google Form platform. ANOVAs and moderated-mediation analyses were implemented. *Results:* Significant differences were found in the levels of alexithymia, dissociation, and external locus of control (but not for the internal one) based on the severity of Problematic Gambling Behaviour. A significant total effect was identified in the relationships between alexithymia and Problematic Gambling Behaviour. Among the dissociation subcomponents, absorption played a significant mediating role in this relationship. Furthermore, the external locus of control moderated the association between absorption and Problematic Gambling Behaviour. The effect of gender was controlled as a covariate, and being male was associated with higher levels of Problematic Gambling Behaviour. *Conclusions:* These results enrich the understanding of the potential risk factors and mechanisms involved in the development of Problematic Gambling Behaviour, providing valuable insights for future research and clinical interventions.

Keywords: gaming disorder, problematic gambling behaviour, behavioural addictions

S-6E5

Validation of the Brief Granada Assessment for Cross-Domain Compulsivity (GRACC18) in regular gambling and video gaming players

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Background: Compulsivity marks the progression and chronification of addiction. However, the conceptualization of compulsivity, as well as the feasibility of measuring it with a common instrument across different behavioral domains, remain debated. This study validates a shortened version of the Granada Assessment for Cross-domain Compulsivity scale (GRACC18) among regular gambling and video gaming players. *Method:* A panel sample of 355 video game players and 303 gamblers, in a broad range of symptom severity, was recruited. Building on a previous exploratory factor analysis (Muela et al., 2023), a confirmatory analysis of the one-factor model was conducted using the entire sample. This was followed by structural equivalence tests across sub-samples. Convergent validity was examined in relation to problem severity, quality of life, emotional regulation, urgency, and negative affect. *Results:* Findings reveal that the GRACC18 scale is one-dimensional and structurally invariant across behavioral domains. Compulsivity was positively correlated with indicators of pathology and harm, while showing no relation or negative associations with non-pathological variables. *Conclusions:* Our results support a one-dimensional model for understanding and measuring compulsive behavior across domains. Although this approach is blind to the etiology of compulsivity, converging evidence suggests that compulsivity and core addiction symptoms largely overlap, with other symptoms remaining peripheral to the definition of behavioral addiction.

Keywords: behavioral addiction, compulsivity, severity, measurement, GRACC

S-6F1**Can hoarding be addictive? A qualitative study of individuals meeting DSM-5 criteria for hoarding disorder**

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Background: Hoarding disorder is presently conceptualized as an obsessive-compulsive and related disorder. Unlike OCD which is dominated by rule-focused harm avoidance, hoarding appears to be simultaneously driven by the reinforcing effects of object attachment and by the prevention of negative outcomes. With OCD, individuals never want to engage in compulsive behaviours, rather they feel compelled to do so. With hoarding disorder, individuals both want to save and feel they must save. Consequently, hoarding disorder may share more similarities with addiction than OCD. *Method:* Using the Addiction Component Model as a framework, a directed content analysis was used to determine whether symptoms of addiction were present among a sample of 25 individuals who met DSM-5 criteria for hoarding disorder. *Results:* Participants evidenced symptoms of behavioural addiction. Participants reported excessive saving (e.g., not utilising most of what is saved) and a loss of control (e.g., taking much longer than expected to declutter and not getting anywhere). They additionally evidenced signs of salience (e.g., constantly thinking about all the reasons possessions must be saved), mood modification (e.g., saving to feel good and to prevent worry), and conflict (e.g., arguing all the time about saving too much). Although not as common, some individuals also reported symptoms characteristic of tolerance, withdrawal, and relapse. *Conclusions:* These findings indicate hoarding behavior could be addictive. Exploration into shared mechanisms and what may differentiate individuals who do and do not experience tolerance, withdrawal, and relapse related to hoarding is warranted.

S-6F2**Neurocognitive disparities: Differential brain activity in hoarding disorder vs. OCD, revealing similarities to addiction patterns**

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Background: Initially considered a facet of obsessive-compulsive personality disorder or a dimension of obsessive-compulsive disorder (OCD), hoarding symptoms have now gained recognition as a distinct diagnosis known as Hoarding Disorder (HD). Despite its histori-

cal association within the OCD spectrum, individuals with HD often diverge from meeting other diagnostic criteria for OCD. The neurobiological underpinnings of HD remain elusive, necessitating a delineation between the cognitive and neural disparities between HD and OCD. *Method:* In this study, we conducted neurocognitive assessments involving 17 HD patients, 18 OCD patients, and 19 healthy controls (HC). Utilizing a cognitive control protocol implemented in a magnetic resonance scanner, executive functioning was evaluated through stop- and switch-signal tasks, elucidating critical domains of cognitive control. *Results:* The findings revealed significant differences among the groups, with HD patients displaying a pattern of impulsive responses characterized by shorter reaction times and increased commission errors compared to both OCD patients and HC. Notably, during successful response switching, HD patients exhibited hyperactivation of the right lateral orbitofrontal cortex and aberrant deactivation of frontal regions during error processing in both tasks. *Conclusions:* These distinct neural mechanisms underpinning HD and OCD underscore disparate cognitive profiles. Particularly striking were the parallels observed in HD's abnormal deactivations during error monitoring, reminiscent of patterns seen in various addictive disorders such as opioid, cocaine, and nicotine dependence, along with pathological gambling. These findings highlight potential connections between hoarding behavior and addictive tendencies, opening avenues for further exploration into the shared neurobiological substrates of hoarding and addictive disorders.

S-6F3

To hoard or not to hoard purchased items – does it matter?

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Background and Aims: Previous studies suggest an association between compulsive buying-shopping disorder (CBSD), younger age, female gender, high materialistic values endorsement, depression, and hoarding disorder (HD). The current study investigated a sample of treatment-seeking patients with CBSD and sought to determine 1) if individuals with comorbid HD differ from those without HD with respect to shopping environment and purchased consumer goods, and 2) whether hoarding symptoms explain additional variability in CBSD besides age, gender, materialistic values, and depressive symptoms. *Method:* The sample consisted of 99 individuals with CBSD (age Mdn=40.50 yrs; 73% women). They provided information on their preferred shopping environment (offline, online, mixed) and consumer goods, and answered the following questionnaires: Pathological Buying Screener, Material Values Scale, depression module of the Patient Health Questionnaire, and German version of the Saving-Inventory-Revised (GSHI). *Results:* Two thirds of the participants (67%) were categorized as having comorbid HD based on the GSHI cutoff score. They did not differ from

individuals without HD in regard to preferred shopping environment and favored consumer goods. Hierarchical regression analyses with data from the entire sample indicate that only depressive symptoms and material values were significantly related to CBSD symptoms. *Conclusions:* The findings confirm previous results on the high prevalence of HD in CBSD samples. However, the lack of association between CBSD and HD symptoms is surprising and must be discussed in terms of the overlaps but also the differences between CBSD and HD, sample characteristics and methodological limitations.

S-6F4

Is it me? Stuff and the self-concept in hoarding

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Background: The significance of objects and their meaning has been frequently observed in individuals with hoarding disorder (HD), particularly concerning self-concept and interpersonal relationships. This presentation considers a series of studies aimed at understanding in greater detail the importance of “self” in HD. *Methods:* Self was first understood through a series of interviews with 10 individuals with HD. The Possessions as Others and Self Inventory (POSI), a quantitative measure, was developed on the basis of this research, and its psychometrics was examined in four non-clinical samples (N=246, 307, 121 and 164 community participants). *Results:* Interpretative Phenomenological Analysis indicated the presence of important themes including early life factors, “possessions are me”, and “possessions are linked to people”. Regarding the POSI, an exploratory study found a six-factor solution, which was then confirmed in a second community sample. Two further community studies provided evidence for validity against measures of attachment, anthropomorphism, savings-beliefs, and symptoms. *Conclusion:* Self-themes appear important in HD, and we hope that this study will lead to further investigation of the relationships that individuals have with “stuff” through the use of our new self-report measure, the POSI. Eventually we hope this improves CBT treatment for this disabling disorder, particularly for those who are ambivalent within current CBT approaches.

S-6G1**The recovery experience of women with compulsive sexual behavioral disorder**

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Background: Women diagnosed as having compulsive sexual behavioral disorder (CSBD) cope with different challenges during their recovery process as a result of stigma. Studies show that women are less likely to seek treatment. This study explored the recovery experiences of women coping with CSBD. *Methods:* Fifteen women, aged 24-42, who defined themselves as coping with a sex addiction and had been in recovery for at least six months were included in this qualitative naturalistic study. Semi-structured interviews were conducted from June 2022 to January 2023. *Results:* Content analysis revealed three main categories related to these women's recovery experiences: perspectives with respect to men, their self-esteem, and their emotions. Each category covered a timeline that included a reflective observation of the addiction period, the recovery period, and expectations and hopes for the future. The overarching theme was the transition from distance and rejection to closeness and acceptance. *Conclusion:* The findings are interpreted in light of Object Relations Theory which views the development of addiction as the result of failure in initial relationships. Later in life, individuals view themselves or others as objects to fulfill their needs and desires. The findings underscore the importance of developing an integrated solution tailored to women's specific characteristics.

S-6G2**Excessive online shopping in Israeli mothers**

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Background and aims: The ideal of the "perfect mother" dictates that mothers should invest all their time and energy in raising their children. This is likely to put considerable pressure on women who try to embody this ideal while taking care of their household and maintaining their careers. Shopping tends to be socially attributed to women and especially mothers, since part of caring for a baby is buying baby products. This study examined excessive online shopping in Israeli mothers. *Methods:* Fifteen mothers of children aged six months to six years who defined themselves as excessively involved in online shopping were recruited through Facebook. Semi-structured interviews were conducted via Zoom. *Results:* The thematic analysis revealed three main themes that ranged from acceptance and obedience to capitalistic social norms, and rejecting and criticizing these norms: (a) online shopping as

part of the mothering role, (b) online shopping as a way of enacting motherhood, and (c) critical awareness of online shopping. *Conclusion:* The findings link the intensive mothering and consumerism discourses. Consumerism pushes the interviewees to fulfill the expectations of intensive mothering, which endorses the norm that mothers should invest as much time, money, and energy in their children as possible and put children's needs first. These two discourses thus normalize the excessive involvement of mothers in shopping and blur the potential addictive component of this behavior.

S-6G3

The marital experiences of Ultra-Orthodox religious women married to partners with compulsive sexual behavior disorder

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Background and aims: Compulsive Sexual Behavior Disorder (CSBD) is characterized by an inability to regulate sexual impulses, and results in considerable distress and functional impairment for the affected individual. Women living with a spouse diagnosed with CSBD can be emotionally affected by this disorder. The Jewish-Ultra-Orthodox community in Israel has strict social and cultural boundaries. The aim of this study was to investigate how Ultra-Orthodox women whose spouses are diagnosed with CSBD experience their marriage and their spouse's recovery. *Methods:* A qualitative naturalistic approach was employed. Nine women between the ages of 25-45 were recruited by purposive sampling. Semi-structured in-depth interviews were conducted. *Results:* A content analysis revealed three primary themes: 1. Obscurity: At the first stages of their marriage the women were unfamiliar with the disorder. They described their ignorance, confusion, and the challenges in identifying the nature of their husband's behavior. 2. Fracture: when discovering the disorder, these women underwent personal, social, and religious crises. 3 Change: Subsequently, the focus shifted for these women, where they redirected their attention from their husband's disorder to their own personal recovery. *Conclusions:* The discussion critically probes the concept of co-dependency versus the concept of pro-dependency in relation to the findings and the context in which these women live. Insights from this study can contribute to developing culturally sensitive intervention programs tailored to ultra-Orthodox women married to individuals with CSBD.

S-6G4

“We’re all seen as a bit flawed”: The experiences of Jewish Ultra-Orthodox Women whose husbands grapple with gambling disorder

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Background and Aims: The Jewish Ultra-Orthodox community in Israel, renowned for its strict religious observance, grapples with the clash between Jewish traditional values and the risks associated with gambling, deeming gambling disorder (GD) a breach of faith and communal norms. This study explored the internal conflicts and social repercussions experienced by Jewish Ultra-Orthodox women in Israel whose husbands struggle with GD. *Method:* Interviews were conducted with a purposive sample of 11 women between November 2022 and August 2023, following constructivist grounded theory (CGT) guidelines. *Findings:* The findings revealed two themes. The first was the emotional conflicts and societal difficulties faced by these women resulting from their husbands' GD, suggesting that despite them, the women maintained their commitment to their Jewish faith, the religious commandments (e.g., keeping the Sabbath), communal norms (e.g., modest dress code), and their Ultra-Orthodox identity. The second shows how these women, motivated by shame and fear, concealed their husbands' gambling, resulting in feelings of loneliness and isolation. Notably, these women adhered to the expected norms, but their husbands' deviation affected them as well, which caused them to experience societal conditional negative regard. *Conclusions:* The findings underscore the impact of GD on Ultra-Orthodox women's sense of belonging in this community. It underscores the need for tailored interventions in closed and religious communities for individuals with GD, in which family members are just as affected as the individuals who deviate from communal norms. The study provides practical insights for researchers contemplating employing CGT in future studies on behavioral addictions.

S-6H1

Is the use of videogames in adolescence associated with different health-related outcomes according to the severity of gaming disorder?

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Background: Playing videogames is a common leisure activity, however, some adolescents can develop addictive-like behaviours and experience impairments in various health domains. Currently, most research is performed using unrepresentative samples of adolescents, necessitating further investigation to provide robust evidence. This study explores distinct groups of adolescents based on gaming disorder severity and compare them in terms of health-related risk and protective factors in a nationally representative sample of Italian adolescents. *Methods:* Data from the 2022 Health Behavior in School-aged Children survey were analysed: the final sample comprised 89321 Italian adolescents aged between 11 and 17-year-olds. A cut-off approach based on the DSM-5 criteria for Internet Gaming Disorder and the IGD threshold values for Italian participants was used to create four groups. The groups were labelled as non-gamers, low-risk, high-risk and problematic gamers and were compared regarding their self-reported psychological and physical health, nutrition, physical activity, sleep characteristics and social well-being. *Results:* Compared to non-gamers, low-risk gamers reported significantly better health-related outcomes regarding physical health, mental and social well-being. In addition, the problematic gamers showed significantly higher impairments in all health-related outcomes. *Conclusions:* Videogames are not inherently harmful to youths; indeed, adolescents reporting low levels of gaming activities showed better health-related outcomes compared to non-gamers. Nevertheless, findings also reveal that problematic patterns of gaming are associated with negative outcomes in multiple psychosocial domains and call for the implementation of tailored prevention strategies.

Keywords: gaming, problematic gaming, well-being, health outcomes, adolescents

S-6H2

Association of excessive use of electronic devices with musculoskeletal symptoms, vision, psychosocial health, and activities of children and adolescents in Hong Kong

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Background: The excessive use of electronic devices among young people has become a growing public health concern in recent years. Excessive device use could lead to musculoskeletal pain and symptoms, vision symptoms, psychosocial health, and disengagement from daily activities. *Method:* This cross-sectional survey used both online and paper forms to collect data from primary and secondary school students. The data collected include basic demographic information, frequency and duration of electronic device use, musculoskeletal symptoms, vision symptoms, psychosocial health, and their time use in daily activities. *Results:* 1,058 children aged 9–17 years participated. Sixty-one percent of the participants spent more than 2 hours per day using electronic devices during school days, and the percentage increased to 78% on weekends and holidays. Excessive electronic device use was associated with increased prevalence and severity of musculoskeletal symptoms (ρ 's=0.28–0.33, P 's<0.001), vision symptoms (ρ 's=0.33–0.35, P 's<0.001), and poorer psychosocial health (ρ 's=0.38–0.47, P 's<0.001). Secondary school students reported greater device use and higher severity of symptoms than primary school students. *Conclusions:* Excessive electronic device use was associated with increased prevalence and severity of physical and psychosocial symptoms, and the symptoms are more prevalent in older than younger children. The findings suggest that early identification and intervention is needed to manage the risk of developing problematic internet use or gaming disorders in children. We shared the study results with the participants and parents in workshops and recruited those at risk to join group motivational interviewing programmes.

Keywords: electronic device use, health effects, symptoms, children, adolescent

S-6H3**Collection of standardized data on Japanese middle and high school students for the prevention of gaming disorder, and the development of programs using standardized data**

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The problematic gaming patterns among Japanese middle and high school students have been established to be associated with psychosocial issues (Yokomitsu et al., 2021). However, in Japan, data on healthy gaming play is scarce, and there is a lack of large-scale sample data. Therefore, the actual state of game play to be addressed in prevention education has not been clarified. This study aims to obtain information necessary for effective game prevention by conducting a large-scale survey targeting Japanese middle and high school students and acquiring representative gaming play data for Japan. The study also discusses the prospects of developing an internet prevention program incorporating Personalized Normative Feedback based on this data. **Method and Results of Standardized Data Collection Among Japanese Middle and High School Students:** From July to August 2022, a survey was conducted on 9,732 Japanese middle and high school students, in collaboration with TesTee Inc. Finally, data from 9,166 participants were used to examine the distribution of game play. Regarding weekday gaming, 1,806 students did not play games at all, with an average playtime of 86 minutes, first quartile of 20 minutes, median of 60 minutes, and third quartile of 120 minutes. **Towards the Development of an Internet Program Using Personalized Normative Feedback Based on Standardized Data:** By using Personalized Normative Feedback to inform children of their gaming play ranking (e.g., xth out of 1,000), the program provides an opportunity for children to reflect on their own gaming habits.

Keywords: gaming, personalized normative feedback, prevention

S-7A1

Long-term efficacy of a Self-Exclusion Procedure optimized by an extension of the Suspension of Commercial Solicitations (PASS)

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Background: It has been shown that most people who self-exclude from gambling have experienced loss of control over their gambling and want to protect themselves. Commercial solicitations increase the risk of losing control in gambling and they resume as soon as the self-exclusion period ends, encouraging the practice to be taken up again. The efficacy of the current self-exclusion system appears to be limited, particularly in case of short self-exclusions and among heavy gamblers. Our objective was to assess the impact of a self-exclusion procedure optimized by an extension of the suspension of commercial solicitations compared to the self-exclusion procedure alone at 9, 12 and 18 months, on the gamblers total net loss. *Method:* We included 2544 online gambler, self-excluding for the first time AND self-excluding for 3 months or less. They were be randomly assigned to the 2 arms: optimized procedure with an extension of the suspension of commercial solicitations for a total of 9 months (A) and usual procedure (B). They were assessed at 6, 9, 12 and 18 months after self-exclusion on the change in total loss over the past 4 weeks. We also assessed compulsivity, total loss per game, number and duration of gambling sessions. Secondary analyses was conducted on the nature of commercial incentives and their intensity. *Results:* Awaiting. *Perspectives:* If this study allows us to better understand the impact of commercial solicitation on gambling behavior, after a period of self-exclusion, it may allow us to adjust these solicitations and potentially protect vulnerable gamblers.

Keywords: gambling disorder, self-exclusion, intervention

S-7A2**Why do gamblers fail to stick to self-imposed gambling limits?:
A daily diary investigation***SUNGHWAN YI¹, ABBY GOLDSTEIN²*

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Limit setting strategies have the potential to assist in reducing problem gambling, but there is little research on self-imposed gambling limits and factors that restrain self-regulation once gambling has been initiated. Using daily diary approach, we investigated individual difference and proximal factors associated with gambling limit violations. Participants were 103 individuals who gambled regularly and had set a goal to limit their gambling. Participants completed a baseline measure of trait self-control and questions about gambling and limit violations over 21 days. We examined factors associated with setting and maintaining limits across episodes of gambling as well as within-person factors associated with limit violations, including the moderating role of trait self-control. We found that episodes of gambling where limits were set and violated were associated with riskier gambling and more negative emotional responses. In addition, gambling limits were more likely to be violated on days when temptations to violate limits were high and by people with low trait self-control, whereas urges to gamble were associated with a reduced likelihood of limit violations. Trait self-control moderated the relationship between daily stress/tension and limit violations. Low stress/tension was associated with greater limit violations for those with lower trait self-control, but the likelihood of violating limits increased on high stress days for those with higher trait self-control. Individuals may benefit from greater awareness of temptations to violate gambling limits and the impact of daily stressors, particularly for those with high trait self-control who are most successful when stress/tension is low.

Keywords: self-control, gambling limits, daily diary

S-7A3**Development of a Congruent Communication Scale to correlate with
emotion regulation, marital adjustment and gambling severity***BONNIE K. LEE¹, ERKAN ISIK²*

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Improved emotion regulation (ER) and couple adjustment (CA) were associated with each other and with the reduction of psychiatric symptoms and life stress in a randomized controlled trial of Congruence Couple Therapy that outperformed individual-based treatment

for gambling and alcohol use disorders (Lee et al., 2022a, 2022b). We posited that congruent communication mediates the association of improved ER and CA. A review of existing instruments to assess communication indicates a strong need for theory-driven and psychometrically sound communication measures for clinical purposes. In this paper, we report on the theoretical construct of a Congruent Communication Scale (CCS) based on six communication postures and its development and validation. Preliminary results of the application of the CCS in its associations and mediating role in emotion regulation, couple adjustment, depression, and problem gambling severity will be discussed, with implications for its applicability and significance in studying behavioural addictions more broadly.

Keywords: gambling, congruent communication scale, congruence couple therapy

S-7A4

A systemic couple therapy model's clinical advantage over individual-based treatment in gambling and alcohol use disorders

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Background: In the realm of behavioral addiction treatment, the importance of addressing the couple as an integral unit has been largely overlooked. Individuals seeking couple therapy for gambling and alcohol use disorders in a randomized trial presented in the severe range of these disorders, with nearly 50% reporting a concurrent diagnosis. Despite prior participation in various treatment and recovery programs, 77% found these approaches inadequate in addressing of their own or their partners' addiction that intertwined with destructive relationship dynamics and impact on their children. Of concern is that 30% reported suicidal ideation within the past year, while 20% reported significant levels of intimate partner violence. Additionally, 43% of those seeking help had partners also grappling with addictive disorders. A gap in services exists for couples who want to seek help together. *Method:* This paper synthesizes the outcomes from three effectiveness studies of Congruence Couple Therapy (CCT) including two randomized trials. These quantitative outcomes are triangulated with clients' and counselors' qualitative feedback. *Results:* CCT has demonstrated efficacy and effectiveness in alleviating addictive symptoms, enhancing couple adjustment, improving mental health, and reducing emotion dysregulation and life stress. These results will be discussed within the theoretical framework of CCT. *Conclusion:* Empirical findings support CCT's systemic conceptualization of addiction as a relational disorder that benefits from treatment of the couple as a pivotal unit in recovery.

Keywords: gambling, alcohol use disorder, congruence couple therapy

S-7B1

**From active escapism to virtual withdrawal:
Validation of the Compensatory-Dissociative Online Gaming Scale
(C-DOGs)**

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Background: In the Compensatory-Dissociative Online Gaming (C-DOG) model we proposed a continuum from compensatory to dissociative involvement in gaming, representing different degrees of integration between physical and virtual environments with three core processes: Active Escapism, Escape and Dissociation. And two peripheral processes: Gaming-Related Relaxation and Body-Mind Detachment. In this study, we develop and test the psychometric properties of a multidimensional instrument based on this model. *Method:* We collected items from existing measures of escapism and dissociation and generated new ones for the dimensions hypothesized. A total of 56 items were administered to 1176 online gamers from different game genres together with measures of problematic gaming, passion for gaming, emotional distress, emotion dysregulation and trauma. *Results:* Exploratory and confirmatory factor analyses revealed an unexpected 36-items 6-factor structure, with multiple hierarchical regression highlighting specific patterns of associations. Specifically, we labeled Displacement a relaxation linked with the dislocation of negative emotion into the game; Absorption, the detachment of the player from time and space while gaming; Active Escapism, a simulative use of the game to compensate a lack of self-confidence in reaching physical life objectives; Virtual Withdrawal, a maladaptive pattern of gaming to balance an impaired social functioning, predicted by traumatic experiences and a pervasive depression; Dissociative Regulation, a dysfunctional level of engagement associated with an unbearable anxiety; Escape of Failure, a problematic avoidance via gaming related to the fear of future failures. *Conclusions:* The C-DOGs identified processes associated with problematic gaming with a high level of specificity, with research and clinical implications.

Keywords: gaming disorder, escapism, dissociation

S-7B2

Longitudinal associations between escape motivation, gaming disorder symptoms and depression symptoms among young adolescents

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Background and aims: Findings regarding the longitudinal associations between psychopathology (e.g., depression and anxiety symptoms, attention-deficit hyperactivity-disorder, low self-esteem) and gaming disorder (GD) symptoms are conflicted (Düll et al., 2024). More specifically, while some studies report no longitudinal associations, several others found reciprocal relations or one-directional associations (either psychopathological symptoms preceding GD symptoms or vice versa) (Jeong et al., 2019; Teng et al., 2021; Wang et al., 2022). The present study aimed to test cross-lagged associations between depression symptoms, GD symptoms, and escapism, a motive found to be consistently related to GD symptoms and depression symptoms in cross-sectional studies (Bäcklund et al., 2022; Király et al., 2022; Wang & Cheng, 2022). *Methods:* Data was collected over two consecutive school years (T1: 2018/19 and T2: 2019/20) from a representative sample of young adolescents from Budapest (N=1494; 48.2% boys; mean age 10.72 years, SD=0.53 in T1). The analyses focused on students who played video games in the year preceding both data collection points (N=712; 73.9% boys; age). *Results:* A cross-lagged model showed moderate autoregressive effects between all three variables (β ranging from .44 to .49; $p < .001$), and weak predictive effects from T1 depression symptoms to T2 escape motive ($\beta = .13$; $p = .013$) as well as from T1 escape motive to T2 GD symptoms ($\beta = .12$; $p = .013$). Other predictive pathways were not significant. Gender differences were also found. *Discussion and conclusion:* The present study found no longitudinal association from depression symptoms to GD symptoms a year later. However, the results suggest that escape motive may mediate this relationship. Future studies with more time points are needed to account for this effect, which the present authors also plan to investigate further.

Keywords: gaming disorder, escape, depression, longitudinal, cross-lagged model

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S-7B3

The fame factor: Differential associations of wishful identification and maladaptive daydreaming with esports career plans and gaming disorder

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The popularity of online video games has considerably increased, with approximately 3.24 billion players worldwide in 2021. While gaming can lead to addiction and psychological distress, it can also foster personal development, particularly in the emerging field of esports. The present research investigates the role of influential gamers (e.g., streamers, commentators) in individuals' different forms of engagement with video games. We explore the mediating role of wishful identification and maladaptive daydreaming between desire for fame and gaming outcomes (i.e., esports career planning and gaming disorder symptoms). A total of 803 adolescent and adult gamers (89.29% male, Mage = 24.90, SD = 6.13) were recruited through an online questionnaire promoted by the Hungarian GameStar magazine. A path analysis was constructed demonstrating that wishful identification partially mediated the relationship between desire for fame and esports career planning. Moreover, maladaptive daydreaming fully mediated the association between desire for fame and gaming disorder symptoms. Wishful identification also played a mediating role between desire for fame and gaming disorder symptoms. The findings suggest that wishful identification with gaming role models can predict both positive (esports career planning) and negative gaming outcomes

(gaming disorder symptoms), while maladaptive daydreaming is associated with disordered gaming behaviors. The findings shed light on the importance of considering the role of gaming role models in predicting healthy and problematic gaming patterns.

Keywords: desire for fame, esports, gaming disorder, maladaptive daydreaming, wishful identification

S-7B4

Coping, stress, and social dynamics in French gamers: An observational study

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Background: We explored the multifaceted role of gaming in mental health, focusing on coping mechanisms, stress, emotional experiences and social dynamics among French gamers. We focused on gaming engagement, defined as the depth of an individual's involvement in gaming, including time investment, emotional and cognitive meaning, and its integration into one's social identity. *Methods:* We assessed several factors such as gaming as a coping mechanism, stress effects, emotional experiences, engagement, social support and demographic variables (n = 494). *Results:* We found a significant positive association between the use of gaming as a coping mechanism and improved psychological outcomes ($\beta = 0.643$, $p < .001$). There was also a notable association between gaming and stress-related effects ($\beta = 0.208$, $p < .001$). However, emotional experiences and social support related to gaming did not show significant associations. Among demographic factors, only student status showed a negative association with gaming benefits ($\beta = -0.177$, $p = 0.026$). *Conclusions:* The study highlights the significant influence of gaming on coping mechanisms and stress in mental health. However, its impact on emotional experiences and social support is less pronounced. These findings suggest that future research should further investigate the role of demographic factors and individual differences, especially in the context of gaming engagement and its effect on stress coping.

Keywords: gaming, stress, coping, social support

S-7B5

Esports players, highly engaged gamers, and recreational videogamers: A comparative analysis of their psychological and behavioral predictors

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Background and aims: Esports is the face of the current videogaming industry representing an ever growing field signified by innovations in entertainment and professional opportunities. With this growing popularity, esports comes with a host of harms or risks associated with problematic gaming behavior. Our study aimed to identify the associated factors of player types with different involvement in videogame use. *Methods:* In collaboration with a Hungarian videogaming magazine, GameStar, we collected self-report survey data on videogaming behaviour, personality, and psychopathological symptoms of 14,740 people using Qualtrics in spring 2021 (Mean age = 24.14 SD=7.0; Males: 89.3%). Players were classified into three categories based on time spent playing videogames and levels of esports participation and were then compared using multinomial logistic regression analysis to find potential predictors of player types. *Results:* Being male, younger, seeking higher sensation, higher negative affectivity and lower sociability significantly increased the likelihood of being a highly engaged gamer when juxtaposed to a recreational gamer. Esports players were even likelier to be males when compared to highly engaged gamers and tended to have competitive personalities, while differing in their gaming motives, showing lower levels of mastery, stimulation, immersion/escape, and higher levels of social and competition motivation. *Conclusion:* This study shows that our sample of highly engaged gamers displayed the most worrying characteristics of all, possessing tendencies towards escapism and lower sociability, alongside depression and higher perceived stress. Specific and thoughtful interventions are required to support these players and their unique needs from those working towards professional esports careers

Keywords: esports, psychological predictors, gaming motives, personality, problem gaming

S-7C1

Aberrant fMRI activations during appetitive conditioning in problematic pornography users

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Background: Prevalence rates of problematic pornography use among pornography users are relatively high with approximately 5%. Problematic pornography use can be diagnosed as compulsive sexual behavior in ICD-11, while there is an ongoing debate about its commonalities with behavioral addictions. Still, empirical evidence is lacking concerning the role of appetitive conditioning and extinction for the development and maintenance of pornography use disorder. Considering that pornography is a primary reinforcer, pathological reward memories might be especially resistant to extinction. *Methods:* In the present fMRI study appetitive conditioning and extinction were tested using pictures of sexual scenes, gaming scenes and monetary cues as unconditioned stimuli. Four geometric symbols were either coupled with one of the respective unconditioned stimuli (CS+porn, CS+game, CS+money) or with nothing (CS-) to become conditioned. In the present analyses we compared two groups of male heterosexual participants (mean age 26 years): men with unproblematic use of pornography (n=31) and men with problematic use of pornography (n=33). *Results:* Consistent with expectations, reward-related activations to the CS+porn were increased in problematic compared to unproblematic pornography users. In addition, the more criteria for problematic pornography use were fulfilled the stronger was the reward related responding to the CS+porn during appetitive conditioning. Preliminary analyses on extinction data did not yield significant group differences for the whole extinction phase. Additional results for a more fine-grained analyses (early and late phases of extinction) will be presented. *Conclusions:* Consistent with reported problems, we observed aberrant activation patterns in reward regions in problematic pornography users.

S-7C2**Co-occurring compulsive sexual behavior and substance use:
Clinical profiles and impact on treatment**

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Background: Substance use disorders (SUDs) often co-occur with behavioral addictions including compulsive sexual behaviour (CSB). Yet, research on co-occurring SUD and CSB is limited. Therefore, the current study aimed to 1) determine the rate of CSB in a sample seeking treatment for SUDs, 2) identify demographic and clinical correlates of co-occurring CSB, and 3) to determine if co-occurring CSB impacts treatment outcomes for SUD. *Methods:* Participants were 793 adults at an inpatient treatment facility who were assessed for CSB upon admission into treatment. Participants completed a battery of questionnaires upon admission and again at discharge to assess psychological and addiction symptoms. *Results:* Rates of CSB were 24%. Younger age and being single were associated with CSB. Mental distress and addiction symptoms were significantly higher in participants with CSB. However, CSB was not associated with poorer treatment outcomes. *Conclusions:* Identifying correlates of CSB can help clinicians identify individuals who may be at higher risk.

S-7C3

Yoga practice intervention as a complementary and integrative treatment for compulsive sexual behavior disorder: A feasibility study

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Background: A feasibility study was conducted to investigate the reduction of symptoms of compulsivity, hypersexuality, anxiety, the attendance and adherence treatment protocol, and the functionality of data collection mechanisms in a randomized controlled trial (RCT) with yoga practice intervention for compulsive sexual behavior disorder (CSBD) or Hypersexual Disorder (HD).

Methods: Twelve men diagnosed with CSBD or HD who did not present substance use, paraphilic, psychotic, current manic or hypomanic, neurocognitive disorders, gender dysphoria, or physical limitations were recruited to mind-body intervention and randomized in a 2-arm, double-blind RCT comparing Kundalini YPI with supervised muscle stretching 12-week program. Participants completed online psychopathological questionnaires on baseline, times 1 (4 weeks), 2 (8 weeks) and 3 (12 weeks). The proportion of treatment attendance, protocol adherence, teacher adherence, and allocation concealment were estimated, as well as time and group effects considering the scores of the Sexual Compulsivity Scale (SCS), Hypersexual Diagnosis Screening Inventory (HDSI), Beck Anxiety Inventory (BAI). *Results:* There were changes over time in HDSI ($p=0.048$) and BAI ($p=0.029$) scores. There were no between-group effects among HDSI, BAI, and SCS scores. The treatment attendance was 58%, patient adherence was 30%, professionals' adherence was 100%, the allocation concealment was 100%, the answers to the self-responsive online questionnaires were 87%, and the daily practices at home were 45%. *Conclusions:* In general, the study is feasible. Strategies to improve patient adherence to protocol and daily practices at home should be provided. Preliminary data suggests no difference between both interventions despite presenting initial clinical improvement.

S-7C4

Providers' perceptions of advantages and disadvantages of harm reduction and abstinence treatments for behavioral addictions

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Background: Increasing work has focused on harm reduction (HR) methods for behavioral addictions, primarily showing support of industry-level interventions for gambling (Bowden-Jones et al., 2019; McMahan et al., 2019; Torrado et al., 2019). However, little is known about providers' acceptance of individual-level HR treatment methods for individuals seeking treatment for behavioral addictions. *Method:* This study aimed to understand providers' views of the advantages and disadvantages of HR strategies (e.g., moderate use treatment goals) compared to abstinence only treatments for behavioral addictions. Recruitment of providers who report treating someone with a behavioral addiction in the past year began in March 2023 and will end in December 2023. *Results:* Most providers (n=103; Mage=37 years [SD=12]; female=58%; white=74%) did not have a doctoral degree (51%). Providers selected advantages (of 14; e.g., improves rapport) and disadvantages (of 9; e.g., stigma) regarding the use of HR and abstinence-based treatment, and which HR strategies they use with clients (with additional provider suggestions). Paired samples t-tests showed that significantly more advantages ($t[102]=7.98$) and significantly less disadvantages ($t[102]=-6.42$) were endorsed for HR than abstinence treatments. Hierarchical linear regression analysis showed that endorsing more advantages for HR ($\beta=.33$) and abstinence ($\beta=.39$) was associated with the use of more HR strategies, over and above demographic variables. *Conclusions:* These results highlight how views about the advantages of treatment more generally can increase providers' HR acceptance and use for behavioral addictions. Such results suggest that increasing knowledge of treatment options for behavioral addictions more generally could improve providers' use of HR.

S-7D1

**Work addiction measurement across countries:
The role of cultural dimensions in construct cohesion**

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Background: The study aimed to examine the potential effects of culture on the measurement of work addiction. It was expected that some of the previously found variance in psychometric properties of a few items representing particular symptoms of addiction measured by the International Work Addiction Scale (IWAS) may be due to cultural differences. *Methods:* An online survey was conducted worldwide. Data usable for psychometric analyses was obtained from 80 countries (over 30,000 participants). A seven-item work addiction scale (IWAS-7) showed partial scalar measurement invariance in 76 countries (in four countries, the basic model had a poor fit). Data from Hofstede's cultural dimensions index were used to analyze associations of culture with psychometric properties of the scale across countries. *Results:* The results showed that mood modification item loadings correlated negatively with power distance and positively with individualism and indulgence. Relapse item loadings correlated negatively with uncertainty avoidance and positively with indulgence. Conflict loadings correlated positively with power distance. Moreover, the indulgence dimension correlated positively with average variance extracted (AVE) and composite reliability (CR) indicators. *Conclusions:* The more country culture is supportive of pleasure indulgence and assures socioeconomic conditions enabling it, the more mood modification symptom is associated with work addiction. The higher the socioeconomic disparities, the better indicator of work addiction is the conflict symptom. The more indulgent the culture, the more the work addiction construct measurement with all seven items is coherent. For cross-cultural research, using a five-item IWAS-5, showing measurement invariance in all 80 countries is thus recommended.

Keywords: culture, work addiction, workaholism

S-7D2

International Work Addiction Scale (IWAS) as a globally valid screening tool: Cut-offs, sensitivity, specificity, and classification consistency

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Background: Based on the data collected in 80 countries (over 30,000 participants), seven-item (IWAS-7) and five-item (IWAS-5) versions of the International Work Addiction Scale (IWAS) were prepared. The current study aims to establish their cut-offs and examine their accuracy. *Methods:* Analyses were conducted using the Global Project on Work Addiction data. Latent profile analysis (LPA) on IWAS items (symptoms of work addiction) was used to establish a gold standard for which cut-offs were developed. The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and overall accuracy of IWAS-7 and IWAS-5 were then calculated, and classification consistency was examined. *Results:* LPA results for both IWAS versions showed that nearly 20% of participants were members of the “high-risk” profile, with all items showing mean values reflecting the presence of the particular symptoms. The optimal cut-offs for IWAS-7 (score 24) and IWAS-5 (score 18) were established. The sensitivity and PPV reached the threshold of 80% for both versions, whereas the specificity and NPV were 95% and greater. The overall accuracy was 94% for both versions. The average classification consistency for both versions was 95%. The average classification consistency between the LPA results and IWAS-7 and IWAS-5 was 97% and 96%, respectively. *Conclusions:* Establishing globally valid cut-offs for IWAS-7 and IWAS-5 enables researchers to use these measures for screening purposes and calculate the comparable prevalence rates of work addiction across countries. The accuracy of IWAS is supported by good classification consistency and high values of sensitivity, specificity, PPV, NPV, and overall accuracy.

Keywords: work addiction, accuracy, cut-off

S-7D3

Longitudinal trait and state-like differences in the components model of addiction: An illustration through social media addiction and work addiction

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Background. Conflicting findings have been reported for the longitudinal course of behavioral addictions, especially for social media addiction (SMA) and work addiction (WA). Therefore, evaluating whether these constructs are more trait-like or state-like might be informative.

Aims. The aim of the present study was to examine the proportion of variance of SMA and WA symptoms (as defined by the components model of addiction) explained by trait and occasion-specific factors in addition to exploring cross-lagged relationships between SMA and WA. *Methods.* Young adults from a representative sample who continuously used social media and worked at least 40 hours a week during the first three waves of the Budapest Longitudinal Study were included (N=1551; Woman: 50.6%; Age: M=27.7 years [SD=4.40]). *Results.* A latent state-trait model with a general trait factor was considered for both SMA and WA. Symptomatic variability in SMA was explained approximately equally by trait and state-like factors, while WA-related symptom variability was mostly attributed to state-like factors. SMA negatively predicted WA over time, while WA showed a positive cross-lagged effect on SMA. *Conclusions.* While the symptoms of WA were more state-like, the trait-like effects were stronger in SMA. Situational influences and previous symptom severities might have to be considered in the screening process.

Keywords: behavioral addictions; problematic social media use; social media addiction; work addiction; workaholism

S-7D4

**Personality and motivations in sustaining Work Addiction:
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Background: Various personality dimensions (e.g., self-esteem, perfectionism, negative affectivity) have been linked to work addiction (WA) (Kun et al., 2021), with work motivation also contributing to its development. Longitudinal research offers insights into the enduring nature of WA and potential recovery. This study investigates the impact of personality traits and motivation on WA persistence and recovery. *Methods:* A four-year, two-wave longitudinal study included 586 individuals (51.4% female) currently employed. WA at Time 1 and 2 was measured by the Bergen Work Addiction Scale, and personality and motivations were assessed using Rosenberg Self-Esteem Scale, Multidimensional Perfectionism Scale, Narcissistic Admiration and Rivalry Questionnaire, the short Brief Symptom Inventory, Ruminative Response Scale, and Multidimensional Work Motivation Scale at Time 1. *Results:* Latent class analysis identified two groups for the entire sample (persistent WA and non-WA), with sex-specific findings. Females mirrored the overall groups, while males exhibited five distinct latent groups. Chronic WA females had lower self-esteem, higher self-oriented and socially prescribed perfectionism, brooding, reflective pondering, psychological distress, and greater extrinsic motivation compared to non-WA. For males, the chronic WA group displayed lower self-esteem, higher perfectionism, increased rumination, elevated psychopathological distress, and more extrinsic and introjected regulations compared to non-WA, light-recovered WA, and strong-recovered WA groups. *Conclusion:* WA can persist over time, challenging previous assumptions of its disappearance (Griffiths et al., 2018). Our research offers recommendations for future studies on protective factors of WA and practical applications, including reducing excessive perfectionism in the workplace.

Keywords: work addiction, personality, work motivations, longitudinal, latent class analysis

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S-7D5

Exploring associations between personality disorganization and work addiction: A longitudinal representative study

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Background: Previous research has explored the connection between work addiction and various personality traits, including narcissism, perfectionism, and self-esteem, as well as its comorbidity with disorders like OCD, OCPD, and ADHD (Andreassen et al., 2016; Kun et al., 2020). This study seeks to investigate a novel perspective by examining the potential association between the level of personality disorganization and work addiction in longitudinal design, an aspect that has not been previously investigated. *Methods:* The data used for this study were drawn from 3 waves of the Budapest Longitudinal Study, culminating in a representative sample (N = 1,748; 48.99% females). Work addiction was measured by the Bergen Work Addiction Scale (BWAS), and the assessment of personality disorganization levels was conducted using the Inventory of Personality Organization (IPO). *Results:* Latent class growth analysis was performed to identify 3 different subgroups based on work addiction severity (“No work addiction”, “Increasing work addiction”, “Stable medium work addiction” classes). The comparison of these latent classes revealed that higher levels in Wave 1 as well as increases between Wave 1-3 in terms of working hours and overall personality disorganization were significantly associated with higher odds for increasing work addiction (from low to moderate levels). *Conclusion:* According to Kernberg’s theoretical framework, there is a connection between the level of personality organization and the severity of addiction, a connection that our findings suggest extends to work addiction. Our study emphasizes the similarity between work addiction and other chemical and behavioral addictions, highlighting the significance of screening and preventive activities to address this issue.

Keywords: work addiction, workaholism, personality organization, longitudinal study

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S-7D6

Intact implicit learning in work addiction

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Background: Individuals grappling with addictive disorders often persist in harmful behaviors despite awareness of long-term consequences, a result of an imbalance between the goal-directed and habitual cognitive systems. Overly strong habitual processes, like implicit learning can be key factors in addictive disorders. They establish habit-driven behaviors, intensify reactions to triggers, and make it difficult for individuals to change their addictive behaviors. Our study examined work addiction (WA) as a behavioral addiction and its unexplored cognitive dimensions, focusing on implicit learning. *Methods:* We assessed 104 participants (61.53% female), and categorized them into high and low-risk WA groups based on their Work Addiction Risk Test (WART) scores. Implicit learning was measured using the Alternating Serial Reaction Time (ASRT) task. *Results:* The results revealed no significant difference in implicit learning between high and low-risk WA groups, and no significant correlation between implicit learning and WART scores. This implies that, similar to gambling disorder and in contrast to gaming disorder, WA demonstrates intact implicit learning, supporting the competition model theory. Here, implicit learning dominates as goal-directed decision-making takes a back seat. *Conclusion:* Contrary to prior research associating WA with poor job performance, our findings suggest this is unrelated to these cognitive processes. This study advances our understanding of the neurocognitive aspects of WA (Berta et al., 2020) and lays the foundation for comparing cognitive profiles across different behavioral addictions.

Keywords: work addiction, implicit learning, habit learning, cognitive profile

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S-7E1

Assessing Game Transfer Phenomena in a Chinese population

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Background: Game Transfer Phenomena (GTP) involve intrusive thoughts, impulses, imagery, body sensations, and involuntary actions with video game content. GTP has been assessed via the GTP Scale (GTPS-20), which has been validated in a heterogenous sample of English-speaking gamers, and Polish, Turkish and Mexican samples. This study is the first attempt to validate the GTPS-20 in a Chinese sample. *Method:* A sample of 623 Chinese gamers completed an online survey. 60% were females. The GTPS-20 was translated into Chinese via the back-translation method and comprised five subscales: sensory perceptions (visual, auditory, body), automatic thoughts and automatic actions/behaviours. *Results:* The CFA results showed that the GTPS-20 is a reliable and valid instrument for assessing GTP among Chinese gamers. The prevalence of GTP was 82%. Visualising/seeing images with closed eyes and hearing music, sounds or voices from the game had the highest mean scores. Males were significantly more likely to experience GTP. Those between 20 – 24 years old had significantly higher GTP mean scores than those in the youngest group. Those who played more than 4 hours had the highest mean score. Playing 1 hour or less had significantly lower mean scores than those playing more. *Conclusions:* This study contributes to the existing research on GTP by corroborating the high prevalence of GTP and the cross-cultural validity and reliability of the GTPS-20 among Chinese gamers – who constitute the largest video gaming community globally.

Keywords: Game Transfer Phenomena, Chinese, GTPscale

S-7E2

Emotional appraisal of loot boxes: Emotional regulation, gaming and gambling disorder and Game Transfer Phenomena

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Background: The acquisition of loot boxes in videogames has been linked to dysfunctional gaming, and the rewards received from them can trigger intense emotions. However, it is not yet clear which gamers are more susceptible to developing problems with loot boxes. This study examines the relationship between different gamer profiles, their susceptibility to gaming and gambling disorders, difficulties with emotion regulation, Game Transfer Phenomena (GTP) (i.e., re-experiencing game content such as images/sound after playing), and gaming habits. *Method:* A total of 663 university students answered a survey (52% females, mean age = 19.34 years, SD = 2.42). *Results:* A cluster analysis revealed three different groups based on emotional reaction (positive or negative), level of involvement and attitudes towards loot boxes. Multiple ANOVA analyses showed significant differences among the identified profiles. The group identified as "highly emotional and problematic" exhibited significantly higher scores on gaming and gambling disorder symptoms (i.e., IGD, G-SAS) compared to the other groups. Additionally, this profile was characterized by playing more per week, higher scores in GTP, negative opinions about loot box games, and difficulties in emotional regulation (i.e., DES) such as difficulty engaging in goal-directed behaviour when distressed and controlling aggressive impulses. *Conclusions:* This study highlights the key characteristics of different gamer profiles who engage in games with loot boxes. The findings suggest that effectively addressing problematic gaming requires considering not only the level of involvement with loot boxes but also the emotional response exhibited while opening them and experiencing GTP.

Keywords: Loot boxes, emotion regulation, gaming disorder

S-7E3

The relationship between Gaming Transfer Phenomena and gaming disorder: Longitudinal research results

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Background: Game Transfer Phenomena (GTP) are the transfer of experiences from video games to the real world, resulting in changes in perception, cognition, and behaviour. Previous research has shown that GTP is positively correlated with gaming disorder (GD). However, there is a research gap regarding the causal direction of the relation between GTP and GD. Consequently, this study aimed to investigate the impact of GTP and GD on each other across time. *Method:* The longitudinal study consisted of five measurements. The first measurement (October 2022) involved 1,525 active gamers, while the last measurement (June 2023) involved 405 active gamers (224 female gamers; $M=28.05$ years; $SD=4.51$; age range: 18–35 years). GD was assessed using the Gaming Disorder Test (GDT). The data was analysed using the random intercept cross-lagged panel models (RI-CLPM). The analysis included data from Time 1, Time 3 and Time 5. *Results:* The prevalence of GTP in the sample ranged from 72.59% to 55.55%, and 2% fulfilled the GD symptoms. The findings demonstrated that, at the within-person level, GTP from Time 3 was negatively associated with GD from Time 1. Additionally, GD from Time 3 was negatively associated with GTP and GD from Time 1. However, it should be noted that GTP was positively correlated with GD at the between-person level. *Conclusions:* The results may indicate a different connection between GTP and GD than previously thought. It can be assumed that there may be mediating variables that can account for the results obtained.

Keywords: Game Transfer Phenomena, gaming disorder, longitudinal

S-7E4

Sensory experiences during and after playing video games and watching videos with ASMR-eliciting properties

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Background: Understanding how particular visual, auditory, and kinaesthetic features in video games or videos can elicit pleasurable and aversive sensory experiences is crucial for providing advice regarding media content development. This study investigates Game Transfer Phenomena (GTP) (e.g., re-experiencing visual/auditory imagery, body movements and impulses with video game content) and ASMR (i.e., tingling sensations that originate in the crown of the head in response to specific audio-visual triggers) to elucidate the underlying mechanism involved in individual susceptibility and identify media features associated with both phenomena. *Method:* Totally 505 participants with no psychotic diagnosis completed an online survey (Mean Age = 26.70, Sd = 13.85). The controls only completed meta cognitions (MCQ-30), Unusual Sensory Experiences (MUSEQ) and the Sensory Hypersensitivity (SHS) scales. *Results:* MCQ scores were significantly higher in those who played video games and watched ASMR videos than in the control group. GTP prevalence in gamers was 98.9%, ASMR prevalence was 96.3%. MCQ and MUSE were correlated with GTP and ASMR. SHS was only correlated with GTP. Males were significantly more likely to experience GTP. Those experiencing GTP reported eye strain, fatigue headache and calmness while playing. Tingling sensations were reported frequently when encountering ASMR-related cues. The most common features manifesting in GTP included: clicking, repetitive movement, fast actions, mechanic/synthetic voice; in ASMR: soft voice/whispers, slow movement/ motion, scratching/clicking/tapping. *Conclusions:* This study contributes to understanding the impact of digital media and demonstrates that GTP and ASMR share underlying mechanisms, including metacognition impairment, sensory sensibility and proneness to general hallucinatory phenomena.

Keywords: Game Transfer Phenomena, ASMR, sensory experiences

S-7F1

Cyberbullying prevalence trends (2018-2022): Shifting roles and gender disparities

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Background: Cyberbullying is an important issue in the digital age, characterized by the use of online platforms to harass, intimidate, or harm others. The study investigates trends in cyberbullying among Italian students from 2018 to 2022, with a focus on gender differences and potential impact of the COVID-19 pandemic. *Method:* The analysis is based on data (from n=12,237 to n=14,685) from the nationally representative ESPAD®Italia cross-sectional survey, which collects data from Italian high-school students aged 15-19, using multistage stratified random sampling. Cyberbullying prevalence was measured annually with the same indicators (distinguish between victims and perpetrators) within the same segment of population, offering insights into changes over time. *Results:* The cyberbullying phenomenon has significantly increased from 11.4% in 2018 to 21.4% in 2022, with a more pronounced rise observed after the COVID-19 pandemic. Being a cybervictim was the most prevalent role, with one-fourth of students (25.4%) reporting having experienced cyberbullying in 2022. A smaller but growing proportion reported engaging in cyberbullying behaviour. The experience of being a cybervictim was more common among girls, while no gender differences were observed in the perpetration of cyberbullying acts. *Conclusions:* Cyberbullying is a rapidly increasing and changing phenomenon, which may have been fostered by the massive use of Internet and psychological distress caused by the COVID-19 pandemic. Our findings highlight the pivotal role played by gender. This provides a clear indication of the need to address cyberbullying through prevention intervention, especially in schools, and to integrate a gender perspective in awareness-raising and digital education campaigns.

Keywords: cyberbullying behaviours, prevalence trends, Internet use, gender

S-7F2

Cyberbullying perpetration: Role of moral disengagement and anger rumination among adolescents

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Background: Recent progress in the virtual space has opened a realm of new possibilities in terms of communication and accessibility to knowledge. However, potential threats such as aggression in cyber interactions have also been on the rise. Past studies in the Asian context have predominantly explored the prevalence and related factors regarding cyberbullying, yet relevant psychological variables examining their perceptions have not received much attention. Thus, it is imperative to direct attention towards the likely correlates of cyberbullying perpetration, especially their cognitions and emotional regulation. *Method:* This study consists of 3 phases: The first phase is aimed at adaptation and content validation of the measurement tools such as the Cyberbullying Perpetration Scale, Anger Rumination Scale, Moral Disengagement Scale etc. to the population of adolescents in India. The second phase is the pilot phase where these measures are administered on 50 adolescents through offline platforms to ascertain feasibility of administering adapted tools, finalization of the sequence of tool administration and incorporate feedback received from participants into the study procedure. In the main phase, these tools were administered to approximately 500 adolescents to identify the mediating variables underlying the various pathways influencing the association with cyberbullying perpetration. *Results and Conclusions:* The study is expected to indicate the relationship of the aforementioned variables with cyber-bullying perpetration; and the mediational or moderating factors. These findings are of value in development of evidence-based interventions for adolescents engaging in cyberbullying and help towards documenting those psychological factors which need to be addressed in these specific interventions.

Keywords: cyberbullying perpetration, moral disengagement, problematic social media use

S-7F3

**Lived experiences of individuals with online victimization:
Dark side of social media use**

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Background: Cyberviolence perpetration and online victimization threats exist on social media networking sites. Cyberviolence witnessed a steep increase of 63.5% since COVID-19. UNICEF reports that one in three youth experience online victimization which is associated with several psychological complications. Cyberviolence and victimization research is in the early stages globally. Thus, exploring this phenomenon from a qualitative approach will yield insightful observations. *Objective:* To explore the lived experience of individuals with online victimization. *Method:* Fourteen individuals aged 18-30, who experienced online victimization underwent in-depth individual interviews, and emergent data was subjected to thematic analysis. *Results:* Cyberviolence/ Cyberbullying Perpetration frequently occurs on Facebook, and Instagram. The perpetrators, usually men, were either strangers or close friends of the victim. The online victims were mostly young females. Cyberviolence was found to be facilitated by personal vendetta, jealousy, revenge, intolerance, twisted pleasure, increased online popularity, reduced empathy for online victims, greater accessibility to victims, inability to escape, and ease of engaging in cyberviolence with minimal consequences for cyberbullying perpetration. Coping strategies included avoidance of social media use, self-harm, binge eating to detach from emotions, displacement of emotions, and retaliation through engaging in Cyberbullying Perpetration. *Conclusions:* cyberviolence perpetration has a significant detrimental impact on the somatic, social, emotional, and adaptive functioning of online victims. The findings on facilitative factors for engaging in online victimization offer pathways for the development of psychological interventions for the minimization of cyberviolence perpetration and management of psychological distress experienced by online victims.

Keywords: social media addiction, cyberbullying perpetration, cyberbullying victimization

S-7F4

Insights for preventive interventions on cyberbullying behaviour and its association with behavioural addictions and other factors in Italy

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Background: The use of electronic devices and online platforms to harass, threaten, or hurt someone is known as cyberbullying. This behaviour can significantly impact young people's well-being and it is receiving increasing attention in the literature. The study aimed to investigate the characteristics of cyberbullying in Italy, distinguishing between cybervictims, cyberbullies and cyberbully-victims; and to analyse the associated factors. *Method:* Data presented in the study were obtained from the national monitoring system ESPAD@Italia, which collected data among students aged between 15 and 19 years old, representative of the Italian student populations. The final sample included 12,406 students (51.5% female; mean age: 16.8 standard deviation: 1.5). Multinomial logistic regression analysis was performed to assess the factors associated with the cyberbullying roles. Several factors were considered in this regard, such as substance use, behavioural addiction (at-risk Internet use, gambling, and gaming) and other relational variables (social withdrawal, and relationship with parents and peers). *Results:* The cyberbully-victims showed more associated factors while all the three roles were positively associated with having problems with teachers, being involved in violent behaviours, having an at-risk internet use profile, having gambled during the past year and used pharmaceutical drugs without medical prescription. Cyber-victims also show associations with being excluded by classmates and with social withdrawal. *Conclusions:* Cyberbullying is intrinsically linked to several environmental and social factors. Intervening in these areas can help prevent or reduce cyberbullying behaviour and its negative consequences on the well-being of young people.

Keywords: cyberbullying, internet use, substance use

S-7G1

**Instagram engagement and well-being:
The mediating role of appearance anxiety**

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Background: Previous research into social networking site (SNS) use and well-being has predominantly focused on time spent online. However, this can often lead to the underestimation of behaviours associated with SNS use, such as how users engage with SNS platforms. This study aimed to investigate the relationship between SNS engagement patterns: namely active, passive, and problematic usage patterns, and their relationship to anxiety, depression, and self-esteem, taking a focus on the SNS platform Instagram. Appearance anxiety was also examined as a mediating factor between Instagram engagement patterns and the selected well-being patterns. *Method:* A sample of 290 participants reported their Instagram engagement in a cross-sectional psychometric survey. Associations were investigated with markers for depression, anxiety, self-esteem, and appearance anxiety. *Results:* Structural Equation Modelling was conducted to test the proposed mediation model through lavaan on RStudio. Problematic Instagram use predicted symptoms of anxiety and depression, and active Instagram use negatively predicted levels of depression. Appearance anxiety was revealed as a significant mediator for problematic Instagram use on anxiety and depression, as well as for passive Instagram use on anxiety and depression. *Conclusions:* Identifying the underlying mechanisms between usage and well-being (such as appearance anxiety), contributes to knowledge around problematic and passive Instagram use that may facilitate maladaptive appearance cognitions and associated well-being outcomes. This can provide insight into the ways initiatives are developed and targeted to address content engagement online, to inform and educate how individuals can mitigate the potential well-being impacts of Instagram engagement.

Keywords: social networking sites, instagram, well-being, appearance anxiety

S-7G2**Pathways to Facebook addiction: A cross-sectional study exploring the relationship between Facebook addiction and activity and the mediating role of self-image congruence & Facebook commitment.**

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Background: The self-image congruence effect, a social psychological phenomenon, suggests that individuals prefer and are more satisfied with products and brands that align with their self-image. Previous research, where actual self-confirmation is a key motive in engaging with the platform, has linked this concept to Facebook commitment. The congruence between a user's self-perception and their digital persona on social media, may intensify this effect, potentially leading to problematic usage. Although consumer behaviour literature often highlights the positive aspects of self-image congruence, its potential contribution to addictive behaviour on social media platforms like Facebook, which allow users to extend their self-image, has not been extensively studied. *Method:* Conducted with a sample of 551 UK Facebook users (average age 26.1 years, SD=4.8; 51% females), this cross-sectional survey investigates how self-image congruence and commitment mediate the link between user activities (messaging, posting, liking, commenting) and problematic usage, as measured by the Bergen Facebook Addiction Scale (BFAS), utilizing the PROCESS Procedure in SPSS for statistical analysis. *Results:* Our findings reveal that both self-image congruence and Facebook commitment serve as significant partial mediators in the relationship between Facebook activities and addiction. The results underscore the importance of identity and emotional connection in understanding problematic social network usage. *Conclusion:* The study highlights the role of user identification with the platform and emotional investment as critical factors in problematic Facebook usage. These findings provide valuable insights for future research, particularly in addressing the negative aspects of self-image congruence.

Keywords: self-image congruence, facebook addiction, facebook commitment

S-7G3

The effects of Problematic Instagram Use on body-image investment dimensions: The mediating role of social comparison on Instagram and the need to conceal body imperfections

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Background: The negative effects of Problematic Instagram Use (PIU) on self-evaluations of one's appearance (i.e., body-image satisfaction-dissatisfaction) are well-known, whereas less explored is the role of PIU on body-image investment dimensions. By adopting the Social Comparison and the Self-discrepancies theories as frameworks, the present study hypothesized that PIU negatively affects body investment and appearance management behaviors through the serial mediating role of actual appearance comparison on Instagram (IG) and the need to conceal body imperfections. *Method:* A sample of 323 participants ($F = 68.7\%$; $Mage = 28.92 + 10.96$) was recruited, and well-known self-report measures were administered online. Results. The structural model produced good fit indices [$\chi^2/df = 2.36$, $RMSEA = 0.065$ ($0.053 - 0.077$), $CFI = 0.962$, $SRMR = 0.038$], and the variables accounted for 79% and 32% of the variance in body investment and appearance management behaviors, respectively, controlling for gender and trait comparison. PIU was associated with body investment both directly and indirectly, whereas it affected appearance management behaviors only via appearance comparison on IG. The tested alternative model has a poorer fit than the hypothesized model, and the former fitted significantly worse than the proposed one. *Conclusions:* The present study highlights the detrimental effect of PIU on body image, and it represents a step toward a better understanding of the psychological mechanisms underlying the link between PIU and body image investment dimensions.

Keywords: body image, problematic instagram use, problematic social networking sites use

S-7G4

Is (problematic) social media use stressing me out and making me depressed? Insights from a study implementing mobile sensing and self-report methodology

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Prior research that mostly relied on cross-sectional self-report data has demonstrated a connection between problematic social media use (also referred to as social media addiction), perceived stress, and depressive symptoms. However, evidence regarding objectively measured social media use and its relation to everyday psychological well-being from studies utilizing mobile sensing and experience sampling is lacking. The present work aimed to fill that gap by focusing on WhatsApp and Instagram use; the goal was to determine if objectively measured social media use serves as a digital marker for problematic social media use and if self-reported problematic and longitudinally tracked social media use relate to perceived stress and depression symptom severity over time. The effective sample comprised 120 participants whose WhatsApp (n = 118) and Instagram (n = 74) use was tracked for 8 weeks. They completed self-report measures at the study's onset and conclusion, alongside weekly assessments of perceived stress and depressive symptoms. Results revealed mostly moderate to strong positive associations between objective and self-report measures for (problematic) WhatsApp and Instagram use across time. Self-reported problematic WhatsApp and Instagram use were mostly weakly positively associated with perceived stress and depressive symptoms; in contrast, the associations with objectively measured Instagram and WhatsApp use were even weaker and heterogeneous. In conclusion, objectively measured social media use could be a digital marker for problematic social media use. Moreover, there is a tendency that problematic social media use, but not objective social media use, is associated with more perceived stress and depressive symptoms across time.

Keywords: objectively measured social media use, problematic social media use, psychopathology

S-7H1

The impact of family communication on problematic Internet use among Chinese older adults: Comparative research on different family structures

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Background: Coexistence and intersection of aging population and digitalization become an important social feature in current China. The further penetration of the Internet has been accompanied by the concern of problematic Internet use (PIU) among the elderly. However, older adults have been less considered in current research examining PIU. *Theoretical Framework:* Adopting the problematic behavior theory (PBT), this study examined the important contextual and personal factors in order to understand older adults' PIU. As family environment is very important for the elderly in their later life in China, this study paid special attention to family factors in the development of PIU among older adults. *Method:* Data of this study were collected from a national survey via multi-stage sampling in mainland China. In total 4070 valid data were obtained, with Family Communication, Family Health, Depression, PIU and demographic variables being measured. *Results:* Confirmatory factor analyses, regression analyses, and structural equation modeling analyses were done. Older adults' PIU in main family was significantly lower, followed by that in conjugal family and nuclear family. The results of multi-group analysis indicated that the prediction coefficients of latent variables of different family-structure groups were different. *Conclusion:* The findings showed that family communication significantly reduced PIU in older adults across all family types. This study is among the first to apply PBT to explore PIU among the Chinese elderly. The findings provide more understanding of the impact of family factors on PIU among older adults, thereby offer implications for PIU prevention and intervention.

Keywords: problematic Internet use, older adult, family communication, problematic behavior theory, China

S-7H2**Parenting and internet addiction: Why does it matter?**

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The parental role in mediating children's problematic internet use (PIU) and internet addiction (IA) has been recently addressed in high quality research findings. However, the point of view of those involved, the parents, has not been as closely and extensively studied. In this following study, data related to the following research questions will be provided: 1) Is parenting style relevant to reduce PIU and IA in children and adolescents? 2) What are the specific needs that parents claim to have, regarding PIU and IA in children? To answer the first question, a systematic review was developed, following the PRISMA statements. To address the second one, a qualitative study is still running. Results will provide a clear overview of the parental role in managing PIU and IA in children.

Keywords: parents, adult education, adolescence, childhood, internet addiction

S-7H3**The mediating role of subjective stress in the relationship between perceived parental rejection and problematic gaming among adolescents**

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The significant relationship between parental rejection and problematic gaming was found in previous studies (Kim & Kim, 2015). Previous research also suggests that subjective stress could be a mediator of this relationship. The aim of the current study was therefore to examine whether parental rejection predicts problematic gaming directly, and indirectly via

subjective stress. The data was collected in the third wave of the StressLoad Project – Longitudinal Adolescent Stress Study. The analysis was conducted among 1239 adolescents from Zagreb, Croatia who played video games in the last year. Respondents were aged between 16 and 20 ($M=16.77$, $SD= .70$), 50.3% females. The instruments used were Gaming Disorder Test (GDT, Pontes et al., 2019), Parental Acceptance–Rejection Questionnaire, short form (child PARQ: father and mother versions; Rohner, 2005), and short and modified version of Problem Questionnaire (Seiffge-Krenke, 1995). On average, adolescents did not perceive high levels of stress or high levels of rejection from fathers and mothers nor achieve high results on GDT. 1.9% of adolescents met the criteria for problematic gaming. Result on GDT significantly correlated with stress and perceived parental rejection. Perceived parental rejection from both fathers and mothers predicted problematic gaming, both directly and indirectly via stress. Excessive gaming could be an attempt to reduce negative emotions caused by parental rejection. Preventive efforts aimed at reducing problematic gaming could include teaching adolescents effective ways of coping with stress in general and stress caused by parental rejection.

Keywords: problematic gaming, parental rejection, subjective stress

S-7H4

The impact of socioeconomic status on adolescent internet gaming disorder using the Family Affluence Scale

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This study examined the relationship between family socioeconomic status (SES) and adolescent internet gaming disorder (IGD). A total of 94 schools were invited to participate in the study; 3,123 students were enrolled from 32 schools, and data were collected through a self-report survey. The Family Affluence Scale (FAS) was used to assess SES, and the Internet Gaming Use-Elicited Symptom Screen (IGUESS) was used to measure IGD risk. Statistical analysis involved ANOVAs, chi-square tests, logistic regression, exploratory factor analysis, and latent factor analysis (LCA). SES, as measured by the FAS, significantly influenced IGD risk. The low affluence group had a higher risk of IGD than the high affluence group ($OR=2.051$). The findings highlight the importance of interventions for low affluence adolescents in addressing IGD. In particular, the LCA analysis found that underprivileged children are a more vulnerable group to IGD. The FAS can be used to conduct practical assessments and aid in these efforts.

Keywords: Family Affluence Scale, SES, internet gaming addiction, adolescents

S-7H5

**Gaming disorder and school-based violence among adolescents:
Effects of parenting behaviors***LU YU, XIAOHUA ZHOU, MENG DU*

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Background: Gaming disorder (GD) has been associated with school-based violence and various parental factors. However, the role that parents can play in moderating the relationship between GD symptoms and school bully-victimization has been underexplored. The present study aimed to examine the relationships between GD and school bully-victimization and to test both the direct effects and moderating effects of paternal and maternal behaviors on the development of GD, based on a sample of Chinese secondary school students. *Methods:* A total of 1,338 students (737 males and 598 females; age = 13.08 ± 0.58 years) from four schools were invited to complete a questionnaire, which measured GD, school bully and victimization, and perceived paternal and maternal rearing behaviors. *Results:* The prevalence of adolescent GD in the present sample was 2.5%. After controlling for demographic variables, participants' GD scores were positively related to school victimization ($\beta = .11$, $p < .01$), bullying ($\beta = .19$, $p < .001$), paternal rejection ($\beta = .20$, $p < .001$) and maternal over-protection ($\beta = .16$, $p < .001$). Low maternal rejection mitigated the relationships between victimization and GD while exacerbating its relationship with bullying. The relationships between bullying and GD and between victimization and GD were intensified by high levels of paternal and maternal warmth. However, adolescent victimization was unrelated to GD when paternal warmth was high. *Conclusion:* Paternal and maternal parenting behaviors had differential influences on GD in adolescents who had experienced school violence either as victims or as perpetrators.

Keywords: gaming disorder, school-based violence, parenting behaviors

S-8A1

**Lessons learned from 17 years answering families' demands:
A Counseling Intervention Model for Gaming disorder (GaMIC)***SOPHIA ACHAB*

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Aims: (a) Describing most prominent counselling needs of relatives regarding Gaming disorder (GD); (b) Proposing blueprint for counseling interventions; and (c) Summarizing the findings in a Counseling Intervention Model (GaMIC). *Methods:* Continuous improvement approach PDCA, adapting to relatives' needs called GaMIC, which informed the national intervention guide (Swiss Federal Office of Public Health). *Results:* The needs consisted in: (a) harms to be expected, (b) conflicts to be solved, (c) limits to be set and (d) alarming flags. A specific thinking process is required to provide adequate responses and avoid over pathologizing. It should represent an experience of being understood and benefiting from clear and simple guidance, increasing awareness on diverse intricate aspects. The output should be guided by 3 components: (1) welcoming demand and implicit concerns, (2) assessing areas of importance, and (3) ending in a good understanding of the specificity of the case. The assessment will allow the counselor to refer to specialists for treatment, in presence of alarming symptoms or clear patterns of maladaptive use. Working with relatives will be mainly shaped by Gaming limits' management. National resources are very helpful, and communicating them to relatives is key in empowering them. *Conclusion:* During the last 17 years answering relatives' needs for GD, we were asked for diagnostic or number of hours of healthy gaming; we faced increasing child presentations, we adapted our treatment skills and we focused on an individually oriented approach (reconnecting to oneself, self-goals and social environment) rather than an illness oriented (disconnecting from Internet) mindset.

Keywords: gaming disorder, intervention, relatives, counseling, model

S-8A2

Acceptance of online therapy for children and adolescents: Insights from child and adolescent psychiatrists and psychotherapists in Germany

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Background: Digital media use disorders (DMUD) are a prominent mental health issue among children and adolescents in Germany. Online therapy holds promise to relieve the burden on healthcare systems. Currently, child and adolescent psychiatrists and psychotherapists (CAPPs) rarely implement online therapy in their daily practice. *Objective:* The aim of this exploratory study was to examine CAPPs' attitude towards online therapy for treatment of DMUD, and barriers and facilitators for the implementation of such interventions. *Methods:* A total of 142 CAPPs completed the online survey distributed via a German network of practitioners. The attitude toward online therapy in general and specifically for the treatment of DMUD was examined using an adapted version of the Attitude towards Telemedicine in Psychiatry and Psychotherapy (ATiPP) questionnaire. Barriers and facilitating factors were explored using open questions. *Results:* CAPPs' reported considerable experience with DMUD, but less experience with online therapy. Attitudes towards online therapy were rather indifferent and were more unfavorable for treatment of DMUD specifically. A more positive attitude toward online therapy was associated with a higher interest in online therapy. The most common barriers to implementation were technical hurdles, lack of control over the use, and data security. Sufficient technical equipment, high usability of the online therapy, and interactive tools were commonly reported facilitators. *Conclusions:* This study identifies important barriers and facilitators for future implementation of online therapy in out-patient care for adolescents. It shows that further education and better technical equipment is needed.

Keywords: online therapy, digital media use disorder, child and adolescent psychiatrists and psychotherapists, practitioners' attitude

S-8A3

Exploring Internet Use Disorders treatment via the Internet: Post-treatment and 6-month follow-up insights from a randomized controlled trial, with subgroup adaptation recommendations

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Background: Enhancing accessibility to treatment for individuals with Internet Use Disorders (IUDs), internet- and mobile-based interventions offer a readily available option for those who might not typically seek face-to-face therapy, reaching them in their familiar online environment. This study aimed to evaluate the efficacy of an internet-based intervention for individuals with IUDs compared to a waitlist control group (WCG). *Method:* In a two-armed randomized controlled trial, 130 individuals exhibiting IUDs (Internet Addiction Test; IAT \geq 49) were randomly assigned to either the intervention group (IG; n=65) or the WCG (n=65). The intervention comprised seven sessions based on cognitive-behavioral therapy, including motivational interviewing, cognitive restructuring, and impulse control and problem-solving techniques. The primary outcome measure was the severity of IUD symptoms (IAT) at 7 weeks post-treatment. Secondary outcomes included quality of life, depressive and anxiety symptoms, and other psychosocial variables associated with IUDs. *Results:* The participants, with an average age of 28.45 years, included 50% women, 49% men, and 1% non-binary individuals. The IG demonstrated significantly lower IUD symptom severity ($d = 0.54$, 95% CI 0.19–0.89) compared to the WCG at post-treatment in the intention-to-treat analyses. Study attrition was 20%, and effects on all other secondary outcomes were not statistically significant. On average, participants completed 67.5% of the intervention. Six-month follow-up results are pending analysis and will be presented along with recommendations for optimizing the intervention. *Conclusions:* The findings suggest that an internet-based intervention holds promise as an initial step in reducing IUD symptom severity.

Keywords: internet-based treatment, internet use disorders, randomized controlled trial

S-8A4**Initiative to address problematic internet use in university students**

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Background: Research suggests that overuse of technology for distraction can have negative effects on wellbeing and academic performance. Given evidence of overuse of a university Wifi for distraction and concern about consequences of technology reported by the student body, a workshop to develop awareness of research findings on problematic internet use, technology habits and the science of habits was rolled out to the student body. *Method:* A workshop was offered to first year university students, eight groups, 69 students participated (25% female, 71% male, 4% other). The students were presented with research findings on problematic internet use and the links to wellbeing, they were given time for active reflection and discussion of their own technology use and a behavioral change methodology was proposed as a technique to redesign digital habits if they so wished. *Results:* The students reported that the workshop developed their awareness of problematic internet use, could enable reduction in problematic internet use and could potentially have a positive impact on wellbeing. *Conclusions:* The findings suggest that a workshop which develops awareness of research evidence on negative effects of overuse of technology as well as the management of habits is considered by students to have a positive effect on their internet use and wellbeing, thus should be considered for deployment to students broadly.

Keywords: Addressing Problematic Internet Use, support for internet addiction, managing problematic internet use

S-8B1

How do alcohol use problems relate to sexual function and distress among cis and trans men, women, and gender-diverse individuals? Insights from the 42-country International Sex Survey (ISS)

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Background: Gender-diverse individuals experience numerous inequities compared to their cisgender counterparts. Research among cisgender individuals has demonstrated that alcohol use disorder is associated with sexual dysfunctions in community and clinical samples. To our knowledge, no study has examined associations between alcohol use problems, sexual function, and distress among transgender or gender-non-conforming groups. This study aimed to examine the associations between alcohol use problems, sexual function, and distress among seven gender groups, while adjusting for depression and anxiety, using path analysis with a multi-group approach. *Method:* We used self-report survey data from the 42-country International Sex Survey (N=82,243, 5.1% gender-diverse individuals; Mage=32.4 years, SD=12.5). *Results:* Greater alcohol use problems were negatively associated with sexual function problems in cis men, cis women, non-binary, and questioning individuals. More specifically, greater alcohol use problems were negatively associated with sexual desire and arousal problems. Also, greater alcohol use problems were positively associated with sexual distress in cis men, trans women, non-binary, and questioning individuals. Overall, the associations were similar among the examined groups. *Conclusion:* Although, alcohol use may increase sexual desire and disinhibition, it may also lead to social isolation and performance anxiety, which could increase sexual distress. As prior studies have not systematically compared these associations among cis and gender-diverse individuals using adequately powered study designs, our results provide, outside heteronormative paradigm limits, a better understanding of potential risks factors for sexual difficulties among gender-diverse individuals. Future studies should examine other features of problematic alcohol use in relation to sexual outcomes.

S-8B2

Sexualized substance use and chemsex across sexually and gender-diverse populations: Preliminary results from a Hungarian community sample

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Background: While the term ‘chemsex’ is most often used among men who have sex with men, and research on this phenomenon has mainly focused on this population, sexualized substance use (SSU; using substances to enhance or prolong sexual encounters) is present across all genders and sexual orientations. Characteristics of SSU are thought to differ across genders and sexual orientations, yet no studies have quantitatively examined the similarities and dissimilarities of SSU behavior in these groups. *Method:* We aim to recruit a cross-sectional, self-selected sample of ~2,500 Hungarian adults (with attention to balanced gender ratio, and inclusion of sexual and gender minority individuals) to complete an online self-report survey through media advertisements and from an STD outpatient care facility. SSU and chemsex behavior (defined as SSU in an event-based group setting), sexual health and risk behavior, sexual compulsivity, substance use, anxiety and depression symptoms, past sexual abuse experiences, and sociodemographic characteristics will be assessed with validated scales. *Expected results:* We will compare the occurrence rates of SSU and chemsex in gender- and sexual-orientation-based groups and explore the differences of SSU behavior across heterosexual and sexual minority populations. We will present preliminary descriptive analysis of the psychological, behavioral, and sociodemographic characteristics of individuals with SSU and chemsex-attending individuals. *Conclusions:* By examining a wider range of individuals with SSU and identifying similarities as well as dissimilarities across gender- and sexual-orientation-based groups, we aim to inform intervention and prevention strategies that may prevent, screen, reduce harm, and help individuals with SSU or chemsex-related problems.

S-8B3

The connection between chemsex and compulsive sexual behavior among sexual minority men

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Background: Chemsex, or the use of substances to enhance or prolong sexual encounters, has been connected to several health concerns in sexual minority men, such as condomless sex and HIV infection. To further develop this literature, the present study considers the connection between chemsex and compulsive sexual behavior disorder (CSBD). *Method:* 284 gay and bisexual men were sampled by posting survey advertisements on the dating application Grindr. Survey advertisements were targeted toward larger cities, given that past research suggests chemsex is more common in metropolitan areas. CSBD was measured using the CSBD-7, which has a psychometrically validated cut-point for identifying clinically relevant symptoms. *Results:* Here were 43 (15.1%) participants who reported engaging in chemsex (i.e., using methamphetamine, mephedrone, GHB/GBL, ecstasy, cocaine, or ketamine during sex), 99 who fell above the CSBD-7 cut-point (34.9%), and 27 (9.5%) who both engaged in chemsex and fell above the CSBD-7 cut-point. Among those who engaged in chemsex, 62.8% fell above the CSBD-7 cut-point, suggesting a notable degree of comorbidity. A small to moderate association was found between chemsex and CSBD ($r = .27, p < .01$). However, CSBD was not associated with alcohol use during sex or marijuana use during sex. Last, participants reported finding chemsex in numerous ways with the most common being the use of dating apps (90.7%). *Conclusion:* The present findings suggest that chemsex and CSBD commonly co-occur among sexual minority men, and that this combined clinical presentation is likely associated with more severe mental health concerns.

S-8B4**What are we measuring? A qualitative examination of how sexual minority men respond to measures of compulsive sexual behavior**

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Background: Evidence points to a high prevalence of compulsive sexual behavior disorder (CSBD) and substance use disorders (SUDs) among sexual minority men (SMM) and these disorders tend to be comorbid in this population. However, the reasons behind this comorbidity remain unclear, and there are concerns about the conflation of SMM's sociocultural context with CSBD. *Method:* 25 MSM completed qualitative interviews as part of a larger study investigating substance use, HIV risk, and sexual behavior. Participants were recruited in the United States from hookup applications (Grindr, Hornet, Sniffies) and crowdsourcing websites (Prolific, Connect). One interviewer administered the CSBI-13 and CSBD-7 and had participants explain their responses to each item on these measures. Results were coded to identify CSBD symptoms, misinterpretation of questions, and substance use factors. *Results:* Results indicate that many symptoms of CSBD were detected by these measures. However, the measures also incorrectly identified several other phenomena as indicative of CSBD, such as anti-gay stigma, non-problematic sexual behaviors, sexual dysfunction, and stigma toward casual sex. Finally, several participants reported many symptoms of CSBD that were specifically related to substance use, including alcohol and chemsex. *Conclusion:* The present findings indicate that measures of CSBD may measure both CSBD symptoms and factors unrelated to CSBD, such as sexual orientation-based discrimination. Efforts should be undertaken to improve CSBD measures for SMM and reduce misinterpretation of questions.

S-8B5**CSBD and problematic pornography use from a gender perspective**

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Background: Most studies investigating factors involved in the development and maintenance of compulsive sexual behaviour disorder (CSBD) and problematic pornography use (PPU) as well as efficacy of treatment approaches have focused on males. Prevalence rates indicate that females are less often affected from CSBD and PPU. Nevertheless, there is a significant proportion of females suffering from these disorders (about 3%). In recent years research including females with CSBD and PPU has increased. *Method:* We will give an overview on studies investigating predisposing factors, neurobiological and/or psychological mechanisms of CSBD and PPU with a focus on (potential) sex/gender-related differences. *Results:* Predisposing factors such as neuroticism, stress vulnerability, and social use motives could be more important in females as compared to males. Other factors such as testosterone level or ADHD symptoms are more relevant for males. While males and females might generally differ in their attentional bias and distractibility towards sexual cues (males > females), associations between symptom severity of PPU and brain responses as well as craving or attentional bias triggered by explicit pornographic pictures seem to be similar for males and females. *Conclusion:* Overall, the results indicate specific gender-related differences in the development and maintenance of CSBD and PPU, which may be partly explained by differences in predisposing factors. Psychological mechanisms such as cue-reactivity may equally contribute to symptom severity across males and females. However, it has to be noted that evidence is still limited in number and diversity of psychological mechanisms investigated in females with CSBD and PPU.

S-8C1**A critical comparison of DSM-5 and ICD-11 criteria proposed to define gaming disorder***JOËL BILLIEUX*

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Background. The validity and clinical utility of proposed diagnostic criteria for gaming disorder in DSM-5 and ICD-11 remain a subject of debate, and it has been proposed that these criteria are not necessarily able to distinguish intensive versus problematic gaming patterns, thus promoting pathologisation and stigmatisation. The current talk aims to provide a critical account of the most recent research having compared DSM-5 and ICD-11 frameworks to assess and diagnose gaming disorder. *Method.* Critical analysis of available literature. *Results.* Prevalence rates of problematic gaming are more elevated (sometime twice) when DSM-5 criteria are employed, whereas ICD-11 diagnostic guidelines tend to produce more conservative and credible prevalence rates. This might be due to the fact that some DSM-5 criteria – such as tolerance, mood modification, or salience – are not necessarily able to distinguish between instensive and problematic gaming. Data obtained on expert clinicians also suggest that several of the DSM-5 criteria are characterized by poor clinical utility or prognosis value. *Conclusions.* Increasing evidence shows that DSM-5 criteria are not necessarily valid nor clinically relevant and are susceptible to pathologize non-problematic patterns of gaming. Recent studies suggest that ICD-11 diagnostic guidelines seem better positioned to adequately identify pathological gaming patterns and thus reduce pathologization of healthy gaming.

S-8C2**Do the ICD-11 (Gaming Disorder) and DSM-5 (Internet Gaming Disorder) diagnoses cover the same clinical picture in children and adolescents?***SONJA KEWITZ¹, LEA PAUL², KATAJUN LINDENBERG¹*

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Depending on the diagnostic system used (DSM-5 or ICD-11), those affected by (Internet) Gaming Disorder (I)GD differ in terms of the severity of symptoms and quality of life. Research has been able to show this, particularly in adults. The presentation will extend the previous findings to children and adolescents. It will discuss why a diagnosis via ICD-11

is more conservative than a diagnosis via DSM-5 and what significance this has for clinical work. Research has shown, especially in adults, that those affected by (I)GD differ in terms of the severity of symptoms and various stress factors, depending on the diagnostic system used (DSM-5 or ICD-11). The presentation will extend the previous findings to children and adolescents. It will discuss why a diagnosis via ICD-11 is more conservative than a diagnosis via DSM-5 and what significance this has for clinical work. In this study, DSM-5 IGD and ICD-11 GD were compared by assessing their overlap and their relationship to well-being (WB), health-related quality of life (HRQoL) and other mental disorders. Using the number of required (I)GD criteria specified in DSM-5 and ICD-11 for a diagnosis, an IGD prevalence of 7.9% and a GD prevalence of 0.4% were found in a German student sample (N=1,175) using self-report questionnaires. All students with GD also fulfil the criteria for IGD. The results indicate that the high diagnostic threshold for GD captures adolescents with more severe (I)GD symptoms and with a higher probability of abnormal WB and HRQoL scores compared to the IGD-only group.

S-8C3

Development of a short symbol-based screening instrument for Gaming Disorder: The Integration of Videogame in the Self (IViS) Questionnaire

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Background: The formal inclusion of (Internet) Gaming Disorder in internationally recognized psychological disorder classification systems (DSM-V and ICD-10), represents an official acknowledgment of the potential for addictive behaviors associated with the engagement in (online) computer games. Children and adolescents emerge as a particularly vulnerable demographic group for (Internet) Gaming Disorder and hazardous gaming, with empirical evidence indicating the onset of these conditions as early as before the age of 10 (with estimated prevalence ranging between 1.4% and 4.1%). Consequently, it is essential to develop screening methodologies that are reliable, valid, and cost-effective. Moreover, these methodologies should be symbol-based to diminish reliance on advanced reading skills, enabling the early identification of (Internet) Gaming Disorder and hazardous gaming for prompt intervention in affected individuals. *Method:* The development of the 'Integration of Videogame in the Self' (IViS) questionnaire, a visual screening tool is presented. In a cross-sectional survey conducted in a specialized clinic for child and adolescent psychotherapy, the questionnaire was first tested on a clinical sample (N = 200). *Results:* The general psychometric properties of the IViS questionnaire, as well as its associations with external criteria such as criteria for Gaming Disorder, Hazardous Gaming, and symptom distress, are presented. Preliminary results suggest that the IViS can be used as a proxy for assessing the risk of (Internet) Gaming

Disorder and Hazardous Gaming symptoms in children and adolescents. *Conclusion:* Future investigations should employ the IViS in a more comprehensive and diverse sample to further clarify its utility as an economical visual screening tool.

S-8C4

Gaming Disorder and common physiological measurements: A systematic review

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Background: Several studies have emphasized the importance of integrating physiological measurements in the study of problematic behaviors. However, the use of these measurements is still small and often limited to single methods. A systematic study of physiological measurement methodologies in the context of problematic video game use could facilitate the implementation and dissemination of these measurements. *Objective:* The aim of this systematic review is to look for a wide range of physiological measures used in research for problematic gaming behavior. *Methods:* Using the PRISMA method, 457 articles discovered across 6 data bases. Of those articles, 32 were determined to be appropriate for the search. The physiological measures found were, Electroencephalogram (EEG), Qualitative Electroencephalogram (QEEG), Pupil Dilation, Pupil Diameter, Absolute Pupil Size, Electrooculogram (EOG), Heart Rate (HR), Photoplethysmography (PPG), Blood Pressure, Electrocardiogram (ECG), Galvanic Skin Response (GSR), Skin Conductance, Respiration (RR), Breathing Rate, Temperature. *Results:* The 32 articles break down as EEG – 14, QEEG – 1, HR – 8, EEG & HR – 1, PPG, EOG, GSR – 1, EEG, EOG, PPG – 1, HR, RR, EOG, GSR, PPG – 1. Results suggest that there are measurable changes in physiological activity. Additionally, expensive, and specialized equipment are not necessary for the many of them and can be combined. *Conclusion:* The review concluded that physiological measure could be used when looking into Problematic gaming behavior.

S-8D1**The impact of traumatic experiences and emotional dysregulation in young people with gambling disorder**

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Introduction: Traumatic life events (TLE) and difficulties in emotion regulation (ER) are potential factors contributing to the onset of gambling disorders among young people. *Methods:* This study aimed to explore variations in TLE, strategies for ER, positive and negative affect, and the severity of gambling behaviors in two distinct groups: individuals receiving treatment for gambling disorders and a control group of healthy individuals. The study investigated the connections among these variables and delved into the role of ER as a mediator between TLE and gambling severity within the treatment-seeking group. *Results:* Findings revealed elevated levels of gambling severity, both positive and negative affect, strategies for ER, and TLE within the treatment-seeking group. Moreover, the severity of gambling exhibited positive correlations with TLE, negative affect, and rumination. In addition, TLE showed positive correlation with both negative and positive affect, rumination, strategies for ER plan focus, positive reinterpretation, and catastrophizing. Lastly, the study found that rumination played a mediating role between TLE and the severity of gambling behaviors. *Conclusions:* These outcomes carry significant implications for preventing, comprehending, and treating gambling disorders.

Keywords: adolescents, emotion regulation, gambling disorder, traumatic life events, young adults.

S-8D2**Are depressive symptoms in people with gambling disorder related to gender?**

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Depression, gambling motives, abandonment or alexithymia have been closely associated with the aetiopathogenesis of gambling disorder. However, there are hardly any studies in the previous literature that have explored their relationship with sex and gender. Women with gambling disorder remain an under-explored clinical profile. The main objective of this study was to analyse the relationship of gambling motives, depressive symptoms, abandonment and alexithymia in people with gambling disorder as a function of sex. On the basis of the re-

sults of the multiple regression analyses, we carried out mediational analyses for women and men with gambling disorder in a differentiated way. The sample was composed of more than 100 women and men with gambling disorder. The results of the present study suggest that coping motives mediated the relationship between abandonment and depressive symptoms in women. For men with gambling disorder, enhancement motives and abandonment mediated the relationship between alexithymia and depressive symptoms. To sum up, this study adds evidence of the differences between men and women with gambling disorder, and the need to consider these differences in their rehabilitation process.

Keywords: women; gambling disorder; gambling motives; depression; alexithymia; abandonment.

S-8D3

Relationship between social media addiction, psychological well-being, and coping strategies.

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Background. In recent years, there has been a growing concern about social media addiction due to its potential impact on individuals' psychological well-being and body satisfaction. Additionally, one of the cognitive predictors contributing to social media addiction is the use of adaptive coping strategies. *Aims:* This study was two-fold: 1) to examine the impact of social media addiction (i.e., obsession, lack of control and excessive use) on psychological wellbeing (i.e., depression and anxiety) and body satisfaction; and 2) to analyze the relationship between coping strategies and social media addiction. *Methods:* A total of 2,520 participants ($M_{age} = 48.35$; $SD = 16.56$, 51.2% female) completed a set of questionnaires. This included the Addiction to Social Media Questionnaire (ARS), the Depression, Anxiety and Stress Scale (DASS-21), Eating Disorder Inventory-3 (EDI), and the Coping Strategy Inventory (CSI). *Results.* Obsession with social media and lack of control increased depressive and anxious symptomatology, whereas excessive use was not related to psychological well-being. Obsession with social media was further associated with increased body dissatisfaction. Notably, a significant relationship was identified between coping strategies (i.e., problem solving, self-criticism, expression emotion, wishful thinking, social support, problem avoidance and social withdrawal) and social media addiction, even after accounting for age and sex. *Conclusion.* These findings underscore the importance of assessing and addressing coping strategies to mitigate the risk of social media addiction on psychological well-being, emphasizing its relevance across diverse age and gender groups.

S-8D4**The relationship between self-compassion, emotional dependence and problematic Internet and mobile phone use**

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Self-compassion, treating oneself with kindness in contexts of adversity, is one of the psychological strengths linked to psychological well-being. It is a protective factor against the development of problems such as emotional dependence or problematic internet and mobile phone use. In addition, emotional dependence has been linked to problematic internet and mobile phone use through low self-esteem and feelings of loneliness. These problems are becoming more and more common among adolescents. The main aim of this study is to analyse whether emotional dependence moderates the relationship between self-compassion and problematic Internet and mobile phone use. For this purpose, a sample of more than 950 Spanish adolescents has been collected. The results indicate that there is a significant correlation between all variables and that emotional dependence partially but significantly mediates the relationship between self-compassion and problematic Internet and mobile phone use. Sex differences were found only in the levels of self-compassion and emotional dependence. These findings underline the importance of working on self-compassion and emotional dependence to prevent the risk of problematic internet and mobile phone use.

S-8E1

Introduction to the Health and Welfare of Finnish Prisoners (WATTU IV) study

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Background: The Health and Welfare of Finnish Prisoners (WATTU IV) study aimed to obtain information on the mental, physical and social well-being of this specific population which is poorly represented in general population studies. *Methods:* During an extensive field study among Finnish prisoners (n=529, 24.0% females), various aspects of the participants' health were assessed via a written health questionnaire and clinical interviews. Psychiatric and somatic health, including oral health were assessed. *Results:* The principal investigator of the Health and Welfare of Finnish Prisoners will outline the scope and process of the study, as well as key findings in order for the participants to also better understand the results presented by the following speakers. The results regarding prisoners' health will be presented with regards to e.g., type of crime, recidivism, access to treatment and motivation to set goals for promoting one's health during incarceration. *Conclusions:* The new Prisoner Database serves as an example of data gathering being able to reach also marginalized groups and encourages joint and multi-method research. Speakers will discuss the results' implications for the promotion of health in marginalized groups, integration back into society, and development of health care system from the perspective of problem gambling with the goal of ultimately preventing imprisonment and reducing crime.

Keywords: prisoners' health, population study, prisoners' wellbeing

S-8E2

Finnish prisoners' problem gambling and relationship to types of crime and re-offending

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Background: The Health and Welfare of Finnish Prisoners (WATTU IV) study aimed to obtain information on the mental, physical and social well-being of this specific population which is poorly represented in general population studies. Problem gambling and its correlates has not been extensively studied among prisoners. *Methods:* During an extensive field study among Finnish prisoners (n=529, 24.0% females), various aspects of the participants' health were assessed via a written health questionnaire and clinical interviews. Problem gambling was assessed using the Brief Biosocial Gambling Screen. Further, semi-structured diag-

nostic interviews were conducted to assess lifetime substance use disorders (SUD) and other psychiatric disorders. *Results:* Of all respondents, 49% engaging in gambling (51% of males and 42% of females). Problem gambling (13%) was more common among Finnish prisoners compared to the general population (3%). Property crimes and/or theft were more common among those with problem gambling (25%) compared to those without problem gambling (12%) and those who did not gamble (8%). Females reported financial difficulties due to gambling more often than men with females comprising 36% of those prisoners' reporting financial harms due to gambling. *Conclusions:* Problem gambling was very common among prisoners, and associated with various health-related and social harm. Gambling is not routinely assessed in Finnish prisons and should be included as part of the comprehensive health evaluation all prisoners undergo upon arriving in prison.

Keywords: problem gambling, prisoners' health, prisoners' wellbeing

S-8E3

Psychiatric and substance use co-morbidities among prisoners with problem gambling

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Background: The Health and Welfare of Finnish Prisoners (WATTU IV) study aimed to obtain information on the mental, physical and social well-being of this specific population which is poorly represented in general population studies. Little is known about problem gambling and co-occurring other addictive and other psychiatric disorders among prisoners. *Methods:* During an extensive field study among Finnish prisoners (n=529, 24.0% females), various aspects of the participants' health was assessed via a written health questionnaire and clinical interviews. Problem gambling were assessed using the Brief Biosocial Gambling Screen. Further, semi-structured diagnostic interviews were conducted to assess lifetime substance use disorders (SUD) and other psychiatric disorders. *Results:* The prevalence of lifetime substance use disorders among prisoners with problem gambling was 95% compared to 85% without problem gambling. Further analyses will provide results on the comorbidity of problem gambling and disorders linked with high impulsivity, such as certain personality disorders (82% of all prisoners had an antisocial personality disorder) and ADHD (45% of prisoners fulfilled criteria assessed via DIVA). *Conclusions:* Based on the results of this study, gambling is common among prisoners and often co-occurrent with other addictive disorders. Problem gambling should be included as part of the comprehensive health evaluation all prisoners undergo upon arriving in prison, especially among those with substance use disorders.

Keywords: problem gambling, co-occurring psychiatric disorders, substance use disorders

S-8E4

Gambling treatment experiences of community sanctions clients and treatment providers*KALLE LIND, SARI CASTRÉN*

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Background: The goal of RETS's RISERaPeli Project 2021–2023 is to integrate comprehensive services for gambling problems into all community sanctions nationwide in Finland. In a pilot program for supervised probation (in collaboration with the Criminal Sanctions Agency, the Gambling Clinic, Sosped), a tailored online treatment package was created. The aim of this study is to assess the experiences of participants in the online gambling treatment program among clients serving community sanctions. A further aim is to inquire about the experiences of project employees regarding the provision of support and the effectiveness of the program. *Methods:* Qualitative data from interviews collected from clients (n=8) who have completed the 8-week Internet-based cognitive behavioral therapy program and employees assisting with the program (n=3) will be analysed. The interviews have been conducted and analyses of the results are undergoing. *Results:* Results of the qualitative interviews regarding individuals who underwent an online CBT program for problem gambling will be presented. Perspectives of treatment providers regarding the provision of support and the effectiveness of the program will also be discussed. *Conclusions:* The results of this study will be utilized in developing methods for identifying the gambling problems and at risk-level gambling of criminal sanctions clients during the course of their sentence, and how these problems can be feasibly treated.

Keywords: community sanctions, treatment experiences, problem gambling

S-8F1**Voluntary and stimulus driven attention for rewards,
and the association with mindfulness**

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Background: Previous studies suggest that mindfulness may reduce response tendencies towards rewards. Though this could be explained in part by mindfulness-associated reduction of attentional bias, studies have yielded mixed results. We posit that the relationship between mindfulness and attention for rewards depends on whether stimulus driven, or voluntary driven attention is triggered.

Method: Participants (n=95, mean age=26) filled out the Mindfulness Attention Awareness Scale (MAAS), and performed a visuospatial cueing task, which included a neutral and intrinsic reward condition. The latter consisted of palatable food-associated stimuli. *Results:* There was no significant MAAS x condition x validity interaction regarding response time, $p = 0.715$, $\eta^2 = 0.004$. However, the MAAS x validity interaction reached significance ($p = .034$, $\eta^2 = .063$), indicating that higher MAAS scores were associated with a reduced validity effect. In addition to these results, the role of several moderators will also be discussed. *Conclusions:* Results indicate that mindfulness is associated with enhanced stimulus driven attention relative to voluntary attention, irrespective of reward contexts. In other words, mindfulness may result in faster reflexive attentional orienting to salient stimuli.

Keywords: mindfulness, attention, reward

S-8F2**The influence of early maladaptive schemas, emotion dysregulation, mindfulness and cognitive fusion on love addiction**

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Background: Love Addiction is a condition that several authors have suggested considering as a behavioral addiction toward an object of romantic love. The literature suggests that childhood experiences and how the individual relates to their imprint have a significant influence on the development of love addiction. Therefore, our work aims to study love addiction in the theoretical framework of Schema Therapy, particularly in relation to the construct of early maladaptive schemas (EMS). Moreover, in line with the literature, we also considered the influence of the individual disposition towards mindfulness and cognitive fusion, as well as emotion dysregulation. *Methods:* A group of 155 people with love addiction and a control group of 151 individuals were recruited and presented with a questionnaire consisting of four tools: the Love Addiction Inventory, the Young Schema Questionnaire Short-Form, the Mindfulness Attention Awareness Scale, the Cognitive Fusion Questionnaire, and the Difficulties in Emotion Regulation Scale. *Results:* The clinical group showed significantly higher levels of most EMS, particularly those pertaining to the Disconnect and Rejection factor. Love addiction was also significantly correlated with EMS, emotion dysregulation, dispositional mindfulness, and cognitive fusion. *Conclusions:* Individuals with love addiction appear to have a higher prevalence of EMS, and both constructs are influenced by dispositional mindfulness and cognitive fusion. Our results provide preliminary evidence of the potential benefits of Schema Therapy and mindfulness-based therapies in treating love addiction.

Keywords: love addiction, schema therapy, mindfulness

S-8F3

The complex relationship between mindfulness and inhibitory control, the role of reward context and inhibitory demands

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Background: Addiction is partly characterized by deficient inhibitory control, especially in a reward associated context. Mindfulness has been shown to improve inhibitory control, but some studies do not show evidence for such effect and yet others even suggest the inverse. The aim of the current project, consisting of three studies, was to address the contradictory findings of previous studies. *Method:* Three studies were performed. In all studies mindfulness was assessed with the Mindful Attention Awareness Scale (MAAS). In the first study, participants performed a go/no-go task (GNGT), in the second study, a stop-signal task (SST). Both tasks included two conditions that differed in terms of reward context. The last study included four variants of the SST, differing in terms of whether the go and stop-stimulus were neutral, or reward associated. *Results:* In the context of the GNGT, mindfulness was associated with reduced inhibitory control when the no-go stimulus was associated with reward. In contrast, the second study showed that mindfulness was associated with enhanced inhibitory control when inhibition was required after a reward-associated go stimulus. The last study is ongoing, but preliminary results will be discussed. *Conclusions:* Mindfulness is associated with challenged inhibitory control, when inhibition is required during percept of a reward associated stimulus. On the other hand, mindfulness seems associated with improved inhibitory control, when inhibitory control is required after a reward-associated stimulus. This beneficial effect might be due to the previously reported reduction of carry-over effects, in this case from the primary task.

Keywords: mindfulness, inhibition, reward

S-8F4

**Mindfulness-based programs for problematic usage of the internet:
A systematic review and meta-analysis**

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Problematic usage of the internet (PUI) is an umbrella term for a range of uncontrolled, excessive, and potentially harmful online behaviors. Recently, numerous studies have examined the potential of mindfulness-based programs (MBPs) for reducing PUI. We conducted a comprehensive systematic review and meta-analysis in this emerging field. We searched eight databases from inception to October 18, 2022, with no language restrictions. We included randomized controlled trials (RCTs) and nonrandomized trials (NRTs). The primary outcome was change in self-reported PUI, the secondary outcome was change in measures of screen time. Of 3,473 identified records, 19 RCTs and 20 NRTs with a total of 1,549 participants were included. Participation in an MBP was associated with large reductions in PUI in between-group analysis in RCTs ($k = 19$; $g = -1.67$; 95% CI -2.15, -1.19) and in within-group pre-post analysis in all studies ($k = 35$; $g = -1.67$; 95% CI -1.99, -1.36). Screen time showed a medium reduction in within-group pre-post analysis ($k = 10$; $g = -0.65$; 95% CI -0.90, -0.41). The effects for PUI remained significant in a series of sensitivity analyses, such as excluding low quality studies, excluding outliers, adjusting for publication bias, or using follow-up data. Heterogeneity between studies was high and the overall quality of evidence was low. The results suggests that MBPs are probably effective in reducing PUI and might be effective in reducing screen time. Shortcomings in the quality of evidence highlight the need for high-quality controlled trials with long-term follow-up data to confirm results.

Keywords: internet use disorder, mindfulness, social network, gaming, screen time

S-8G1**Behavioral addictions in patients with early-onset obsessive-compulsive disorder**

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Background: obsessive-compulsive disorder (OCD) share several common neurobiological dimensions (e.g. from impulsivity to reward dysfunction) with addictions. Indeed, some studies in comparing OCD with behavioral addictions (BAs) (e.g. gambling disorder) showed several similarities between these disorders. However, there is a paucity of studies directly investigating the presence of behavioral addictions in patients with a primary diagnosis of OCD. In this study we investigated the rate of BAs symptoms in adult patients with early-onset OCD compared to a sample of patients with late-onset OCD and a sample of healthy controls. *Methods:* 50 adult OCD outpatients consecutively recruited at the Brain Center Firenze and 50 healthy controls were assessed on behavioral addictions symptoms through the Internet Addiction Test, the Bergen Shopping Addiction Scale, the Sexual Addiction Screening Test – Revised, The South Oaks Gambling Screening and the Yale Food Addiction Scale – 2.0. Global function was assessed through the Barkley Functional Impairment Scale. *Results:* preliminary data on BA(s) symptoms frequency in early-onset OCD patients showed a higher prevalence respect to healthy controls. *Conclusion:* behavioral addictions symptoms should be investigated in adult patients with OCD especially those with early-onset OCD. Assessing and treating comorbid addictive disorders could play a central role in the patients' global outcome.

Keywords: OCD, internet addiction, food addiction, shopping addiction, sex addiction

S-8G2**Clinical utility of Rorschach indices in understanding coping deficits among problematic internet users**

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Background: Evidence indicate that one of the main variables linked to the development of problematic internet use patterns in adolescents and young adults is a deficit of coping resources. Even though research has indicated a trend towards associations with coping deficits, more has to be studied about the psychodiagnostics markers of coping deficits in problematic internet users. The purpose of the current study is to show how useful data from the Rorschach Inkblot Method using Exner's Comprehensive System is for identifying coping

deficits in problematic internet users. *Methods*: Those above the age of 15 who score moderately on the Internet Addiction Test will be included in the prospective study through the use of purposive sampling. 30 participants are to be recruited. Brief Cope and the Rorschach Ink Blot Method will be used to evaluate each participant. *Results*: The data from this study indicate that problematic internet use has been associated to higher scores on the Depressive Index (DEPI) and the Coping Deficit Index (CDI), as well as worse scores on a quantitative survey measuring coping. *Conclusion*: The findings of this study may help identify a pattern of Rorschach indicators in Internet use. This information may then be used by clinicians to address the issue in psychotherapy and to develop interventions that specifically address coping deficits related to internet use.

Keywords: problematic internet use, internet addiction, coping deficit, rorschach ink blot method.

S-8G3

First-episode psychosis and gaming disorder: Improving screening and patient's recovery

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There is an impetus to better comprehend the association between Psychotic Disorder (PD) and Gaming Disorder (GD), particularly in young adults with first-episode psychosis (FEP). Our research program aims to: 1) summarize the knowledge on comorbid GD and PD; 2) determine the prevalence of GD in patients with FEP; 3) identify the consequences of GD on patients'. We realized a scoping review regarding comorbid PD with GD. Secondly, we conducted a prospective cohort study including all patients admitted to an early intervention program for FEP between November 1st, 2019, and October 31st, 2022. All patients were screened for GD using the Nine-Item Internet Gaming Disorder Scale at admission and every 6 months thereafter. Diagnosis of GD was confirmed by psychiatrist based on the ICD-11 criteria. The severity of the patients' psychopathology was rated by the treating psychiatrist using the Positive and Negative Symptom Scale (PANSS) and the Social and Occupational Functioning Assessment Scale (SOFAS), at admission and every 6 months. Literature concerning comorbid PD with GD is limited to only a few case reports. Among 285 patients

treated at the FEP program, 31 (10.9%) displayed an excessive gaming behaviour and 14 were diagnosed with GD, for a prevalence of 4.9%. Trajectory analysis showed a significant association between gaming habits and patients' symptomatology as measured by the PANSS (chi-square = 0.035) and the SOFAS (chi-square = 0.007). The preliminary results of our cohort study highlight an increased prevalence of GD in FEP patients' and suggest that GD may interfere with patients' recovery.

Keywords: internet gaming disorder, gaming disorders, psychotic disorder, schizophrenia, psychosis

S-8G4

Love 2.0 in psychotic disorders

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Background: People with psychotic disorders frequently consider intimate relationships and love as being part of their goals and hopes in life. Many factors may reduce their access to such wishes including lower social inclusion, poorer social networks, self-stigma and anticipated discrimination. Online dating and specifically, smartphone geolocalized apps for dating became for the general population an important avenue for people who are searching for intimate and romantic partners. Use of such apps is common among people with mental disorders. *Methods:* A narrative review of the published studies within these inclusion criteria: 1) studies related to Tinder use, one of the most popular dating app, 2) studies including assessment of mental health, including psychotic disorders *Results:* The review can answer the following questions: 1) What are the user motives and their association with psychopathological dimensions? 2) What are the different clusters of people who use Tinder, based on motives and psychological dimensions? 3) What are the psychological factors associated with addictive app use? 4) What are the psychological factors associated with satisfaction with app use? *Conclusions:* In a transdiagnostic perspective, the results may help to understand how such tools may serve the specific needs of people with schizophrenia and what are the possible difficulties, distress and risks possibly triggered by such apps.

Keywords: internet addiction, social media, intimate relationships

S-8G5

Association between internet use, sleep disorders, and depression in a questionnaire survey

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Background: While the correlation between sleep disorders and psychological interdependence is acknowledged, excessive Internet use affects sleep quality (Kokka et al., 2021). This study explores the relationship between Internet use, sleep disorders, and depression in healthy individuals. *Methods:* A questionnaire survey was conducted with 212 healthy adults using the Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory - Second Edition (BDI-II), and Generalized Problematic Internet Use Scale-2 (GPIUS-2). Spearman's rank correlation coefficient in SPSS ver. 26.0 was employed for the correlation analysis. *Results:* The analysis revealed significant correlations between PSQI and BDI-2 ($\rho=0.399$, $p<0.01$) and GPIUS-2 ($\rho=0.215$, $p<0.01$). Mediation analysis indicated a direct effect ($\beta=0.2073$, $p<0.001$) and an indirect effect through GPIUS-2 ($\beta=0.0139$), resulting in a total effect of $\beta=0.2211$ ($p<0.001$). This suggests that while a depressive state predicts sleep disorders directly, it also exacerbates the inclination toward sleep disorders through generalized problematic Internet use. *Conclusion:* The findings imply an association between sleep disorders and depression, partially mediated by Internet use. Additionally, the 7T-fMRI analyses to investigate the neural basis of these connections will be included in the presentation.

Keywords: sleep disorder, internet addiction, depression

MINI TALKS

MINI-1A1

A comprehensive evaluation of the neurocognitive correlates and predictors of problematic alcohol use, eating, pornography, and internet use: A 6-month longitudinal study

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Background: Despite consensus in the field that addiction is associated with and predicted by aberrant neurocognitive functioning, empirical evidence articulating specific neurocognitive functions that underpin addictive behaviours is lacking. This presentation will cover a comprehensive evaluation of the neurocognitive correlates and predictors of addictive behaviours including problematic eating (PE), problematic use of the internet (PUI) and problematic pornography use (PPU). *Method:* In an Australian sample of general community members, we conducted a large prospective, cohort study, stratified by age and gender. Participants completed a comprehensive battery of neurocognitive measures evaluating expert endorsed (Delphi) RDoC domains including, inhibitory control, performance monitoring, reward learning, delay discounting, flexible updating, and shifting, as well as self-report addictive behaviour scales. *Results:* Cross-sectional regression analyses ($n=475$) revealed poorer performance monitoring was associated with more PPU and PUI ($\beta=-0.02$, $p=.013$; $\beta=-0.02$, $p=.015$), and a higher preference for delayed gratification was also associated with higher PUI ($\beta=-0.40$, $p=.010$). No neurocognitive domain was associated with PE ($p>.05$). Longitudinal regression analyses predicting behaviour over a 3-month period ($n=206$) revealed poorer performance monitoring ($\beta=-0.16$, $p=.005$) and more reward-related attentional bias ($\beta=0.14$, $p=.032$) predicted higher PE. However, less reward-related attentional bias ($\beta=-0.14$, $p=.006$) and less risk-taking ($\beta=-0.11$, $p=.019$) predicted PUI. None of the neurocognitive functions predicted PPU. *Conclusion:* Our findings reveal neurocognitive functions that underpin addictive behaviours may differ according to behaviour type. This supports the need for tailored treatments targeting behaviour-related neurocognitive functions acknowledging that neurocognitive dysfunction may vary across addictions.

Keywords: neurocognition, mechanisms, longitudinal, pornography, internet

MINI-1A2

The role of psychological distress in understanding the relationship between habitual decision-making and addictive behaviours

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The mechanisms explaining how habitual decision-making drives and maintains addiction remain under debate, with behavioural addictions being especially neglected in empirical studies. In this current study, a large community sample (N = 643) completed a gamified two-stage task to investigate the link between model-free (habitual) task behaviour and a wide range of addictive behaviours – specifically how this relationship differs between types of addictions, and how it may be moderated by psychological distress as measured by total score on the DASS-21. Addictive behaviours included substance use (alcohol, nicotine, and illicit drug use) and behavioural addictions (problematic internet use, eating, online shopping, and gambling). The relationship between habitual task behaviour and addictive engagement was investigated using linear regression as well as structural equation modelling with two latent variables created, one for substance use and one for behavioural addictions. Including psychological distress as a moderator revealed that participants with higher scores of psychological distresses who were also exhibiting habitual task behaviour had higher rates of behavioural addiction ($\beta = -0.188$, SE = 2.061, $p = 0.016$), specifically problematic internet use ($\beta = -0.148$, SE = 0.045, $p = 0.003$) and eating behaviours ($\beta = -0.191$, SE = 0.016, $p < 0.001$) than equally distressed participants who did not engage in model-free task behaviour. Without psychological distress as a moderator, the relationships between habitual task behaviour and addictive engagement were no longer significant. Our findings shed new light on the complex underpinnings of behavioural addiction, and how these are impacted by psychological factors such as mood and stress.

Keywords: habit, behavioural addiction, cognition, psychological distress

MINI-1A3

Shared and Distinct Neural Correlates of Substance Use Disorders and Internet Gaming Disorder: A Resting-State fMRI Meta-Analysis*MARC DOUGLAS ALEXANDER RITTER*

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Substance Use Disorders (SUDs) and Behavioral Addictions (BAs) are two prevalent disorders with shared neurobiological underpinnings. This meta-analysis aims to review and synthesize findings from resting-state functional magnetic resonance imaging (rs-fMRI) studies investigating the neural correlates of AUD (Alcohol Use Disorder), CD (Cocaine Dependence) and Internet Gaming Disorder (ID). A comprehensive search of relevant literature yielded 47 studies that met the inclusion criteria. Findings from these studies were analyzed using GingerALE (activation likelihood estimation) meta-analytic software. The findings revealed consistent alterations in resting-state functional connectivity within reward circuitry, including the striatum, insula, and prefrontal cortex, in both SUDs and BAs, when compared to healthy controls (HC). The analysis also identified shared alterations in resting-state functional connectivity within cognitive control and emotion processing networks, including the dorsolateral prefrontal cortex, anterior cingulate cortex, and amygdala. These findings suggest impaired cognitive control and emotional dysregulation, which contribute to the development and persistence of SUDs and BAs. Despite these shared neurobiological features, the meta-analysis also highlights some distinct patterns of resting-state functional connectivity alterations between SUDs and BAs. For instance, SUDs exhibited more pronounced alterations in hippocampal connectivity, while BAs showed more prominent alterations in insula connectivity. These findings suggest differential involvement of specific brain regions in reward processing and addiction between the two disorders.

Overall, this analysis provides compelling evidence for shared and distinct neural correlates of SUDs and BAs by providing insight into the underlying mechanisms of these disorders. Further research could elucidate the development of targeted treatment interventions.

Keywords: Substance Use Disorder (SUD), Internet Gaming Disorder (ID), Resting State Functional Connectivity (RSFC), Alcohol Use Disorder (AUD), Cocaine Dependence (CD)

MINI-1A4

Plasma anandamide and 2-arachidonoylglycerol concentrations and their clinical correlate in gambling disorder

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Background: Components of the endocannabinoid system such as their endogenous ligands anandamide (AEA) and 2-AG (2-arachidonoylglycerol) have been involved in brain reward pathways. Disturbances in this system have been described among addiction-related disorders reinforcing the notion of shared neurobiological substrates. However, its role has been underexplored in behavioral addictions. Therefore, the main aim of this study was to assess and compare plasma concentrations of AEA and 2-AG at baseline between individuals with gambling disorder (GD) and healthy controls (HC). The association between AEA and 2-AG concentrations and GD severity was also evaluated, as well as the potentially mediating role of clinical and neuropsychological variables. *Method:* The sample included 166 adult seeking-treatment outpatients with GD (95.8% male, mean age 39 years old) and 41 HC. Peripheral blood samples were collected after an overnight fast to assess AEA and 2-AG concentrations (ng/ml). Clinical (i.e., general psychopathology, emotion regulation,

impulsivity, personality traits) and neuropsychological variables were evaluated through a semi-structured clinical interview and psychometric assessments. *Results:* Plasma AEA concentrations were higher in individuals with GD ($p=.002$), without differences in 2-AG. AEA and 2-AG concentrations were associated with GD severity through the mediating role of novelty-seeking. *Conclusions:* This study points to differences in AEA and 2-AG plasma concentrations between individuals with GD and HC. The pathway defined by the association between AEA and 2-AG concentrations and novelty-seeking predicted GD severity. These exploratory findings could help to identify potential endophenotypic features that contribute to design tailored preventive and therapeutic approaches in GD.

Keywords: gambling disorder, anandamide (aea), 2-arachidonoylglycerol (2-ag)

MINI-1B1**Perceptions of employee mental health within the online gambling industry**

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Background: Former literature outlines that gambling disorder is more common within employees in the gambling industry (5-6%) than in the general population (1.5%). However, the majority of research has been conducted in land-based casinos. Given the huge growth of the online gambling industry and increased access to 24-hour gambling services in recent decades, new challenges might arise in relation to the mental health status and addiction risks in this population. The present study aimed to examine the experience and perceptions of employees with respect to general mental health and problem gambling within the online gambling industry. *Methods:* An online quantitative international survey was completed by full or part-time employees within the online gambling industry, over 18 years of age to measure their perceptions of mental health, alcohol, substance use, and problem gambling within the industry in general. Contributing factors to problem gambling within this employee population as well as perceived workplace interventions effectiveness and relationship to actual gambling behaviours was also explored. Finally, differences in demographics related to these perceptions, including via department, job role and level or amount of customer contact was also analysed. *Results:* Detailed results to be presented at ICBA 2024. Further detailed studies will be required to corroborate results as well as determine employee gambling behaviours and prevalence in the industry.

Keywords: gambling industry, mental health, problem gambling, employees, workplace

MINI-1B2**How do gambling stimuli get people's attention?
An experimental study in old age gambling**

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Background: Although problem gambling rates among older-aged adults have steadily increased in recent years, research studies among this age cohort are still relative scarce. The present study is the first to empirically investigate which component of attention and what type of attentional bias are involved in gambling in old age. Furthermore, the study aimed to investigate the joint role of attentional bias, craving, and emotion dysregulation in gambling among older-aged gamblers. *Method:* Sixty gamblers, aged 60-81 years completed the South Oaks Gambling Screen (SOGS), the Gambling Craving Scale (GACS), and the Difficulties in Emotion Regulation Strategies (DERS) assessing the severity of gambling involvement, the subjective feeling of gambling-related craving, and emotion dysregulation, respectively. Participants also performed a modified version of the Posner Task, a computerized version of a detecting attentional biases task that allows the measurement of both initial orienting and maintenance of attention and to identify three attentional biases, namely, facilitation, disengagement, and avoidance. *Results:* Older-aged problem gamblers showed facilitation bias for gambling at 100ms and reported higher levels of both craving and emotion dysregulation. Regression analyses showed that male gender, facilitation bias at 100ms and non-acceptance of emotional responses are significant predictors of gambling severity. *Conclusions:* The present study demonstrated that the profile of older-aged gamblers combines an automatic facilitated attention for gambling cue, high levels of craving, and a difficulty in emotion regulation. The study provides an important starting point basis for implementing evidence-based prevention and intervention programs, tailored to the particular characteristics of this age cohort.

Keywords: old age gambling, attentional bias, emotional dysregulation

MINI-1B3**Examining criminal behavior associated with veterans with gambling addiction**

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Introduction. A body of research suggests that there are notable links between gambling and criminal activity, though accurate prevalence estimates are rare (Blaszczynski & Silove, 1996). Armed forces veterans may be particularly at risk of experiencing gambling-related harms, as the lifetime prevalence of gambling disorder (GD) and problem gambling (PG) among U.S. veterans vastly exceeds that of the general population (Etuk et al., 2020; Westermeyer et al. 2013). There is limited research examining the relationship between GD and crime in veterans, forming the basis for the present work. *Methods.* Subjects for the present study are approximately 350 U.S. Armed Forces Veterans that received residential treatment for GD between the years of 2010-2023. Prevalence of criminal activities was recorded as a part of the intake assessment. Among our sample, over 75% of participants endorsed committing one or more criminal offenses, and the most frequently reported criminal behaviors were writing bad checks and nonpayment of taxes. We conducted a multinomial logistic regression predicting specific criminal activities by comorbid psychiatric diagnoses, and found that current PTSD diagnosis predicted lower engagement in acts of forgery and embezzlement while current SUD predicted higher engagement in writing bad checks, receiving drug charges, committing assault and domestic violence, and committing gambling charges. Implications for the field. The current findings improve our understanding of the crime prevalence among veterans with GD and provide insight into some of the differences that may predict criminality in veterans with GD.

Keywords: gambling disorder, veterans, criminal behavior

MINI-1B4

Gambling in the Risk Society: A SKAD analysis of the influence of competing global discourses on legislative reform

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This discourse analysis examines reform of the Gambling Act (2005) in the British overseas territory of Gibraltar, host to online gambling companies that serve approximately half the global market. Methodologically guided by Stückler's (2018) adaptation of the sociology of knowledge approach to discourse (SKAD) to analyse the influence of public discourses on legislative reform, this study analyses white papers and versions of the revised Act, alongside interviews with government, regulatory, and industry leaders who shaped the revisions, to understand the influence of competing discourses. The study is theoretically informed by Kingma (2004) who mapped a linear, unidirectional progression for gambling in society from Prohibition to Alibi and finally to Risk Model, in which gambling is a source of entertainment, private profit, and tax revenue. Kingma's risk model applies seminal work by Ulrich Beck (1992), who, in the months after the Chernobyl nuclear disaster, described modernity as the Risk Society, defined by human-created, as opposed to accidental or natural risk. Three discourses emerge, 1) new and expanding markets, 2) shifts by some states from open markets to greater state control, restrictive regulation, and unprecedented penalties for industry failures, and 3) escalating global action against money-laundering by the Financial Action Task Force (FATF, 2023), reflected by grey-listing Gibraltar in June 2022. Findings inform an updated theoretical model where public discourse is defined by frequent risk assessment and mitigation by states and global bodies, expressed in legislative and regulatory reforms which create a dynamic, less predictable evolution of gambling in the Risk Society.

Keywords: gambling regulation, risk society, harm reduction, public policy, discourse analysis

Mini-1C1

Online gambling involvement among LGBTQ+ individuals in the framework of Social Determination Theory: Data from 42 countries

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Background and aims: While previous research has shown that behavioral addictions are disproportionately prevalent among individuals of sexual and gender minorities (SM and GM), there is a paucity of literature on gambling behavior among this population. This study explored online gambling involvement among LGBTQ+ individuals in the framework of the Social Determination Theory. *Method:* The present study capitalizes on data from the International Sex Survey, a cross-sectional survey conducted in 42 countries. Data from 3,732 LGBTQ+ adults having lifetime online gambling experience ($M_{\text{age}}=32.1$) were analyzed. Participants voluntarily completed an anonymous online survey consisting of self-report measures of gambling involvement, psychological basic needs (i.e., autonomy, competence, and relatedness) satisfaction and frustration, perceived self-acceptance of sexual and gender identity, and sociodemographic information. *Results:* One-way ANOVAs were performed to compare psychological needs and self-acceptance among three gambling frequency categories (gambled 0 / 1-4 / >5 days in the past month) separately for SM and GM individuals. Multiple comparison results showed that among both SM and GM individuals, when compared to those who gambled less frequently, individuals who gambled more than once a week showed significantly higher relatedness frustration. While frequent SM gambling was linked to the lowest self-acceptance of sexual identity compared to individuals with less frequent gambling, frequent GM gambling was linked to the highest self-acceptance of gender identity. *Conclusions:* While SM and GM individuals shared similar psychological needs frustration across gambling frequencies, differences regarding self-acceptance of gender/sexual identity were observed. Future studies should investigate gambling behaviors of SM and GM groups separately.

Keywords: gambling, psychological need satisfaction and frustration, sexual and gender minorities, self-acceptance

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MINI-1C2

Associations between profiles of compulsive sexual behavior and impulsivity and emotion regulation difficulties.

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Background: Compulsive sexual behavior disorder is characterized by a pattern of intense and repetitive sexual behavior. Impulsivity and Emotion regulation might be considered risk factors for CSB (e.g., Lew-Starowicz et al., 2020). Previous research (Okabe & Ito, 2023) identified six classes of CSB through latent profile analysis using a representative sample of Japan. This study aims to clarify the subtle differences between the six classes in terms of impulsivity and emotion regulation. *Method:* An online survey of a representative Japanese sample (N=1,094; 541 women, 532 men, and 21 others; mean age = 39.9 years; SD = 11.6). Participants completed the Compulsive Sexual Behavior Disorder Scale-19 (CSBD-19), the Difficulties in Emotion Regulation Scale (DERS), and the short version of the UPPS-P Impulsive Behavior Scale (S-UPPS-P). All research activities were approved by the Institutional Review Board. The analysis of this study uses data collected in previous studies. *Results:* ANOVA was used to compare the characteristics of 6 classes (low-risk, dissatisfied low-risk, average risk, at risk, low negative consequence at risk, high-risk). In terms of DERS and negative urgency, no significant difference was shown between the high-risk class and the at-risk class. The positive urgency and sensation seeking were all significantly higher in the high-risk class than in other classes. Regarding the lack of perseverance and lack of premeditation, complex patterns were observed. *Conclusions:* Impulsivity and emotion regulation may have different characteristics depending on the CSB profile. In treatment, it is necessary to consider the individual's CSB maintenance factors.

Keywords: compulsive sexual behavior, impulsivity, difficulties in emotion regulation

MINI-1C3**A whole new world: Overcoming methodological challenges in the post-pandemic recruitment of pregnant women with behavioral addictions**

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Background: The impact of the COVID-19 pandemic on study recruitment has been significant, including recruitment of pregnant women at risk for behavioral addictions. The objective of this presentation is to highlight how we have adapted our recruitment procedures for a technology-delivered intervention intended for pregnant women who endorse risky sex behaviors (e.g., condomless sex, multiple partners) as well as substance use. *Methods:* We conducted remote clinic recruitment (e.g., by phone, text messaging, and e-mail) as well as a social media campaign via Facebook and Instagram with a confidential web-based screening for our study targeting pregnant women in 27 counties of Michigan. *Results:* For remote recruitment, we contacted 6,253 women; 1,375 completed the study screener (mean age=31.5; SD = 4.6), 90 were eligible, and 73 enrolled (6% eligibility). For social media recruitment (15 weeks), we had 2,512 completing the pre-screener. Of these, 501 (mean age = 31.9; SD = 4.6) went on to complete the full study screener, 25 women were eligible, and 20 were enrolled (5%). *Conclusions:* Our 5% eligibility rate from our social media campaign is on par with our remote and in-clinic recruitment methods, yet took far less time (15 weeks vs. 150 weeks vs. 48 weeks, respectively). The challenges of social stigma, shame and guilt can be significant for pregnant women, particularly those who struggle with behavioral addictions. Conducting confidential screening surveys remotely may overcome some of these challenges, have a broader reach, and be a cost-effective alternative to active recruitment.

Keywords: pregnancy, substance use, sexually transmitted infections, brief intervention, COVID

MINI-1D**Round table - behavioural addiction & gender approach from a female point of view: Discussion is open!**

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Worldwide, studies and literature on Women and Behavioural Addiction are still scarce, even if improving, and the existing data are not specific to women but inferred from mostly male samples, also because of paucity of women reached by the treatment clinics. Nevertheless, more and more women are affected by pathological gambling and other non-substance related addictions, due to stronger and pervasive marketing offer and improvement in technologies, especially after covid pandemic. To reach them out it's our first aim! In any culture, women have a central role both in families and society, and their underestimated gambling or other addictive behaviours, often related with past violence, may have a deep impact on their personal and family life as much as on society.

One key issue linked with female invisibility in health, beyond violence and shame, is the great difficulty in finding appropriate treatment services who very rarely offer female-specific approaches and revisited diagnostic criteria. It is fundamental to raise new interests in a gender approach from a female point of view and to gather data and opinions from all over the world to share, discuss and improve research and treatment for the women on whose behalf we are working on.

Keywords: gender approach, behavioural addiction, violence, treatment, research

MINI-2A1**Characteristics of intellectual function in internet addiction and gaming disorder: Results of subscales of WAIS-III and WISC-IV**

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Purpose: In this study, we examined the characteristics of intellectual function by analyzing the results of the WAIS-III or WISC-IV in patients with addictive behavior. *Methods:* The subjects were 588 patients aged 8 to 66 years with the main complaint of excessive Internet or game use. The results of tests performed at the second or third visit after the first visit were analyzed. *Results:* The means of all test IQ, verbal IQ, and motor IQ for those who took the WAIS were 102.6, 103.4, and 101.0, respectively. The mean scores for each subscale were 11.7 for Comprehension, 11.4 for Building Blocks, 11.3 for Picture Completion, and 11.3 for Picture Arrangement, which were slightly better than average, while the means for Knowledge and Combination were 8.9 and 8.6, respectively, which were slightly lower than average. On the other hand, the mean IQ of all WISC test takers was 100.8, and the means of all subscales were distributed between 9 and 11, showing no significant differences. *Discussion:* The results of this study suggest that the trend in intellectual functioning observed in the WAIS may be related to the duration of excessive use of Internet games. While the excessive use of online games improved the ability to make things up as they went along, to find differences in visual stimuli, and to read the situation and infer the future, it was also seen to decrease the flexibility of thinking and to cause underachievers to fall into underachievers.

Keywords: gaming disorder, WAIS, WISC

MINI-2A2**The characteristics of empirical studies on digital game addiction in Turkiye**

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This study aims to systematically review empirical studies on digital game addiction conducted in Turkiye, indexed in the Web of Science and Scopus databases from 2011 to the end of October 2023. Consequently, we examined 139 studies published until October 30, 2023. The number of articles, which was two in 2011, has steadily increased to 25 in 2023. Promi-

ment journals include 'Addicta: The Turkish Journal on Addictions,' 'Dusunen Adam,' and the 'International Journal of Mental Health and Addiction. The impact factor of the publications ranges from 0.147 to 12 (M=2.50). Among empirical studies, 82% are cross-sectional correlational studies, with only two studies being experimental. The most frequently examined major variables related to probable game addiction are gender, age, gaming duration, anxiety, ADHD, education level, depression, grade, and sleep. Approximately 83% of the studies were conducted using non-random sampling techniques. The sample size varies between eight and 24380 (M=696). The most frequently used scales are "Game Addiction Scale for Adolescents" by Lemmens et al (2009) and "Internet Gaming Disorder Scale-SF" by Pontes and Griffiths (2015). In 43% of the studies, it is concluded that males are more likely to be probable game addicts than females. While 15 studies find a relationship between probable game addiction and age, no significant relationship is found in 20 studies. The variables most strongly associated with probable game addiction are ADHD, gaming duration, depression, and anxiety.

Keywords: digital game addiction, systematic review, Turkiye

MINI-2A3

Lootbox use among a representative sample of Czech adolescents

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In some games, various sub-elements can negatively affect the player, such as loot boxes, which are surprise packages of various items or activities with a wide range of uses in the game. The packages may contain elements that are important or completely irrelevant to the game (for example, obtaining a weapon, an appearance upgrade or a specific dance or gesture by a game avatar at the end of the game). The convergence of gambling and video games includes the introduction of gambling-like activities (GLAs) into video games, such as loot boxes or esports betting, among others. It is argued that this in-game sale of bonuses for a game with a high chance factor is very similar to gambling and thus may develop gambling behaviour among players playing digital games with loot boxes. There are debates at the supranational level about removing loot boxes from games because they fulfil the principle of gambling. This paper will present the use of loot boxes among 892 randomly sampled Czech respondents aged 11-19. The results and prevalence of loot box use will be presented concerning the gender and age of the respondents.

The funding was provided by the Czech Ministry of Education, Youth and Sports for specific research, granted in 2023 to Palacký University Olomouc. Title of the research project: Risky Use of Internet Pornography in Relation to Selected Personality Characteristics (IGA_FF_2023_057). The authors declare that they have no conflict of interest.

Keywords: loot box, gambling-like activities, gaming, adolescence

MINI-2A4**Experience with online risks among Czech adolescents**

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The contribution describes the risks Czech adolescents experience in cyberspace and the risky activities they engage in. A total of 2,196 Czech adolescents (1,140 girls and 1,056 boys) aged 15–19 years, with a mean age of 16.81 years ($SD = \pm 1.01$), participated in the study. They were students of secondary schools (grammar schools, vocational secondary schools with and without graduation examinations; ISCED 3). The Questionnaire of Online Risky Behavior (DCK), which was used to collect data, included more than sixty questions about adolescents' experiences in cyberspace. The aim of this contribution is to present the prevalence results of adolescents' experience with the darknet, pornographic content, face-to-face encounters with strangers from the internet, blackmail, and other risks associated with cyberspace. The funding for the present contribution was provided by the Czech Ministry of Education, Youth and Sports for specific research (The Impact of Internet Content and Personality Traits on Eating Habits and Eating Disorders among Czech Adolescents and Young Adults, IGA_FF_2024_009).

Keywords: adolescence, risky activities, cyberspace, social media, contact with strangers

MINI-2B1**Association between gambling and debt recovery process:
Finnish population-based study with register linkage**

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Background: Individuals who engage in excessive gambling may find themselves accumulating substantial debts due to losses incurred during gambling activities. This can lead to various financial challenges, including difficulties in repaying loans, credit card debts, or other financial obligations. When these debts become unmanageable, individuals may face the debt recovery process (DRP), as debt recovery agencies work to collect the outstanding debts. *Method:* The study analyzed data from the Finnish Gambling 2019, a nationally representative survey among 15-74-year-olds with register linkage, to determine whether there is an association between gambling severity and DRP. Logistic regression models were created, with DRP as the dependent variable and sex, age, employment status, education, and receiving social assistance controlled as covariates. The results were presented as odds ratios with 95% confidence intervals (CIs). *Results:* Overall, 17% of people had faced DRP between 2008 and 2019. DRP was more common among people who were gambling at a risk or problem level. Over a third of these people (39%) had faced DRP. The odds of DRP were 2.15 times higher (CI: 1.44-3.22) among individuals who had gambled at a risk or problem level compared to the recreational gambling group, even when all the covariates were taken into account. *Conclusions:* Many people who gamble excessively struggle not only with gambling problems but also with financial problems. This can cause great anxiety for both the gambler and their significant others. This is an important factor to acknowledge when developing and planning support and treatment options.

Keywords: gambling severity, at risk and problem gambling, debt recovery process

MINI-2B2**Gender differences in a sample of treatment-seeking gamblers in an
Italian outpatient clinic: A longitudinal study**

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Background: Research investigating female gambling is relatively limited. However, there are studies indicating that men and women show differences in various socio-demographic characteristics, prevalence and in particular prevalence in seeking for treatment, gambling

behaviour, symptomatology and comorbidities. Consequently, they would necessitate different and specific treatment approaches. (Prever & Bowden-Jones, 2017; Prever, Blycker & Brandt, 2023) *Aim and method*: The aim of this study is to investigate gender differences in terms of socio-demographic and psychopathological features in our clinical population. We performed a longitudinal study with a retrospective design. We examined gamblers entering an outpatient treatment program for pathological gambling in 2023. Patients were diagnosed according to DSM-5 criteria and data were collected through questionnaires, clinical interviews and records. *Results and conclusions*: Clinical and statistical analysis are in progress and will be presented at the Conference, supporting the importance of gender approach in gambling research in order to optimise future preventing and treating actions.

Keywords: gender differences, gambling, socio-demographic factors, diagnosis

MINI-2B3

Treatment outcomes from a womens' residential programme for gambling harm in the UK

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Approximately 0.8% of men and 0.2% of women who gamble experience harm (Gambling Commission, 2022). Women who are lonely, isolated, stressed and/or with a mental health diagnosis are more likely to experience harm from gambling than their peers (Holdsworth, Hing & Breen, 2012). Women who gamble are more anxious and depressed than men (Echeburúa et al. 2011), but cite barriers such as cost, time or location to accessing treatment for harmful gambling (Dinos et al, 2020). A gendered approach to treatment recognises women's specific risk factors, needs and harm-reduction strategies (McCarthy et al, 2019). This talk evaluates and describes the efficacy of a six-week women-only residential treatment programme for severe gambling harm.

54 women underwent treatment. Questionnaires evaluating problem gambling (PGSI), psychological distress (CORE-10), anxiety (GAD-7) and depression (PHQ-9) were completed before, immediately after, three months and six months post treatment. Average PGSI scores dropped from 21.6 to 4.6 after treatment ($p < .05$), and remained at a similar level three and six months later. Average Core-10 scores dropped from 19.5 before treatment to 8.8 after treatment ($p < .05$), staying at a similar level at three and six months post treatment. Before treatment, over 80% of women scored in the clinical range for anxiety and/or depression. These levels fell significantly after treatment to under 50%.

In conclusion, the programme reduced gambling behaviours, psychological distress, anxiety and depression. This talk will compare outcomes and efficacy of women's and men's treatment programmes, and describe insight into under-represented women in treatment (e.g. BAME & LGBTQ+ communities).

Keywords: female gamblers, harmful gambling, gambling treatment

MINI-2B4

Qualitative and quantitative research on the specifics of female gambling

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Background: Research on problem gambling and gambling disorder has traditionally focused on the male population rather than the female population, but in recent years researchers have concluded that more research on female gamblers is needed, as there may be gender differences in the effectiveness of prevention and intervention and in the risk factors (Gartner et al., 2022; Hagfors et al., 2022). *Aim:* In the present study, we explored the characteristics, thoughts, emotions and attitudes of Hungarian female gamblers towards gambling using quantitative and qualitative methods. *Method:* The research consisted of two phases. The first phase was a cross-sectional study, in total, data from 150 respondents were analysed. In the second phase of the research, semi-structured interviews were conducted with the applicants, although due to the low number of interviewees, no qualitative analysis of the interviews was carried out. *Results:* In summary, higher age (45 years and over), lower education level (primary or secondary education) and higher scores on the stress and coping factor of the Gambling Pathways Questionnaire predict higher levels of problem gambling. Gambling use due to coping motivation predicts higher levels of perceived stigma. *Conclusion:* More research focusing on female gamblers is needed to identify gender differences in risk factors and to develop targeted, effective prevention and intervention (Palomäki et al., 2022). Furthermore, it would be useful to conduct a qualitative analysis of female gambling in order to gain a broad perspective on the causality between the different factors and on other factors that have not been investigated and that may influence the development of problem gambling in the female population.

Keywords: gambling, female population

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MINI-2B5

Practical approach to gambling disorder for family physicians

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Background: Gambling occupies a major place in the consumption habits of the population. While most people who gamble have low-risk gambling habits and do not suffer any adverse consequences associated with their gambling, others develop a gambling disorder (GD). The aim of this presentation is to introduce a new reference guide entitled “A Practical Approach to Gambling Disorder for Family Physicians”, published in 2023 by the College of Family Physicians of Canada. This open-source document, inspired by the document “A Practical Approach to Substance Use Disorders for Family Physicians”, is intended to help family physicians and health professionals recognize and treat GD, as well as provide quality care and services to people with GD and their loved ones. *Method:* This guide, reviewed by an expert committee, was developed based on a literature review to identify best practices. The guide provides clear, concise, up-to-date information on GD, to guide family doctors and health professionals in their interventions with their patients. *Results:* With the help of this guide, physicians will be able to: 1) Detect gambling disorder with diagnostic criteria; 2) Identify low-risk and high-risk gambling habits; 3) Identify recognized pharmacological and non-pharmacological treatments for GD. *Conclusion:* Family physicians and health professionals are generally unfamiliar with GD, and many report feeling helpless when faced with a patient with GD. The publication of this new guide will help strengthen physicians' ability to recognize and treat gambling-related problems, as well as refer patients more effectively to appropriate resources for support.

Keywords: gambling disorder; guideline; family physicians; health professionals

MINI-2C1

**Development of a social network sites overvaluation scale:
A Delphi Method approach**

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Studies suggest that problematic online behaviours often arise from a maladaptive relationship between individuals and their online activities, where these activities become the priority means of seeking various reinforcers, overvaluing their relative utility (Perales & Muela, 2023).

Expanding upon the findings of a focus group involving adolescents (Ciudad-Fernández et al., 2023) to explore reasons for social networking site (SNS) usage using Perales et al.'s framework (2020), our focus has been on developing a novel scale to detect the difficulties adolescents might face if they were deprived of access to these platforms. To accomplish this, we engaged 14 experts using the Delphi Method in two rounds to create a comprehensive questionnaire. Subsequently, Cognitive Interviews were conducted in two focus groups involving 8 adolescents to identify any comprehension issues.⁸ The result is a 25-item scale assessing the challenges adolescents encounter when they lack access to SNS across several domains, phrased as follows: “If I didn't have access to social networks, I would find it very difficult to...,” and its encompassing social interaction (e.g., talking to my friends), forming new social relationships (e.g., making new friends), seeking social acceptance (e.g., feeling part of my group of friends), staying informed (e.g., knowing what people in my immediate environment are doing), emotional regulation (e.g., reducing stress), entertainment (e.g., occupying myself), and social expression (e.g., expressing my concerns). In essence, this could represent the initial step in quantifying the overvaluation of the relative utility of SNS, thus capturing problematic usage from a different perspective.

Keywords: social networking sites, problematic online behaviors, Delphi Method, adolescents and motives of use

MINI-2C2**Social media's impact on body image and dietary behaviour:
Exploring exercise, dieting, and fitness content**

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This research investigates the dynamics between social media use, specifically content related to exercise, dieting, weight loss, gaining muscles and fitness in general, and body image and dietary behaviour among Czech respondents aged 11 to 35. The data was collected through questionnaires in schools from adolescents and online from adults. The study focuses on measuring the extent to which exposure to social media content related to exercise, dieting, weight loss and gaining muscles correlates with individuals' perceptions of their bodies and their eating habits. With so many adolescents and young adults spending a lot of their time engaging with social media and the internet in general, the potential consequences of consuming this type of content seem important to explore.

Funding: The funding for the present contribution/presentation was provided by the Czech Ministry of Education, Youth and Sports for specific research (The Impact of Internet Content and Personality Traits on Eating Habits and Eating Disorders among Czech Adolescents and Young Adults, IGA_FF_2024_009). The authors declare that they have no conflict of interest.

Keywords: social media, weight loss content, exercise content, body image, dietary behaviour

MINI-2C3**Childhood and Screens Manifesto**

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The objective of this presentation is to present Childhood and Screens Manifesto in a scientific and clinical congress in order to promote awareness about the effect of screens at the level of development in early childhood. The Childhood and Screens Manifesto is addressed to society, entities and administrations and aims to promote research in this field and encourage policies protecting children's rights in relation to screens. It is considered that screens should be at the service of human relations in early childhood and identify in which contexts digital devices and screens are useful and necessary: for example, maintaining contact with relatives, accessing quality cultural and artistic contents and sharing moments of family and social fun. More than 100 Spanish organisations have joined the Manifesto. The international

context of the Congress on Behavioural Addictions (ICBA 2024) will make it possible to present the Manifesto in order to help raise awareness of the need to protect early childhood from an inappropriate use and encourage research in the scientific field.

<https://sites.google.com/view/manifestofanciaipantalles/inici>

https://drive.google.com/file/d/1oX5cDPAVd11QR_1YpgA_d3TRdpjR04T3/view

Keywords: manifesto, prevention, screens, childhood

MINI-2C4

A randomised controlled trial investigating the feasibility of smartphone interventions to decrease problematic use of social networking sites

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Background: With increasing use of social networking sites (SNSs), concerns have been raised regarding problematic social networking site use (PSNSU), including associations with mental health and well-being. The present study examined the impact of smartphone interventions on PSNSU and explored the differences in overtime variations in PSNSU, psychiatric disorder symptoms, loneliness, and general health. *Methods:* A six-week longitudinal randomised controlled trial (RCT) was carried out. A total of 110 participants were randomly assigned to a mindfulness group (MG, n = 34), SNS intervention group (SIG, n = 39), or control group (CG, n = 37). *Results:* The results revealed significant main effects of time for the variables of general health, anxiety, PSNSU, and loneliness across all interventions. Anxiety and PSNSU levels decreased over time. Participants psychiatric wellbeing scores also decreased across time. *Conclusions:* The study demonstrates the feasibility of smartphone interventions to reduce negative health consequences and PSNSU. Smartphone interventions may prove to be effective in clinical settings.

Keywords: smartphone intervention, mindfulness, health, problematic social networking site use, addiction

MINI-2D1**The development of codependency in behavioral addictions scale**MELIKE SIMSEK

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Addiction is a familial disease with biological, psychological, and social dimensions. Co-dependency is defined as a familial systems disease that develops as a reaction against the “shameful” dependent individual in a family. As a result of this reactive environment, emotional changes begin to occur in the family members and this leads to the emergence of pathological roles in the family. One of the most important concepts about family relationships is co-dependency. Co-dependency, in lexical meaning, is a phenomenon that explains a dependent relationship pattern between two people due to one’s characteristics. This pattern is not only unilateral, but also a pattern that both partners experiencing the relationship maintain in pathological terms, voluntarily or involuntarily. Failure to evaluate co-dependency systematically has led to the criticism of the studies executed by researchers on this issue. Despite there are various scales used to evaluate co-dependency, it has been found that there is no scale evaluating the development of co-dependency in behavioral addictions field. Regarding the gap in the field, a scale is developed to assess co-dependency in significant others of the people who have gambling and internet addictions. The objective of this mini talk is discussing the scale that assesses co-dependency among significant others of who have gambling and internet addictions.

Keywords: gambling addiction, internet addiction, co-dependency

MINI-2D2**Genetic underpinnings of comorbidity of attention-deficit and hyperactivity disorder and substance use**LISA HORSTMAN

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This session will present a short introduction of the ICASA foundation and the ongoing study on the genetic underpinnings of comorbidity of attention-deficit and hyperactivity disorder and substance use. Attention Deficit Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder that occurs in almost one in four patients with an addiction. ADHD can increase the risk of substance abuse and reduces the chance of recovery from substance abuse, while Substance Use Disorder (SUD) and ADHD share overlapping neurocognitive characteristics. It is known that hereditary factors play an important role in both ADHD and addiction problems. Recent findings suggest that the same genes contribute to the risk of both ADHD and addiction. To understand ADHD comorbidity in treatment-seeking SUD patients, we studied the genetic basis of the co-occurrence of these two conditions in a cohort of SUD

patients with ADHD comorbidity. The aim of the current study is to test if a predisposition to substance use shares a common background with ADHD. Participants were taken from the International ADHD in Substance Use Disorders Prevalence study (IASP) and two additional SUD patient samples from Spain and France (total N = 1526). We calculated Polygenic risk scores (PRS) for each individual on ADHD, Alcohol use disorder, Cocaine use disorder, Cannabis use disorder, Opioid Use disorder and Polysubstance use with use of pre-existing GWAS datasets summary statistics as base data. General linear models were used to test the association between the calculated Polygenic risk scores and ADHD and SUD related phenotype data to investigate the link between SUD and ADHD and their contribution to the development and progression of these disorders. Preliminary results show a link between the predisposition of ADHD and the use of substances. More studies are needed to understand which genetic processes and variants are responsible for the genetic overlap between ADHD and SUD.

Keywords: SUD, ADHD, genetics

MINI-2D3

Self-compassion intervention for eating disorder prevention in Japan

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Background: "Thin-ideal internalization" is a significant risk factor for eating disorders, and self-compassion emerges as a mitigating factor, offering a caring attitude toward oneself independent of external evaluations. Despite a considerable population of underweight women in Japan, there is limited knowledge about eating disorder prevention. This study explores the impact of a self-compassion intervention on reducing thin-ideal internalization. *Methods:* Twenty-eight women attending college or graduate school in Japan, recruited by snowball sampling, were randomly assigned to an intervention group of 13 (Meanage = 21.15, SD = 1.95) and a waiting group of 15 (Meanage = 21.87, SD = 1.85). Each group was administered a self-compassion writing intervention consisting of three components of self-compassion. Internalization of the thin ideal, body dissatisfaction, drive for thinness, fear of compaction, body appropriation, and self-compassion were used to measure the effectiveness of the intervention. *Results and discussion:* ANOVA and correlation analysis of change were conducted. The self-compassion intervention did not reduce thin-ideal internalization. On the other hand, a decrease in fear of compassion indicated a possible contribution to a decrease in body dissatisfaction ($p < .05$). Resistance to caring for oneself and others may prevent one from viewing one's own body neutrally, thereby contributing to body dissatisfaction. This study suggests that clients who are dissatisfied with their body shape may need an approach that first confronts their resistance to self-compassion with clients and eases their resistance before attempting to increase self-compassion.

Keywords: self-compassion, eating disorder, prevention, fear of compassion, thi-ideal

MINI-2D4**Digital media usage in family systems: A clinical science perspective***DILLON BROWNE, IMOGEN SLOSS, JASMINE ZHANG*

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Over the last half-century, rapid technological innovation has facilitated the seamless integration of digital media into the developmental landscape. Children begin interacting with technology in infancy and reach approximately 8.5 hours per day by adolescence. Policy experts, clinicians, and researchers often lament the ostensibly negative effects of screen use on child and family well-being. Yet, there is inconsistent empirical evidence in this area. While some studies implicate media use as a cause of rising pediatric mental health concerns and worse family functioning, others suggest neutral or beneficial outcomes. Progress in resolving this debate has been stalled by several limitations, including: (1) a relative paucity of longitudinal studies, (2) failure to consider the intersection of digital media with social determinants of health, (3) overlooking the role of shared family contexts in shaping digital media usage and mental health, (4) reductionist attempts to isolate the “influence” of digital media on development, while disregarding principles of complexity in developmental science, and (5) shifting landscape in technology including predatory design features targeted towards children. As scholars continue to debate these nuances, there is also a reality whereby children’s usage of media in relation to mental health persists as a common concern in clinical encounters. Thus, practitioners are navigating terrain where there is limited supporting scholarship from the research community. In this presentation, challenges and controversies in theory, research, and clinical practice will be reviewed, as they pertain to digital media (over)use and family mental health. New lines of research will be reviewed that address the concerns in the field. Additionally, guidelines and suggestions for future research and practice will be presented.

Keywords: media, family, technology, mental health, children

POSTER PRESENTATIONS

P-117

Problematic Generalized Internet Use and Insomnia and Sleep Quality in Portuguese emerging adults

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Introduction: The internet use entails various risks, which has led to a growing discussion about its widespread and problematic use. However, the potential repercussions of this use on individuals' insomnia and sleep quality are still not clear. *Aims:* To explore the relationship between Problematic Generalized Internet Use and Insomnia and Sleep Quality, in a sample of Portuguese emerging adults. *Methods:* 235 subjects with a mean age of 22.4 (SD = 3.318; range 18- 29) fulfilled a sociodemographic and an internet usage patterns questionnaire, the Generalized Problematic Internet Use Scale, and the Basic Insomnia Symptoms and Sleep Quality Scale. *Results:* The highest average score on the Generalized Problematic Internet Use scale was obtained in the Mood Regulation dimension. Additionally, 33% reported having poor to very poor sleep quality. Moreover, problematic use was positively associated with poor perceived sleep quality ($r = .30^{**}$). A significant difference was found in insomnia and sleep quality between those who were online in leisure more than 4-8 hours ($M = 112.23$, $n = 126$), and those who were online less than 2-4 hours. A marginal difference was found between those who were online 1-2 hours before bedtime and those who were online immediately before bedtime. *Discussion:* results demonstrate the need for better regulation of Internet use, to promote and make individuals aware of a better and healthier quality of sleep and general well-being of individuals.

Keywords: problematic internet use, insomnia, sleep quality, emergent adults

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Task-related changes in subjective mental fatigue in Problematic Internet use: a task-based fMRI study

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Introduction: Recent questionnaire-based studies have found that the levels of problematic Internet use (PIU) are associated with perceived chronic mental fatigue. However, there are no findings regarding the relationship between PIU and task-related subjective mental fatigue. Furthermore, the neural mechanisms underlying task-related subjective mental fatigue in PIU are not well understood. As PIU may also be related to task-related perceived fatigue, it may be useful to investigate the phenomena in PIU using functional magnetic resonance imaging (fMRI). *Methods:* The Psychomotor Vigilance Task was used to induce fatigue, functional MRI analysis was used to investigate changes in blood-oxygen-level-dependent (BOLD) signal during the task, while self-reported questionnaires were used to assess PIU, depression, anxiety, and the degree of subjective mental fatigue changes. *Results:* The extent of PIU is associated with the changes in subjective mental fatigue. In addition, task-induced changes in BOLD signal in the left precuneus (PCu) - which is involved in self-referential processes - and in the left medial, middle, and superior frontal gyri - which are involved in executive and inhibitory control functions - were negatively associated with PIU levels. Furthermore, PIU-dependent changes in BOLD signal within the PCu correlated negatively with the changes in subjective mental fatigue. *Discussion:* Our findings highlight the impact of PIU on task-related subjective mental fatigue. We also emphasize that, in addition to the well-known neural alterations, self-referential processes, and task-related subjective mental fatigue may also be associated with PIU.

Keywords: Problematic Internet use, Psychomotor Vigilance Task, subjective fatigue, fMRI

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Longitudinal European study on problematic Internet use: Examining the prevalence among adults

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Problematic internet use (PIU) is an area of growing concern, albeit longitudinal studies remain scarce. The present study aimed to address this gap by conducting a follow-up European study that compared three waves of data over one year. The study sought to observe the natural course and trajectory of PIU in a multi-country sample of adults. A total of 139 participants, with an average age of 26.14 years ($SD = 5.92$), provided data across all waves, with 45.5% of the participants being females. Longitudinal effects were observed in PIU, with statistical differences between at-risk users and healthy users in Waves 1 and 2, and Waves 1 and 3. The analysis of variance demonstrated a longitudinal effect of waves on specific PIU symptoms. PIU was significantly influenced by time and user type, with at-risk users exhibiting higher scores than healthy users, although PIU decreased over time, and contained mild addictive symptoms. This study revealed that PIU prevalence was generally low among the European adult population and tended to naturally decrease over a one-year period, which contrasts with findings in similar longitudinal studies within the adolescent population. The present study provides valuable insight for the development of targeted interventions and further research in PIU in adult populations.

Keywords: Internet addiction, problematic Internet use, longitudinal research, Europe, adults

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Quantitative and qualitative evaluation of the effectiveness of pilot treatment programs for children and adolescent problematic media use in Poland

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In 2021, the Polish Ministry of Health announced a pilot project to design, conduct and evaluate treatment programs for children and adolescents using the Internet (incl. gaming, smartphones, and social media) in a problematic way. Ten different institutions underwent the evaluation process. The evaluation process was conducted in accordance with RE-AIM model, within which the effectiveness was measured qualitatively and quantitatively. There were three quantitative measurements in time (baseline, post-test and follow-up), a quantitative and qualitative analysis of drop-out and a qualitative analysis of effectiveness (IDI with treatment specialists and FGI with parents). The presented results will be limited to two examples of treatment programs.

The results show the effectiveness of the treatment program depends strongly on the comorbid disorders (such as Autism Spectrum). In contrast, qualitative assessment of programs' effectiveness does not – parents of children with or without comorbid disorders assess the program as very effective with respect to improving parental skills.

Keywords: Internet Addiction, treatment

P-326

The relationship of the tendency to internet addiction with character accentuations in adolescents using the example of a Kazakhstan sample

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Modern teenagers spend most of their time online, which can lead to various forms of Internet addiction. Studying the relationship between the propensity for Internet addiction and character accentuations will make it possible to understand which personality types are more susceptible to the development of this type of addiction in the context of Kazakhstani culture. Studying such personality characteristics as accentuations will make it possible to understand what character traits may be associated with a higher tendency to Internet addiction in adolescents. This will help identify risk groups and develop specific prevention and assistance measures. The purpose of the study is to study the relationship between the tendency to Internet addiction and character accentuations in adolescents.

Techniques: Adapted teenage version of the Shmishek questionnaire to determine character accentuations in adolescents. Internet addiction test by Kimberly Young, translated and modified by V.A. Burova. Methodology L.N. Yuryeva, T.Yu. Bolbot for diagnosing computer addiction

As a result of the study, the following connections were identified between character accentuations and a tendency to computer and Internet addiction among adolescents in Kazakhstan: - A positive relationship was found between psychasthenic, schizoid and epileptoid types of character accentuation and a tendency to Internet addiction. Adolescents with a pronounced intolerance to responsibility and demands, adolescents with a greater tendency to fantasize and immerse themselves in the inner world, with strong manifestations of excitability, tension, periods of dysphoria and the search for objects to relieve anger, had an increased risk of developing computer and Internet addiction.

Keywords: Internet addiction, addictive behavior, accentuation

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Screen use among parent and children: Implications for health and quality of life

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Digital device use has increased in homes as a result of the COVID-19 pandemic. **OBJECTIVES** To explore possible effects of parental and child screen use on the neurodevelopment and emotional and physical health of children aged 0-6 years and examine implications for parental quality of life. **STUDY PARTICIPANTS** Parents aged over 18 years with one or more children aged 0-6 years recruited from both the general population (parents of children taken for regular primary health care check-ups) and a clinical population. **INSTRUMENTS** Online questionnaires accessed via an electronic link (WHOQOL-BREF quality of life assessment, Strengths and Difficulties Questionnaire [parent version], Ages & Stages Questionnaire (third edition), and three purpose-designed questionnaires on recreational digital device use, vision disorders, and sleep. Together with the questionnaires, parents will receive a guideline in PDF format containing recommendations on healthy screen time habits for children and adolescents. **METHOD** Prospective multicenter observational longitudinal study. The data will be collected online and automatically stored via the RedCap web application at baseline and 12 months; they will be analyzed in SPSS and STATA. Our findings may help inform interventions designed to prevent problematic screen use and promote healthy habits.

Keywords: prevention, screen use, early childhood, neurodevelopment, quality of life

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Convergent validity of the Spanish instruments for the evaluation of risk of substance and behavioural addictions in adolescents and young adults (IVRA): Preliminary results

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The Spanish instruments for the evaluation of the risk of addiction (IVRA) (Prieto Madrazo et al., 2023) are directed to the assessment of the substance and behavioural addiction risk of adolescents and young people from the perspective of social work. However, research regarding its psychometric properties is still needed. Thus, the aim of the present study is to get knowledge about the convergent validity of the IVRA.

Participants were 130 adolescents and young adults from the Program of Global Attention to Adolescents and Young Adults of the General Subdirectorate of Addictions of Madrid Health. Social workers assessed the risk of substance and behavioural addiction of the participants with the IVRA classification (i.e., low risk, moderate risk, high risk of addiction) (Prieto Madrazo et al., 2023) and adolescents and young adults reported their perception of their addiction problems (i.e., absent, probable, very probable, certain) via the MULTICAGE CAD-4 (Pedrero Pérez et al., 2007).

The results of the contingency tables showed significant relationships in between the IVRA evaluations and the adolescents reported problems of alcohol abuse, drug abuse, internet abuse, gaming abuse and instant messaging abuse, but not with social media abuse or smartphone abuse.

This study indicates that the IVRA showed adequate indicators of convergent validity. The IVRA classification of the risk of substances and behavioural addictions is related to the addiction problems reported by the adolescents and young adults so these instruments might be a helpful tool to evaluate the risk of addiction of this population by social workers.

Keywords: behavioral addiction, questionnaire, social work

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Excessive admiration towards celebrities: Prevalence and mental health correlates of celebrity worship

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Celebrity worship refers to excessive admiration towards a favorite celebrity. Admiration of celebrities has been intensively researched in the past two decades. The Absorption-Addiction Model proposes a hierarchical model of celebrity worship ranging from healthy enthusiasm to excessive levels of admiration towards a favorite celebrity. Research shows that higher levels of celebrity admiration are associated with poorer mental health and behavioral addictions. This study extends previous research by (1) establishing the psychometric appropriateness of a brief measure of celebrity worship, (2) determining a cutoff score to identify “celebrity worshipers” and estimate prevalence rates in a representative sample of Hungarian adults, and (3) investigate the mental health of these individuals. The sample consisted of 2028 Hungarian respondents, of which 769 valid responses were gathered from participants who had a favorite celebrity (51.11% men, Mage = 36.38 years, SD = 13.36). The short, 7-item version of the Celebrity Attitude Scale yielded sound psychometric properties. Based on the recommended cutoff point of 26, the prevalence of high-level celebrity admiration was 4.53% among Hungarian adults aged between 18 and 64 years, and 8.51% among young adults aged between 18 and 34 years. These individuals showed greater levels of problematic Internet use, depression, anxiety, and stress than those with general levels of celebrity admiration. These findings suggest that a small proportion of individuals who greatly admire celebrities are also more prone to mental health difficulties.

Keywords: celebrity worship, mental health problems, prevalence, problematic Internet use

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Changes in Internet use, problematic use, and public attitudes toward them in Hungary during the COVID-19 pandemic: A nationwide representative study

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Background: Previous studies have suggested that stressors due to the COVID-19 pandemic can contribute to increased addictive behaviours. The home confinement resulted in lifestyle changes that appear to have facilitated higher engagement with technologies and increased the screen time of users, raising the risk of psychosocial issues. Maladaptive engagement in online activities can develop into problematic Internet use (PIU) possibly leading to clinical impairment. The present study aims to investigate changes in Internet use in Hungary, comparing cross-sectional data from before and after the outbreak of the pandemic. *Method:* Survey data were used to compare two representative samples from 2019 and 2023, each with a sample size of 2027. Self-report measures were used to assess Internet use habits, online engagement, social media use, and PIU, as well as public knowledge and attitudes related to disordered use. *Results:* An overall increase was found in screen time, social media use and disordered use compared to the older sample. The perceived number of problem users appears to have risen as well in the participants' environment. Changes in views and attitudes indicate that PIU is recognized more as a serious mental health issue, although knowledge is still lacking. *Conclusion:* These findings suggest PIU to be a growing issue, however, the results still indicate a lack of public knowledge in certain areas. By highlighting these, we can contribute to the development of educational programs.

Keywords: Problematic Internet Use, nationwide representative survey, covid-19, internet attitudes

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Video game disorder, gaming patterns, and impulsivity in a sample of Portuguese young adults

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International studies on the relationship between videogame disorder and impulsivity focus on a neurocognitive perspective, highlighting decreased brain activity in regions related to inhibitory control caused by video game disorder, leading to difficulties in decision-making and impulse inhibition. The relevance of this study is primarily based on the lack of international research on this relationship, the very small number of studies in the Portuguese context addressing gaming disorder, and the absence of studies in Portugal that relate these two variables. *Aim:* to explore the relationship between video game disorder, gaming patterns, and impulsivity in a sample of Portuguese young adults. *Method:* 163 subjects, aged between 18 and 25 years, who play video games, fulfilled a sociodemographic questionnaire on gaming patterns, the Short Internet Gaming Disorder Scale, and the Barratt Impulsiveness Scale. *Results:* Only 1.2% had a high risk of excessive and harmful gaming. Videogame disorder is positively correlated with impulsivity, which is more common in males, and that earlier that someone starts to game the higher the possibility of higher levels of video game disorder. Younger adults have higher levels of videogame disorder, and the preferred gaming platform is the computer, which is also associated with higher levels of gaming disorder. The amount of money spent on in-game purchases contributes to video game disorder and is influenced by impulsivity. *Discussion:* This study lays the groundwork for future research and highlights the need for prevention actions among younger populations.

Keywords: video game, gaming patterns, impulsivity, young adults

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Cross-national study of post Covid gaming disorder and psycho-emotional well-being among Israeli and Japanese young adults

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Background: COVID-19 pandemic resulted in an increase of gaming activity as a leisure-time activity and coping strategy. Gaming had a positive effect on well-being during lockdowns as a means of escapism. However, there is a dearth of information on gaming behavior during COVID-19 and its association with psycho-emotional behavior. The purpose of this cross-national study was to examine gaming behavior among university students and its association with loneliness, substance use and eating behavior. *Methods:* Data were collected from a prospective sample of Israeli (n=716) and Japanese (n=602) university students, 69% male and 31% female, from October 2022 to March 2023. The present study used valid and reliable survey instruments in English, Hebrew and Japanese languages. *Results:* Israeli students reported more gaming hours and evidenced a higher level of gaming disorder (GD). The two-way ANOVA showed a significant difference in GD scores by country and gender statuses. Japanese students reported a higher level of loneliness, and GD was found significantly associated with that factor. Overall, GD was found associated with loneliness, hours a week spent gaming, gender, well-being deterioration, weight change, religiosity, and last month substance use. Additional independent variables such as country and age did not significantly increase the proportion of explained variance. *Conclusions:* Regardless of country, Israel or Japan, current study findings evidence gaming disorder associated with mental health behaviors of concern for university students and young adults. Further research is needed to determine the long-term consequences of disaster conditions and gaming disorder across locations and over time.

Keywords: gaming disorders, cross-national differences

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Social connectedness as a moderator of the relationship between social anxiety and internet gaming disorder symptoms

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Symptoms of social anxiety disorder (SAD) are positively associated with symptoms of internet gaming disorder (IGD). However, little is known about the variables that may strengthen or weaken this relationship. Low social connectedness refers to a general sense of emotional distance between the self and others (Lee & Robbins, 1995) and has been linked to greater SAD and IGD symptoms. Individuals who endorse both elevated SAD symptoms and lower social connectedness may be more inclined to engage in problematic gaming, potentially to cope with social anxiety or participate in “safer” social interactions than those that are face-to-face (Gioia et al., 2022). The present study tested whether social connectedness moderates the relationship between SAD and IGD symptoms. N=1097 adult video gamers residing in Canada, Australia, the United States, and the United Kingdom completed online self-report measures of SAD symptoms, social connectedness, and IGD symptoms. Moderation analysis (PROCESS Model 1; Hayes, 2013) revealed that SAD symptoms and social connectedness were each positively associated with IGD symptoms. Social connectedness significantly moderated the association between SAD and IGD symptoms such that the relationship was unexpectedly stronger at both low and high levels of social connectedness, with the strongest effect at high levels. Findings suggest that greater social connectedness may not protect against IGD among those who endorse greater SAD symptoms. Instead, such individuals may develop a sense of social connectedness with other players in online gaming communities at the expense of real-world social connections, which may encourage greater immersion in problematic levels of gaming.

Keywords: Internet gaming disorder, social anxiety, social connectedness

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Effectiveness of a module-based cognitive behavioral and family therapy for Gaming disorder: Protocol for a one-group pretest -posttest mixed-methods design.

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Background: Playing video games is a common leisure activity among both children and adults today, for a small group the gaming develops to a problem for which they will need treatment. The research about psychological treatment for Gaming disorder (GD) is still tentative and more research is needed. A manual for new a psychological treatment for GD has been developed, it is module-based and consists of standard interventions from cognitive behavioral therapy (CBT) and family therapy (FT). *Methods:* The aim of the study is to test the effectiveness and acceptability of this new treatment in a single group naturalistic study, with patients recruited from an outpatient clinic focused on GD for children and adults in Sweden. The primary outcome measures and symptoms of GD, psychological distress and time spent gaming, before and after treatment as well as in three months follow up. The study is supplemented with a qualitative component with interviews regarding the patients and their relatives view on GD, the treatment itself and its acceptability. *Results:* The study started in December 2022 and is planned to end in August 2024. *Conclusions:* This study will be the first to evaluate a psychological treatment that is a combination of interventions from both CBT and FT in Sweden. The study will have a high external validity as it is done in a naturalistic way, which will ensure that the results are relevant for clinicians.

Keywords: Gaming disorder, Psychological Treatment, Cognitive behavior therapy, Family therapy

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Digital Media Use Disorders among children and adolescents in Germany in the post-pandemic phase

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Background: Pandemic-related restrictions and associated stress have significantly increased the risk for problematic usage of digital media, particularly among adolescents. The current study represents the sixth wave of a longitudinal study exploring the prevalence of digital media use disorders among young people in Germany before, during and after the pandemic. The sixth wave focuses on the post-pandemic phase and explores individual and family-related risk and resilience factors. *Methods:* A representative sample of 1083 German children and adolescents aged 10-17 and one respective parent participated in an online survey. To estimate the prevalence of Gaming and Social Media Use Disorder, standardized scales assessing ICD-11 criteria were employed. Logistic regressions were calculated to test associations of problematic media use with sociodemographic, psychosocial, family- and parenting-related variables. *Results:* For the first time since the onset of the pandemic, the prevalence of Gaming Disorder significantly decreased post-pandemic. A non-significant decrease was also observed for pathological use of social media, however, on a descriptive level, hazardous usage patterns slightly increased. Prevalence estimates remain significantly above pre-pandemic estimates. Poor emotion regulation and low digital parental self-efficacy were the strongest predictors for problematic usage patterns. *Conclusion:* Despite the overall decline in digital media use disorders, prevalence rates remain well above pre-pandemic levels and a substantial proportion of young people continues to be at risk for addiction. Identifying early signs of problematic digital media use is crucial to prevent progression to addiction. Improving adolescents' emotion regulation skills and strengthening digital parental self-efficacy are key targets for preventive interventions.

Keywords: Gaming Disorder, Social Media Addiction, adolescents, COVID-19

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Associations between loot box purchasing and co-occurring addictions

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Background: Loot boxes in video games are items that yield random digital rewards, obtainable through gameplay or purchase using real money or in-game currency. Loot boxes have attracted the attention of policymakers and researchers due to their resemblance to gambling. Various studies have found that loot box purchasing is associated with gambling problems. Given addictive behaviors have overlapping risk factors and are the most common co-occurring disorder with gambling, loot boxes may also be correlated with other addictions. The aim of the present study was to examine whether loot box purchasing was associated with other types of addictive behaviors. *Methods:* Adults (N = 1,099) residing in the UK, US, Canada, and Australia who had played videogames in the past 12 months completed self-report measures of demographics, loot box purchasing habits, and severity of various addictions (e.g., alcohol, cannabis, tobacco, nicotine, gambling, shopping, sexual activity, overeating). *Results:* A total of 662 (60.2%) individuals reported purchasing loot boxes within the past 12 months. Compared to individuals who did not purchase loot boxes, individuals who did purchase loot boxes endorsed a small (0.90-0.28), but significant increase in scores on measures of every type of addiction measured. The effects were small. *Conclusions:* To our knowledge, this is the first study to investigate and find that loot box purchasing was associated with various addictions. This work has implications for future work examining the underlying mechanisms present in loot boxes that may also be associated with addictions in general.

Keywords: loot box, co-occurring, addiction

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**Psychological profiles of video game players:
The contribution of gaming disorder, attachment, mental health,
gender, and age**

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Background: Studies have demonstrated that some video game players are at risk of maladaptive use, experiencing negative consequences and addictive behaviors such as gaming disorder (GD). The self-determination theory and cognitive evaluation theory suggest competence, autonomy, and relatedness are three fundamental needs associated with the motivation for playing video games. Studies have associated some motives for playing video games with GD. This study aims to analyze the covariates of gaming disorder, attachment style, mental health, substance use (alcohol, tobacco, drugs), game genre, gender, and age in relation to four psychological motivational profiles of video game players identified through latent profile analysis (LPA). These four profiles were based on latent variables of game motivation and emotional regulation. *Method:* A sample of 5222 adolescent above 16 years old and adult video game players, predominantly from English-speaking countries, considering all game genres, was surveyed using a questionnaire. Statistical analysis was performed using Mplus R3STEP multinomial logistic regression to analyze the covariates. *Results:* The analysis revealed significant differences that were observed in the prevalence of GD, mental health symptoms, and substance use across the four psychological and motivational profiles, with particular attention to the influence of game genre, gender, and age. *Conclusions:* The covariates analysis from a person-centered and mixture modeling perspective of psychological symptoms related to the profiles, identifies psychological and behavioral use patterns that can be an important component of effective strategies for clinical interventions and tailored prevention of GD.

Keywords: gaming disorder, profiles, latent profile analysis

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Weaving hopes and gaining strength: Working with Internet Gaming Disorder from a narrative therapy perspective

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In recent years, there has been a growing focus on therapeutic interventions for Internet Gaming Disorder (IGD). However, research on treatment is still not sufficient. This case report delves into the prevalent engagement of young people in playing video games, acknowledging their passion and expertise in these games, which can significantly contribute to narrative explorations. The fundamental right of individuals to define their experiences and problems in their own words and terms is emphasized. In this context, this case report briefly summarizes the cases of two male adolescents, aged between 15 and 16, undergoing treatment with a diagnosis of Internet Gaming Disorder (IGD) and having different clinical profiles of IGD. The cases are presented from a narrative therapy perspective. Consequently, both participants exhibited a reduction in the time spent on video games and clinical improvement in IGD symptoms upon the completion of the therapy process. The findings of the study also revealed lower scores on clinical assessments related to comorbid disorders for both participants. Notably, the participants transitioned from a negative consuming position to a positive generative position in their relationship with gaming. In a field with limited research on IGD treatment, this study provides valuable clinical insights into the treatment of IGD in adolescents seeking therapy.

Keywords: gaming disorder, treatment, narrative, ADHD, anxiety

P-373

Longitudinal association between worrisome/ruminative thoughts, escapism motivation, and problematic online gaming is moderated by gender

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Background: Explanatory models suggest that motivations, such as escapism, and difficulties in regulating emotions, such as having a tendency for non-productive thoughts when confronting challenges, could contribute to problematic online gaming. However, there is a scarcity of prospective studies testing these associations. Moreover, we hypothesized that engaging in unproductive contemplation of problems, such as having worrisome or ruminative thoughts, could amplify the impact of escapism motivation. This effect may be particularly pronounced among boys, who appear more susceptible to engaging in gaming in a problematic manner. *Method:* Our study utilized a sample of 1494 schoolchildren who participated in the first two waves of the Budapest Longitudinal Study (BLS). Data collection occurred in consecutive school years, with the participants in the first wave being fifth-grade students. We employed a one-stage random sampling approach, stratified by school type, district, and maintenance provider, with the sampling unit being school classes. Data from 399 students who reported engaging in online gaming in the month preceding data collections, and provided information on non-productive thoughts, problematic gaming and motivations were utilized for further analysis. *Results:* After controlling for the initial level of problematic gaming, a significant three-way interaction emerged ($b = -0.45$, $p = 0.026$). Among boys, high levels of rumination significantly intensified the effect of escapism on problematic gaming at Time 2. Conversely, among girls, the opposite was observed, where low levels of rumination heightened the impact of escapism on problematic gaming. *Conclusions:* Our findings underscore the significance of understanding gender-related risk factors in online gaming.

Keywords: online gaming, rumination, adolescents

P-376

A longitudinal study of Gaming Disorder, depression, and stress in male adolescents

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Depression was found to be reciprocally related to Gaming Disorder, and stress was found to be related to GD, but these findings are still scarce and inconsistent. In this study, data from the three waves of the StressLoad Project – Longitudinal Adolescent Stress Study were used. The aim was to determine whether depressive symptoms and stress were related to GD symptoms and whether experiencing GD symptoms was in turn related to depression and stress among adolescent males. The analyses were conducted on 509 male adolescents from Zagreb, Croatia who played video games during last year, passed the attention check, and had data in at least two of the three waves. Participants were aged between 14 and 19 ($M=15.99$, $SD=0.84$). Gaming Disorder Test (GDT, Pontes et al., 2019), Patient Health Questionnaire – 9 (PHQ-9; Kroenke et al., 2001) and short and modified version of Problem Questionnaire (Seiffge-Krenke, 1995) were used. The model with GD and stress fit the data well ($\chi^2(2)=4.23$, $p=.12$, $CFI=.97$, $TLI=.97$, $RMSEA=.047$, $SRMR=.012$). The only significant cross-lagged association was that GD measured in the first wave predicted stress in the second wave ($\beta=.11$, $p=.02$). The model with GD and depression fit the data well ($\chi^2(2)=1.02$, $p=.60$, $CFI=1$, $TLI=1$, $RMSEA=.00$, $SRMR=.008$). In this model, the only significant cross-lagged relationship was that GD measured in the second wave predicted the depressive symptoms in the third wave ($\beta=.13$, $p=.01$). These results suggest that GD symptoms precede depression and stress.

Keywords: Gaming Disorder, stress, depression, cross-lagged, longitudinal

P-410

Psychometric evaluation and prevalence of internet disorder, gaming disorder, and social media addiction among Czech adolescents: Insights from adapted diagnostic scales

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This contribution will present the psychometric characteristics of the following methods, which have been adapted to the Czech environment: the Internet Disorder Scale-Short Form (IDS9-SF), the Internet Gaming Disorder Scale-Short-Form (IGDS9-SF); the Gaming Disorder Test (GDT); the Questionnaire of Digital Game Playing (QDGP), and the Bergen Social Media Addiction Scale (BSMAS). Data were collected from a representative sample of 717 Czech adolescents aged 11-19. In addition to psychometric characteristics, prevalence rates of Internet, digital game and social media addiction will be presented. The paper will also present an item response frequency analysis for a representative sample of Czech adolescents.

The funding was provided by the Czech Ministry of Education, Youth and Sports for specific research, granted in 2023 to Palacký University Olomouc. Title of the research project: Risky Use of Internet Pornography in Relation to Selected Personality Characteristics (IGA_FF_2023_057). The authors declare that they have no conflict of interest.

Keywords: gaming disorder, internet addiction, social media addiction, adolescents, psychometric evaluation

P-412

Neuropsychological deficits in disordered screen use behaviours: A systematic review and meta-analysis

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In recent decades, concerns have arisen regarding the impact of disordered screen use on cognitive functioning. However, the extent to which disordered screen use behaviors affect neuropsychological functioning has been reported as mixed and, at times, inconsistent. This review aimed to synthesize the literature and estimate the magnitude of overall cognitive impairment across various disordered screen use behaviors. A systematic search of databases identified 43 cross-sectional studies assessing neuropsychological performance in disordered screen use populations, making it one of the largest investigations to date. After a meta-analysis of 34 of these studies, it was found that individuals with disordered screen use exhibited small to medium cognitive deficits ($g = .38$) compared to controls. The most affected cognitive domains were attention and focus ($g = .50$), followed by significant reductions in executive functioning ($g = .31$) compared to controls. Interestingly, whether disordered screen use was related to the Internet or gaming, the format of cognitive testing, and the exclusion of disordered social media use from the analysis did not alter the observed deficits. This study explored methodological considerations that may have contributed to disparate findings and underscored the significant influence that disordered screen use may have on cognitive performance. Importantly, the findings call for further research in this area and provide insights for future studies.

Keywords: Gaming Disorder, Internet Addiction Disorder, Disordered Screen Use, cognitive performance, neuropsychological deficits

P-158

Relationship between treatment with aripiprazole, gambling addiction, and other behaviors related to impulse control disorders.

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Treatment with dopaminergic agonists is associated with a higher risk of Impulse Control Disorder (ICD) or Gambling Disorder (GD) in patients with Parkinson's disease. This association has also been observed in psychiatric patients treated with Aripiprazole; a drug that, at low doses, acts as a dopaminergic agonist stimulating receptors, and at high doses, acts as a dopaminergic antagonist blocking receptors. Some studies highlight an increase of 5.23 points in the risk of GD and 7.71 points in the risk of ICD with Aripiprazole, although most have used small samples, retrospective designs, or orally administered drugs.

The aim of the study is to analyze the effect of three dopaminergic drugs in relation to GD and ICD (including hypersexuality, loss of control in shopping, eating, and toxic substance consumption) in psychiatric patients over 18 years old. Patients initiating intramuscular treatment with Aripiprazole will be compared with those receiving Paliperidone or Risperidone. The study, initiated in October 2023, is in the initial data collection phase, anticipating the start of preliminary data analysis in the coming months.

The research aims to address limitations of previous studies by using an intramuscular approach and comparing various drugs. Delving into the role of dopaminergic drugs and exploring their side effects can contribute to understanding the risks associated with commonly used drugs in psychiatric disorders, thus facilitating early detection and intervention in high-risk patients, with the goal of minimizing potential socio-economic impacts on patients and their families.

Keywords: Gambling Disorder, Impulse Control Disorder, dopaminergic drug

P-166**Assessing the internal structure of the Problem and Pathological Gambling Measure (PPGM)***CONG MOU, RICHARD JAMES*

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The Problem and Pathological Gambling Measure (PPGM) has been increasingly used worldwide and plays an important role in detecting problem and pathological gambling in both general populations and clinical contexts. Despite strong evidence of its external validity, its underlying structure has not been extensively investigated, and the best factor model accounting for its performance remains untested in a population-representative sample. This study investigated the psychometric properties of the PPGM in representative gambling prevalence survey data from Finland (Finnish Gambling Harms Survey) and America (Massachusetts Baseline Population Survey), using a range of psychometric methods (e.g. CFA, MG-CFA, network analysis). The results showed that the hypothesized model in the original validation of the PPGM was a good fit of the data, but equally highlighted the potential for a more parsimonious model. The findings also highlight the extent to which these findings are stable across different cultures and gambling regimes.

Keywords: PPGM; factor model; network analysis; across-culture stability

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Neural basis of decision-making under uncertainty among gambling disorder patients

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Backgrounds: Decision-making under uncertainty is common in our daily lives. Gambling is, in its nature, also a form of decision-making under uncertainty. In decision-making like that, the amygdala and insula are essential structures. However, studies that investigated the amygdala and insular activity during decision-making under uncertainty among GD patients are sparse. *Method:* We adopted a decision-making task with risk and ambiguity conditions during MRI scanning against 25 GD patients and 31 healthy controls (HC). We calculated the risk and ambiguity aversion indices from the choice behaviour during the task. We also analysed brain activity in the insular and amygdala during the task using SPM 12. Finally, we examined the correlation between each index and brain activity. *Result:* There were no between-group differences in each index or brain activity during the task. However, bilateral insular activity in the ambiguity condition positively correlated with the ambiguity aversion index in the HC group. In contrast, bilateral amygdalae activity during the ambiguity condition negatively correlated with the ambiguity aversion index in the GD group. Furthermore, the right amygdalae activity in the ambiguity condition negatively correlated with illness duration in the GD group. *Conclusion:* In decision-making under ambiguity, the behavioural index correlated with different brain regions and in the opposite manner between groups. Our results suggest that the neural basis of ambiguity aversion in GD patients differs from those in HC subjects.

Keywords: decision-making, ambiguity, amygdala, insula, fMRI

P-248

Lived experience of gambling-induced financial struggles and its impact on family dynamics

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Background: While gambling remains a harmless pastime for many, it can create a complex web of emotional and financial turmoil within families for those adversely affected. This study explores the familial dimensions of gambling-induced financial struggles in Finland through qualitative thematic analysis of narratives from a Finnish peer support message board (n=656). *Material & Methods:* Utilizing qualitative thematic analysis, we address a knowledge gap in understanding how financial difficulties intersect with coping mechanisms in individuals with gambling problems and their affected family members. *Results:* The analysis reveals the profound impact of gambling-induced financial struggles on individuals' emotional well-being, relationships, and societal perceptions. Financial challenges, ranging from substantial debts to payday loan cycles, consistently disrupt family life, leading to emotional distress and tangible repercussions such as unpaid bills and damaged credit scores. Elevated mistrust within relationships, fueled by secrecy surrounding gambling activities, and coping mechanisms like constant vigilance contribute to heightened anxiety. Abusive behaviors strain familial bonds, hindering efforts to address gambling-related challenges. *Discussion:* This study advances our understanding of the complex connections between financial adversity, emotional resilience, and family structures. Identified patterns underscore the pervasive influence of gambling-induced financial struggles, urging comprehensive strategies that consider the interplay of emotions, relationships, and societal perceptions in gambling harm.

Keywords: gambling harm, affected family members, financial strain, family dynamics

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Trajectories of problematic gambling: Exploring the role of trait rumination and impulsivity in a two-year prospective analysis

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Background: Our previous findings indicated that in the absence of rumination, impulsivity does not increase the likelihood of problematic gambling behavior, especially among men. This suggests that the interplay of higher rumination and impulsivity may serve as a vulnerability factor for problem gambling for men, providing a potential escape from negative emotions. Our aim was to test the temporal stability of these associations. We expected that the interaction of trait impulsivity and rumination at baseline (T1) would explain problem gambling two years later (T3). *Method:* The present study surveyed a nationally representative sample. In the three waves of data collection, 2874 participants were involved. However, in the current analyses, we have used the data of 233 (128 males; mean age=28.4±4.25) participants who reported gambling in the previous year. Gambling severity was assessed by the Problem Gambling Severity Index; impulsivity was measured by Barratt Impulsiveness Scale, while rumination was assessed by the Ruminative Response Scale. *Results:* Our results showed that the interplay of rumination and impulsivity at baseline significantly explained problematic gambling at T3 ($\beta=.210$; $p=.044$), even after controlling for the effects of several variables. However, the interaction of gender and impulsivity at T1 does not explain problem gambling at T3. *Conclusion:* Our findings potentially indicate that impulsivity could have a long-term negative impact on problem gambling, even in a non-clinical sample, and highlight that a higher level of trait rumination might be an important factor in the relationship between impulsivity and problem gambling, but these association could be independent from gender.

Keywords: problem gambling, impulsivity, rumination

P-402

Impact of the COVID-19 epidemic on gambling behavior and prediction of future gambling

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In recent years, gambling has become increasingly online in Japan, a trend that seems to have been spurred by lifestyle changes influenced by the Covid-19 epidemic. Based on data obtained from patients who visited our clinic for treatment of gambling addiction, we will discuss and present changes in gambling behavior before and after the Covid-19 epidemic. Furthermore, changes in treatment methods to cope better with the rapid shift to online gambling will also be discussed.

Keywords: online gambling, Covid-19

P-408

Gambling problem of a case with a history of cryptocurrency and sports betting: A case study

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The purpose of the case presentation is to address the recovery process of a client with a history of cryptocurrency and sports betting. The 39-year-old male sought assistance due to a gambling problem and associated familial issues. In the case, upon observing that the diagnostic criteria for gambling addiction align with DSM-V criteria, the South Oaks Gambling Screen Test was employed to evaluate the severity of gambling behavior. Sessions were conducted with the client utilizing Cognitive-Behavioral Therapy (CBT) and Motivational Interviewing. The involvement of the family in the process facilitated psychological support throughout the treatment period. Following the eight-month intervention, it was noted that the CBT and Motivational Interviewing-based approach significantly mitigated the client's gambling behavior. Apart from a singular instance (crypto transaction), the client refrained from participating in betting activities. In studies conducted, it is evident that the problem of pathological gambling is at a significant level in Turkey, and similarly, there is a noticeable increase in tendencies towards cryptocurrency. In this context, there is a perceived need for large-scale and long-term research.

P-413

Who pays for the scratch cards? An epidemiological study of the prevalence of pathological gambling among adult scratchcard players in Portugal

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Introduction: Scratchcards, characterized by reward outcomes, frequent events and short payout periods, have been linked to problem-gambling. Literature suggests 0.1-4.5% develop problematic gambling-behavior and 0.02-2% develop gambling-disorder. In Portugal, the popularity of scratchcards has grown significantly, with €1.440million spent in a year (€140 per citizen). *Objectives:* This epidemiological study provides the first extended description of the sociodemographic and clinical characteristics of scratchcard players and provides a better understanding of the addictive potential of scratchcards. *Methods:* We conducted a survey that included questions on sociodemographic information, gambling consumption, and the SouthOaksGamblingScreen (SOGS). A representative sample of the Portuguese population was obtained based on region, age and sex.

Data were described as frequencies and percentages for categorical variables; mean, standard deviation, median, interquartile range, and minimum/maximum for numerical variables, for the total sample and groups within the sample. Differences in data between groups were tested using chi-squared and Kruskal-Wallis tests. *Results:* Out of 2,554 respondents, 33.8% rarely play scratchcards, while approximately 8.7% play regularly. Those more inclined to play tend to have lower incomes, less education, and include pensioners. In clinical terms, 3.09% exhibit at least a moderate risk of developing gambling-problems (SOGS \geq 3). Within this group, 2.11% have a moderate risk, and 0.98% have a probable gambling-disorder (SOGS $>$ 5). Additionally, individuals facing scratchcard gambling-problems reported higher levels of depression, anxiety, and stress compared to those without such issues. *Discussion:* Misperceptions about gambling are common and almost no one seeks help for gambling problems. Regulatory-measures are essential to regulate potential problem behaviors, especially among high-risk individuals.

Keywords: scratchcards, gambling disorder, epidemiological study, addiction, South Oaks Gambling Screen

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Figure-ground of online gambling problem development: Development of online gambling problems from a public health model through network analysis

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The purpose of this study is to explore how online gambling(agents), individual vulnerabilities(host), and environmental factors in the Public Health Model interact and affect the development of online gambling problems using network analysis.

For the analysis, 824 people w(M: 465 (56.4%), F: 359 (43.6%), Age: 16 to 69(M: 38.83)) who responded to both the first and second points (every six months) in the short-longitudinal data of 5,300 online panels and reported at least one point (sometimes) in at least one of the items on the Shortened Problem Gaming Severity Index were selected. Six(2*3) subgroups were formed by dividing the S-PGSI level[1=General, 2-3=Risk, 4 points or more=Problem] at each first and second time points, and the relationship network of gambling type and frequency (ladder, snail, graph, lohai/online sports Toto/internet casino), individual factors (curious, intentional, interest, irrational beliefs about gambling), and environmental factors(game speculative experience, gambling risk environment).

The centrality analysis showed that only the centrality between gambling types, frequencies, irrational beliefs, and gambling problem symptoms increased in the problem group, but the centrality of individual attitudes, curiosity, intentions, and environmental factors decreased. In other words, in the general and risk groups, vulnerable individual and environmental factors come out in the foreground and function as a condition for the occurrence of gambling problems, but when the problem group is reached, the factors retreat to the background, and gambling types, gambling problem symptoms, and irrational beliefs come out in the foreground, indicating the main effects.

Keywords: online gambling, network analysis, public health model, figure-ground

P-167

Willingness to pay for the messenger WhatsApp, taking into account personality and sent/received messages

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The messenger WhatsApp is one of the most popular apps worldwide. Meta (WhatsApp parent company) does not charge a usage fee; instead, it monetizes user data. This "data business model" leads to several problems for the users, like compromised data privacy. Additionally, design elements are strategically deployed to entice users onto the platform or extend their online engagement and collect more data accordingly. Consequently, an increasing number of scientists criticize this business model.

Our work investigates the users' perspective, especially if and how much users are willing to pay for social media products to overcome those drawbacks. For this, 3,374 people participated in an online survey. They were asked whether they were willing to pay money for a messenger / social media service to increase its quality or erase problematic aspects. Variables potentially influencing willingness to pay (i.e., personality, WhatsApp usage statistics) were also studied.

47.3% of participants were not willing to pay, 23.3% were willing to pay for a healthier messenger service, and 29.4% stayed neutral. This work also looked at interindividual differences and identified agreeableness as one variable being associated with a higher willingness to pay. Higher extraversion correlated with increased message activity, although this connection doesn't necessarily translate into a greater inclination to pay.

Our work shows that many users are still unwilling to pay for social media/messengers. This result indicates that the advantages of paying with money instead of with one's data must be better communicated to increase users' willingness to pay.

Keywords: data business model, personality, messenger services

P-176

The relationship between smartphone addiction and symptoms of depression, anxiety, and attention-deficit/hyperactivity in South Korean adolescents

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Background: Excessive smartphone use has been associated with numerous psychiatric disorders. This study aimed to investigate the prevalence of smartphone addiction and its association with depression, anxiety, and Attention-Deficit Hyperactivity Disorder (ADHD) symptoms in a large sample of Korean adolescents. *Methods:* A total of 4512 (2034 males and 2478 females) middle and high school students in South Korea were included in this study. Subjects were asked to complete a self-reported questionnaire, including measures of the Korean Smartphone Addiction Scale (SAS), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Conners-Wells' Adolescent Self-Report Scale (CASS). Smartphone addiction and non-addiction group is classified according to diagnostic criteria of SAS score. The data was analyzed using multivariate logistic regression analyses. *Results:* 338 subjects (7.5%) were categorized to the addiction group. Total SAS score was positively correlated with total CASS score, BDI score, BAI score, female sex, smoking, and alcohol use. Using multivariate logistic regression analyses, the odds ratio of ADHD group compared to the non-ADHD group for smartphone addiction was 6.43, the highest among all variables (95% CI: 4.60-9.00). *Conclusions:* Our findings indicate that ADHD may be a significant risk factor for developing smartphone addiction. Consequently, any individual diagnosed with ADHD should be screened regarding excessive smartphone utilization. The neurobiological substrates subserving smartphone addiction may provide insights on to both shared and discrete mechanisms with other brain-based disorders.

Keywords: smartphone addiction, depression, anxiety, and ADHD

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Association between problematic smartphone use and mental health problems among multicultural adolescents in Korea: A cross-sectional study

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Background: Problematic smartphone use (PSU) is a growing concern with negative effects on multicultural Korean adolescents' social functioning and mental health. *Objectives:* This study aimed to investigate the prevalence of PSU among multicultural adolescents in South Korea and its associated mental health factors. *Methods:* A nationwide cross-sectional survey, the Korea Youth Risk Behavior Web-Based Survey (KYRBWS) was performed in 2020. A self-administered questionnaire comprised the demographic characteristics, PSU, and mental health variables. PSU was evaluated using the Korean-language smartphone overdependence scale. *Results:* In total, the multicultural adolescents were 1,065 (girls, 53.9%) and the prevalence of PSU was 26.2%. Among the multicultural Adolescents with PSU, 91.2% had perceived stress, 70.4% had loneliness, 54.7% had anxiety symptoms, and 16.9% had considered suicide ideation. The multicultural adolescents with PSU had a higher risk of anxiety symptoms (odds ratio [OR], 2.54; 95% confidence interval [CI], 1.28 to 5.04), perceived stress (OR, 2.00; 95% CI, 1.26 to 3.19), loneliness (OR, 1.75; 95% CI, 1.24 to 2.47), and suicidal plan (OR, 2.16; 95% CI, 1.19 to 4.70) than the non-PSU group. *Conclusion:* These findings represented that PSU was associated with higher levels of perceived stress, loneliness, anxiety, and suicidal plans among multicultural Korean adolescents. The current results may help assess and intervene in PSU and mental health problems among multicultural adolescents.

Keywords: problematic smartphone use, multicultural adolescent, mental health, anxiety, suicide

P-130

Social networking sites (SNS) addiction and insomnia symptoms: the role of SNS use patterns

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Insomnia is a frequent problem across the general population with debilitating effects on daytime functioning, physical and mental health. Recent studies provided evidence for links between insomnia and Social Networking Sites (SNS) addiction, but the nature of the association remains unclear. In the current study, we aimed to provide more insight into the association by analyzing the role of daily patterns of SNS use in relation to insomnia symptoms. A sample of 1944 adults from Poland and Germany self-reported their insomnia symptoms, time of daily SNS use and frequency of SNS use before going to sleep, active and passive SNS use, and SNS addiction symptoms. The results indicate that insomnia was positively related to the longer daily duration of SNS use, active SNS use, and SNS addiction. Furthermore, SNS addiction and active SNS use were positively associated with insomnia symptoms above and beyond other patterns of SNS use in both countries. Lastly, the relationship between SNS addiction and insomnia symptoms was stronger in the group of active SNS users in Germany. Our findings show that high intensity of SNS use, especially in the active form, might increase the risk for insomnia.

Keywords: social networking sites; insomnia

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Cross-cultural analysis of concern about appearance on Social Networking Sites: A comparison between Spain and the UK

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Introduction: Previous research has established a positive association between concerns about appearance on Social Networking Sites (SNS) and the risk of eating disorders (ED), which is especially pronounced for women. However, there has been a lack of cross-cultural comparisons regarding this problematic use of SNS. Therefore, the primary objective of this study was to compare the level of concern about appearance on SNS between Spain and the UK, as well as between genders. *Method:* The study utilized two samples: (i) a UK sample of 654 participants and (ii) a Spanish sample of 2,018 participants. In both countries, variables such as time spent on SNS, concern about appearance (measured using CONAPP; González-Nuevo et al., 2021), and body dissatisfaction (measured using BSQ-8; Cooper et al., 1987) were assessed. *Results:* A factorial ANCOVA (controlling for age) showed that appearance concern was higher in the British sample than in the Spanish sample, and consistently higher among women in both countries. *Conclusion:* The findings of this study highlight the importance of researching cross-cultural differences in problematic SNS use, as evidenced by positive associations with concern about appearance on SNS between Spain and the UK. Future research should explore the underlying factors that explain the differences between these two countries in order to improve prevention measures.

Keywords: cross-cultural, Social Networking Sites, body dissatisfaction, concern about appearance

P-315

Social media use in a sample of Portuguese adolescents: Relationship with self-esteem, body image, and symptoms of body dysmorphic disorder

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The widespread use of social networks has become a reality, especially among teenagers, who are using them as entertainment tools, but also as forms of communication and expression. This has been a subject of interest and concern within the scientific community to comprehend this problem and its repercussions, more so when it comes to a young group who, at this stage of their development, are developing their identity, while being exposed to platforms that place great emphasis on status, body image and ideal lifestyle. In this framework, a descriptive correlational study was carried out with 75 adolescents, mostly female, aged between 13 and 17, to explore the relationship between the use of social networks, self-esteem, body image and symptoms of body dysmorphic disorder. For this we applied a sociodemographic questionnaire addressing the use of social networks and the presence of symptoms associated with Body Dysmorphic Disorder, the Rosenberg Self-Esteem Scale, and the Appearance Schema Inventory. The results reveal a statistically significant relationship between the use of social networks and body image ($r = .361$) and symptomatology associated with body dysmorphic disorder ($r_s = .258$), as well as the relationship between the purposes of using social networks and self-esteem ($X^2 = 85.466$). There were significant differences in terms of gender regarding body image ($U = 471.500$; $p = .023$) and body dysmorphic disorder symptoms ($U = 445.500$; $p = .011$), with the average order in the female group being higher. We discuss the implications of these results for intervention with this population.

Keywords: social media, self-esteem, body image, body dysmorphic disorder, adolescents

P-411

Investigating the relationship between wanting and liking associated to Facebook functions and problematic use

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Background and Aims: Facebook (FB) has experienced exponential user growth, reaching approximately 3 billion monthly active users during the final quarter of 2022. Despite warnings about the addictive potential of the platform due to its excessive use, there is limited understanding of the underlying mechanisms that contribute to compulsive and excessive FB usage. The aim of the current study was to investigate problematic FB usage within the Incentive Sensitization Theory of Addiction. *Design:* An online survey was designed deploying various FB notifications of different functions and associated wanting and liking was assessed. Additionally, the survey included the Bergen Social Media Addiction Scale and the Imaginative Wanting and Liking Questionnaire. The final sample consisted of 1436 individuals (1287 women, mean age = 34.5, SD=12.3). *Results:* Wanting-minus-liking showed a positive association with problematic FB use. Importantly, significant differences emerged between wanting and liking associated to the different FB functions, being the highest for 'new message' and for 'likes' and the lowest for 'new posts' and 'new events'. Furthermore, significant differences were noted in the relationship between wanting-minus-liking associated with various FB functions. This relationship was closest for notifications 'general,' 'new message,' 'likes,' and 'new photos,' while it was least pronounced for 'new friends,' 'birthday,' 'new events,' and 'new posts.' *Conclusions:* Excessive FB use show comparable alterations in wanting and liking to that reported in case of problematic substance uses. Moreover, the current approach implies that deconstructing the complex Facebook application into its individual functions could enhance our comprehension of its addictive potential.

Keywords: Incentive Sensitization Theory, problematic Facebook use

P-415

Development of addiction risk prediction monitoring algorithm for digital intervention: A preliminary machine learning study

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As public services' access to face-to-face service-oriented addiction problem evaluation and intervention has been limited since the COVID-19 pandemic, the need for personalized intervention services using smartphone applications and wearable devices is emerging. As a first step, this study conducted a preliminary study to develop predictors and models that can identify high-risk drinking and digital media overdependence problems early through machine learning algorithms.

First, a model was developed by deriving addiction behavior factors through a review of previous studies related to high-risk drinking and overreliance on digital media and collecting expert opinions. Then, data were collected from 220 study participants through real-time biometric information, EMA, and self-report questionnaires for one month. The generalization performance of the model was measured through K-layer cross-validation after learning a classifier applying the XGBoost technique, a boosting-based machine learning algorithm, after pre-processing the data of 157 people (M:80, F:77, age:19~30), except for dropouts and data that could not be analyzed.

As a result of the analysis, the average prediction accuracy showed excellent performance of drinking 94.5% and media 98.0%, and the prediction process of the model and the validity of the predictive variables were verified by applying the XAI (Explicable AI) technique. In addition, among the indicators, 'stress' was found to be the most prominent predictor of high-risk drinking and dependence on digital media. Based on the results of the preliminary study, subsequent studies intend to develop a monitoring algorithm that predicts the risk of addiction by collecting information in the form of ignorance/authors in daily life.

Keywords: alcohol and digital media, machine learning, prediction system

P-192

Exercise intensity and volume are partial mediators in the exercise addiction and passion relationship

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Background: Empirical research has revealed a positive relationship between the risk of exercise addiction and obsessive and harmonious passion. Since there is a positive connection between the risk of exercise addiction and both exercise volume and intensity, we examined the mediatory roles of the latter two in the passion-exercise addiction relationship. *Method:* Participants ($n = 1003$) were regular exercisers from 50 nations and over 100 different sports (M age = 31.65 years, $\pm SD = 14.48$). They completed the Revised Exercise Addiction Inventory and the Passion Scale on the online Qualtric research platform. Further, they reported their exercise intensities (low, medium, high) and volume (total hours per week). *Results:* Data were analyzed using mediation analysis in the JASP statistical software. The direct effects of obsessive passion and harmonious passion on exercise addiction were positive and statistically significant, with unstandardized coefficient $b = .206$, 95% CI [0.174, 0.239], $Z = 12.37$, $p < .001$, and $b = 0.172$, 95% CI [0.132, 0.212], $Z = 8.41$, $p < .001$, respectively. Additionally, the indirect effects of obsessive and harmonious passion through exercise intensity and exercise volume on exercise addiction were minor (i.e., $b < .03$) but statistically significant ($p < .02$). The model explained 37% of the variance in exercise addiction ($r^2 = .37$). *Conclusions:* The results reveal that exercise intensity and volume only partially (and weakly) mediate the relationship between obsessive and harmonious passion and the risk of exercise addiction. Thus, there is a direct positive connection between passion and exercise addiction.

Keywords: exercise dependence; exercise intensity; exercise volume; harmonious passion; obsessive passion

P-297

Exploring exercise addiction in ultra-distance running. Unraveling the personality factors

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Background. Exercise addiction is considered a behavioural pattern characterised by excessive dedication leading to a loss of control over the sporting activity, which in turn is in keeping with the nature and demands of the sport for successful performance. Ultrarunning is characterised by a high volume of hours and kilometres of practice, to the extent that this population is considered to have potentially specific personality profiles. The aim of this study was to examine the relationship of personality traits such as distress tolerance, impulsivity and perfectionism on the risk of exercise addiction. *Methods.* Data were collected in person at the 31st Berlin-Bernau 100 km World Championships. Sociodemographic questions, training habits, the Revised Exercise Addiction Inventory, the Distress Tolerance Scale, the Sport Perfectionism Inventory and the short version of the UPPS-P Impulsive Behaviour Scale were asked. The final sample consisted of 43 participants from 13 countries (females = 16; males = 27; Mage = 41.1). Results. 5 of the 43 are considered to be at risk of exercise addiction, scoring above 29 on the EAI-R. Striving perfection and negative reactions to imperfection were the only two factors that show a significant relationship with the EAI-R. *Conclusion.* It appears that striving for excellence and rigidity may be risk factors in identifying potentially addictive behaviour in ultra-distance runners. Other factors, such as gender or the number of kilometres run, do not seem to contribute to the risk of this type of excessive running behaviour.

Keywords: perfectionism, exercise addiction, impulsivity, ultra-endurance

P-385

Beyond stereotypes: Exploring the nexus of exercise addiction, body image, and eating disorders in homosexual men*DALIT LEV AREY, YULI PELEG*

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This study delves into the intricate interplay among Sexual Orientation (SO), Exercise Addiction (EA), Eating Disorders (ED), and Body Image (BI) within the male population, with a particular emphasis on homosexual individuals. This focus stands out significantly, given the prevalent emphasis in existing literature on females. Sexual Orientation (SO) is defined as an individual's attraction toward the same sex (homosexuals or lesbians), the opposite sex (heterosexuals), or both (bisexuals). The primary objective of this research is to investigate how SO influences the relationships between disrupted BI and psychological disorders, particularly EA and ED, among males.

Previous inquiries into the role of SO in these domains, especially concerning men, have been limited. Some prior studies have hinted at a higher prevalence of ED, distorted BI, and EA in homosexual men compared to their heterosexual counterparts. Nonetheless, the current body of knowledge lacks a comprehensive grasp of the contemporary prevalence of these phenomena. Furthermore, there is a noticeable absence of an integrated theoretical framework that harmonizes these diverse factors within a single study.

The anticipated outcomes of this research endeavor are poised to enhance our understanding of the psychological underpinnings of EA, ED, and distorted BI in the male demographic. These insights hold the potential to inform tailored therapeutic strategies, with a specific focus on male sexual minorities. By delving into these less-explored areas, your study is poised to make substantial contributions to both academic knowledge and practical applications in the realm of mental health.

Keywords: Exercise Addiction, Body Image, Eating Disorders, sexual orientation

P-397

Prefrontal symptoms, psychopathological symptoms, and well-being in buying-shopping and gambling addictions

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Background: Problematic gambling has been consistently linked to psychiatric distress and behavioral symptoms stemming from prefrontal deficits. Similarly, buying-shopping addiction has demonstrated associations with mood disorders, personality traits, anxiety, impulse control disorders, and obsessive-compulsive symptoms. However, limited evidence exists regarding how variables of distress and well-being impact addictions related to the financial investment in gambling or buying-shopping. *Method:* The purpose of this study was to analyze the effects of psychopathological distress, prefrontal symptoms, locus of control, life satisfaction, and positive and negative affect on buying-shopping and gambling addictions. A sample of 103 Spanish university students (Mage = 19.98 years, SD = .15, 84.5% women) was recruited from La Laguna University. Multiple regression models were employed for each addiction. *Results:* Students with buying-shopping addiction exhibited higher executive function impairments related to motivation, increased hostility, and paranoid ideation symptomatology, along with reduced somatic symptomatology. On the other hand, students with gambling addiction displayed issues in social behavior, higher scores on external locus of control, increased positive affect, and lower life satisfaction. *Conclusions:* These findings provide evidence indicating that prefrontal symptomatology significantly impacts young individuals with buying-shopping and gambling addictions. While a distinct profile exists for each addiction, dysfunctional psychological symptomatology was uniquely associated with buying-shopping addiction, while low life satisfaction was more closely linked to gambling addiction. From an applied standpoint, these results underscore the necessity for tailored treatments based on the type of addiction.

Keywords: prefrontal symptoms, psychopathological symptoms, well-being

P-169

Sex differences in problematic pornography use among adolescents: A network analysis

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Background: Pornography use is a common practice in adolescents and has been observed to be more prevalent in boys. There are different consequences associated with pornography use and problematic use that may present differently among boys and girls. *Method:* This study presents a network analysis to understand relationships among different variables associated with pornography use (victimization, sexual double standard, loneliness, family relationships and sexual risk behaviors) and differences between boys and girls in a Spanish sample of N=650 adolescents. *Results:* The results show a higher frequency of problematic use of pornography in boys and more conservative models of sexuality. Girls show higher levels of online victimization and loneliness associated with pornography use. *Conclusion:* Significant differences were observed between boys and girls. Some clinical implications of the study are discussed.

Keywords: pornography, adolescents, victimization, problematic pornography use

P-398

Relationships between personality disorders, prefrontal symptoms, and love and sex addictions

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Background: Love and sex addictions manifest as dysfunctional relationships, exerting pervasive consequences on various aspects of individuals' lives. Recent studies suggest that underlying personal characteristics may contribute to addictive motivations. Moreover, alterations in the prefrontal cortex have been linked to deficits in executive, cognitive, emotional, and behavioral control. However, more research is needed to compare the impact of psychological characteristics on different types of addiction. *Method:* This study aims to investigate the relationships between personality disorders, prefrontal symptoms, life satisfaction, and both love and sex addictions. A total of 103 university students from the Canary Islands participated in this research (Mage =19.98 years, SD = 0.15). *Results:* Multiple regression analyses revealed significant associations. Young individuals with love addiction exhibited impaired executive control, emotional difficulties, higher scores in narcissistic personality disorder, and lower scores in schizoid personality disorder. In contrast, those vulnerable to sex addiction demonstrated more pronounced issues in social behavior and higher scores in antisocial personality disorder. *Conclusions:* These findings provide valuable insights that can guide future research directions and inform decision-making regarding the treatment of these addictive behaviors. Understanding the relationships between personality traits, prefrontal symptoms, and specific addictions contributes to a more comprehensive comprehension of the underlying mechanisms and potential lines of intervention.

Keywords: sex addiction, personality disorders, prefrontal symptoms

P-327

Analysis of value orientations in people with alcohol addiction

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Alcohol addiction is a serious problem that has a negative impact on physical and mental health, as well as on the social and economic spheres of people's lives. Value orientations are fundamental aspects of personality formation and determine our motives, preferences and priorities in behavior. The analysis of value orientations in people with alcohol dependence can help to understand which values and attitudes are associated with the development of this condition and which can contribute to the recovery process and behavior change. The results of research in the field of value orientations in alcohol-dependent people can be used in the development of individual rehabilitation programs, prevention and treatment of this disorder.

The purpose of the study is to identify the main value orientations of people with alcohol dependence.

Techniques:

- Methodology for the Study of Value Orientations by Milton Rokeach
- Portrait value questionnaire by S. Schwartz

The results of the study "Analysis of Value Orientations in People with Alcohol Dependence" using the Methodology for Studying Value Orientations by Milton Rokeach and the Portrait Value Questionnaire by S. Schwartz can provide valuable information. The results of the study allow us to identify differences in value orientations between people with alcohol dependence and the general population. It may be found that people with alcohol dependence have higher values in values related to instant gratification, avoidance of negative emotions, or social acceptance. It will also be possible to observe low values in values associated with a healthy lifestyle, self-development or harmonious relationships.

Keywords: alcohol addiction, value orientations, addictive behavior

P-328

Psychological characteristics of adolescents with self-destructive behavior

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Self-harmful behavior is an addiction. Similarities between self-harmful behavior and addiction are noted in the DSM-5. Psychologists and clinicians note that the highest level of self-harmful behavior is observed at the age of 10-24 years. We selected 37 teenagers out of 81, aged 12-17 years. This group included adolescents with self-destructive behavior who had self-harmed in the last 6 months. Research tests were: “SP-45: Suicidal risk” (P. Yunatskevich), “Social anhedonia scale” (Eckblad M., Chapman L.), “Perceived stress scale-10” (S. Cohen, G. Williamson), “Emotional Dysregulation Questionnaire” (N. Polskaya), “Scale of Causes of Self-Harmful Behavior” (N. Polskaya). We performed Spearman's correlation analysis using SPSS. Positive correlations were found between “SR-45” and “Social Anhedonia”, “Perceived Stress Scale-10”. The higher the indicators of a deficit in the ability to experience pleasure (0.384, $p < 0.05$) and increased experience of subjectively perceived stress (0.536, $p < 0.01$), the higher is adolescents' suicidal risk. Positive correlations were found between “SR-45” and “Emotional Dysregulation Questionnaire” The higher the tendency to engage in “mental chewing” (0.568, $p < 0.01$), avoidance of emotional pain (0.652, $p < 0.01$), difficulty managing and understanding their own feelings and the feelings of others (0.360, $p < 0.05$), the higher is the risk of suicidal behavior. Positive correlations were found between “SR-45” and “Scale of causes of self-harmful behavior” - instrumental (0.594, $p < 0.01$), somatic (0.578, $p < 0.01$) methods of self-harm. The more often adolescents are dominated by the desire to restore intrapersonal control (0.357, $p < 0.05$), relieve tension (0.547, $p < 0.01$), attract attention of others (0.627, $p < 0.01$), the higher is their suicidal risk.

Keywords: addictive behavior, psychological and pedagogical prevention, system of early psychological and pedagogical prevention

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Organization of a system of early psychological and pedagogical prevention of addictive forms of behavior in adolescents

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Currently, due to an overabundance of information, an increase in the number of stressful situations in the context of a globalized society, the mental and physical health of adolescents is deteriorating, who often become prisoners of various kinds of addictions, which is expressed primarily in addictive behavior. In this regard, it is relevant to improve the system of preventive work, which includes a set of measures aimed at identifying and eliminating the causes of addictive behavior in adolescents.

Testing is aimed at identifying latent and pronounced socio-psychological risk factors that determine psychological readiness for addictive behavior in adolescents; and also allows you to predict an increased and insignificant tendency to addictive behavior.

From an analysis of the results of socio-psychological testing in the 2022/2023 academic year, the number of adolescents predicted to be at risk for addictive behavior is 8.2% of the number of adolescents subject to testing and 8.45% of the number of adolescents who took part in testing. Of them:

- the number of adolescents with latent riskogenicity (group of "special attention") – 7.4% of the number of those subject to testing, 7.6% of the number of those who took part in testing;ww
- the number of adolescents with obvious risk potential ("risk group") - 0.72% of the total number of persons subject to testing, 0.74% of the number of those who took part in the SPT.

Thus, we can conclude that the system for early prevention of addictive forms of behavior in adolescents in an educational environment is highly effective.

Keywords: addictive behavior, psychological and pedagogical prevention, system of early psychological and pedagogical prevention

P-340

Differences in psychosocial problems across multiple addiction typologies among young adults in South Korea

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This study aims to categorize the complexity of addiction among young adults in Korea and to explore differences in levels of psychosocial problems.

An online survey involving 521 Korean young adults aged 19-39 was conducted to examine various addictions (alcohol, gambling, gaming, and smartphone dependency) and to categorize complex addiction patterns. Using SPSS and Mplus programs, latent class analysis and analysis of variance were conducted.

A latent class analysis was revealing three latent classes in the study. Class 1 is a group whose level of smartphone overdependence is relatively higher than other addictions, but corresponds to the general user group; class 2 is characterized by high-risk drinking (AUDIT 15+), problematic gambling (CPGI 14+), borderline gaming disorder (I-GUESS average 11), and general smartphone use, which can be seen as a risky group with complex addiction behaviors. Class 3 is characterized by gaming disorder with low levels of other addictions and high level of gaming (I-GUESS average 15+). Second, differences in psychosocial problems between the three classified latent classes were as follows. There were statistically significant differences in the levels of depression (class 2 complex addiction group > class 3 gaming addiction group > class 1 normal user group), self-esteem (class 1 > class 2 > class 3), interpersonal relationships (class 1 > class 3 group > class 2), and social isolation (class 3 > class 2 > class 1).

These findings underscore the necessity for tailored interventions that account for the varied typologies of multiple addictions.

Keywords: multiple addiction typologies; young adults; psychosocial problems; latent class analysis; analysis of variance

P-434

Operant light seeking in mice: A potential model for behavioral addiction

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Digital-technology advancement in our modern society has led to the emergence of new forms of behavioral addiction, including smartphone (over)use and internet use disorders. These conditions have received increasing attention by clinicians and mental health professionals in recent years due to a surge in prevalence of these disorders, especially among adolescents. They share some behavioral characteristics with substance-based addiction, most notably, preoccupation with use, loss of control, and continued use despite negative consequences. Although there is a growing number of studies examining these emerging behavioral disorders from clinical and neuroimaging perspectives, there is no animal model to study the underlying neurobiological mechanisms driving these new maladaptive behaviors. Operant light seeking—in which an animal persistently performs an instrumental response (e.g., lever pressing) to obtain a brief light pulse—may provide an initial model for studying non-substance-based addiction. Among the different sensory modalities, light is particularly relevant to smartphone (over)use and internet use disorders, as (artificial) light inputs are projected from the retina to retinorecipient brain regions involved in reward and affective processing, thereby regulating hedonic behavior. Here I conducted a preliminary investigation examining the rewarding properties of light in an operant conditioning task in mice under food/water ad libitum conditions. This preliminary investigation confirms the incentive salience of white and monochromatic green light in a free-operant paradigm and optimizes the operant light-seeking paradigm in wild-type mice, laying the groundwork for future chemo/optogenetics studies that aim to identify the retinorecipient brain regions driving light-triggered maladaptive behaviors in our modern society.

Keywords: smartphone (over)use disorder, internet use disorder, sensory self-administration, instrumental conditioning, mice, operant light seeking

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