

Adolescent Health and Digital Behaviors

A cross-national symposium presented by the Universities of Padova and Lausanne

Tuesday, June 25, 2024

University of Lausanne, CH-1015 Lausanne, Switzerland
Quartier Mouline, Bâtiment UNIL-Géopolis, Salle GEO-1612

Organizers: Joël Billieux & Loïs Fournier

Digital technologies have become widespread among adolescents and young adults worldwide. While positive outcomes have been reported regarding digital technology use, excessive use can lead to adverse consequences, such as gaming disorder or problematic use of social media, particularly among young people. In this symposium, five speakers from the Universities of Padova and Lausanne will present their research on technology-related behaviors, including gaming and social media use, and discuss their positive and negative consequences on the well-being of adolescents and young adults.

Overview of the program

14h00 – 14h30		Natale Canale, Ph.D. Associate Professor at the University of Padova	<i>Gaming and adolescents' health and well-being</i>
14h30 – 15h00		Camilla Gregorini, Ph.D. Postdoctoral Researcher at the University of Padova	<i>The role of attachment anxiety and intolerance of uncertainty on gaming behaviors: a two-wave study</i>
15h00 – 15h30		Alessio Vieno, Ph.D. Full Professor at the University of Padova	<i>The Health Behavior in School-aged Children (HBSC) survey: a WHO collaborative cross-national study</i>
15h30 – 16h00	<i>Coffee break</i>		
16h00 – 16h30		Alessandro Giardina, M.Sc. Doctoral Researcher at the University of Lausanne	<i>From active escapism to virtual withdrawal: validation of the Compensatory-Dissociative Online Gaming scales (C-DOGs)</i>
16h30 – 17h00		Víctor Ciudad-Fernández, M.Sc. Invited Doctoral Researcher at the University of Lausanne	<i>Is the one-factor model of problematic social media use the best structure? Evidence to support the distinction between core and peripheral criteria</i>

* The symposium will be held on Tuesday, June 25, 2024, at the University of Lausanne (CH-1015 Lausanne, Switzerland), Quartier Mouline, Bâtiment UNIL-Géopolis, Salle GEO-1612 ([Click here for directions](#))

Gaming and adolescents' health and well-being

Natale Canale, Ph.D.

Associate Professor at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy

Playing video games is a common leisure activity for adolescents. However, a minority can develop maladaptive gaming patterns and experience impairments in various health domains. Most research has been conducted using convenience and unrepresentative samples, necessitating further investigation to provide more robust and generalizable evidence. This study examines groups of adolescents in relation to various psychological and physical health outcomes and behaviors. A nationally representative sample of 89,321 adolescents (11-17 years) from the 2022 Italian Health Behavior in School-aged Children (HBSC) study completed a self-reported questionnaire at school. We compared groups of gamers (low-risk, high-risk, and problematic) with non-gamers concerning their (mental) health, nutrition, physical activity, sleep, and social well-being. Logistic regressions were used to analyze the data. Compared to non-gamers (33.7% of the sample), low-risk gamers (51.6%) reported better health-related outcomes (lower risk of depression, lower stress, fewer psychological and somatic symptoms). High-risk (11.6%) and problematic gamers (3.1%) showed significantly higher impairments in all health-related outcomes compared to non-gamers. However, the associations were especially pronounced in the problematic gaming category. Findings are discussed about the clinical and preventive implications.



Natale Canale is Associate Professor in Social Psychology at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy. His main area of research regards the psychological factors (individual, interpersonal, and social) involved in the etiology of addictive behaviors (mostly problematic gambling and problematic gaming) in young people. Other research interests include the effects of digital technologies (e.g., smartphones) on human behavior. He has published over 70 refereed research papers. Since 2013, he has been a member of the research group coordinated by the World Health Organization "Health Behavior in School-aged Children" (HBSC).

The role of attachment anxiety and intolerance of uncertainty on gaming behaviors: a two-wave study

Camilla Gregorini, Ph.D.

Postdoctoral Researcher at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy

Playing video games is common among adolescents, particularly as a compensatory strategy to fulfill attachment needs (e.g., closeness, reassurance, and emotion regulation). However, longitudinal studies are needed to investigate the potential influence of attachment styles and the mediating role of individual dispositions in explaining gaming behaviors. The primary aim of the present two-wave study (W_1 = baseline; W_2 = six months) was to test a model in which attachment anxiety towards parents (W_1) and intolerance of uncertainty (W_1) predicted gaming compensation, gaming frequency, and problematic gaming at W_2 . Secondly, we aimed to investigate the potential effect of intolerance of uncertainty as a mediator in these associations. Gender differences were also explored in these associations. Data were collected via an online questionnaire administered in high and middle schools in Italy. The model was examined via path analysis on the total sample [$N = 570$ adolescent gamers ($M_{age} = 15.60$; $SD_{age} = 1.56$; 68.8% men)], and multi-group analysis was conducted to identify gender differences. Attachment anxiety was positively associated with intolerance of uncertainty, while attachment anxiety toward only the mother directly predicted gaming compensation at W_2 and indirectly via intolerance of uncertainty. Moreover, intolerance of uncertainty positively predicted gaming compensation and problematic gaming at W_2 . Multi-group analyses revealed that attachment anxiety predicted gaming compensation at W_2 only in women. Those findings suggest that attachment anxiety could be a vulnerability factor for the potential use of gaming as a coping strategy that might increase the risk of excessive use of games and problematic gaming, especially in women.



Camilla Gregorini is a Postdoctoral Researcher at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy. She holds a Ph.D. in social, cognitive, and clinical psychology, in which she investigated behavioral and neural processes underlying interpersonal synchrony concerning personality disorders. During her Ph.D., she spent seven months at the Technical University of Denmark, joining SINELAB under the supervision of Associate Professor Ivana Konvalinka. Following her interest in developmental and clinical psychology, she is now involved in exploring the role of individual characteristics (relational and emotional) and parental dimensions on problematic behaviors (primarily gaming) in children and adolescents. She also attends psychoanalytic psychotherapy school, studying early interactions and family relationships.

The Health Behavior in School-aged Children (HBSC) survey: a WHO collaborative cross-national study

Alessio Vieno, Ph.D.

Full Professor at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy

Health Behavior in School-aged Children (HBSC) is a WHO collaborative cross-national study of adolescent health and well-being. Founded in 1982, the survey is undertaken using a self-report questionnaire every four years. HBSC uses findings at national, regional, and international levels to (1) gain new insight into young people's health and well-being, (2) understand the social determinants of health, and (3) inform policy and practice to improve young people's lives. Data are collected in all participating countries and regions through school-based surveys using a standard methodology detailed in the HBSC international study protocol. Each country or region uses cluster sampling to select a proportion of young people aged 11, 13, and 15, ensuring that the sample is representative of all in the age range. Around 1,500 students in each HBSC country or region are selected from each age group. Around 280,000 young people took part in the 2021/2022 survey.



Alessio Vieno is Full Professor in Community Psychology at the Department of Developmental and Social Psychology, University of Padova, Padova, Italy. He received his Ph.D. in Community Psychology from the University of Lecce, Italy. His research interests include alcohol use and abuse and new forms of behavioral addiction among adolescents. Since 2000, he has been a member of the international research group coordinated by the World Health Organization "Health Behavior in School-aged Children (HBSC)", and from 2017-2024, he became PI in Italy.

From active escapism to virtual withdrawal: validation of the Compensatory-Dissociative Online Gaming scales (C-DOGs)

Alessandro Giardina, M.Sc.

Doctoral Researcher at the Institute of Psychology, University of Lausanne, Lausanne, Switzerland

Background: In the Compensatory-Dissociative Online Gaming (C-DOG; Giardina et al., 2024) model, we proposed a continuum from compensatory to dissociative gaming involvement. This continuum represents 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. Here, we developed and tested a multidimensional measure based on this model. **Method:** We capitalized existing items for measuring escapism and dissociation and new items generated from the hypothesized model dimensions. A total of 54 items were administered to 1,176 online gamers playing different game genres, together with measures of problematic gaming, passion for gaming, and other psychological distress indicators. **Results:** Exploratory and confirmatory factor analyses yielded a six-factor, 36-item structure, with multiple hierarchical regression analyses highlighting unique associations with other psychological constructs assessed. **Discussion:** We labeled *Emotional Displacement* the redirection of negative emotion into the game with associated relaxation; *Absorption* as detachment of the player from time and space while gaming; *Active Escapism* as simulative use of the game to compensate for lack of self-confidence in reaching physical life objectives; *Virtual Withdrawal* as maladaptive gaming to balance impaired social functioning, predicted by traumatic experiences and pervasive depression; *Dissociative Regulation* as a dysfunctional level of engagement associated with excessive anxiety; and *Failure Escape* as problematic avoidance via gaming related to fear of future failures. **Conclusions:** The C-DOG scales identify critical psychological processes associated with problematic gaming and relevant research and clinical implications.



Alessandro Giardina is a Doctoral Researcher at the Institute of Psychology, University of Lausanne, Lausanne, Switzerland. He is a Sicilian clinical psychologist specializing in adolescents' and young adults' psychodynamic psychotherapy at the Minotauro Institute of Milan. He is currently undertaking his fourth year as a Ph.D. student in clinical cyberpsychology, working under the supervision of Prof. Joël Billieux at the University of Lausanne. He is mainly interested in the link between gaming disorder and social withdrawal, and in the compensatory and dissociative psychological processes, including escapism, associated with the involvement in online games.

Is the one-factor model of problematic social media use the best structure? Evidence to support the distinction between core and peripheral criteria

Víctor Ciudad-Fernández, M.Sc.

Invited Doctoral Researcher at the Institute of Psychology, University of Lausanne, Lausanne, Switzerland

Problematic social media use (PSMU) has traditionally been assessed using six diagnostic criteria and a single latent factor. However, the literature suggests a more robust two-factor structure (Fournier et al., 2023). We aimed to investigate different latent structures within the most widely used scales for assessing PSMU. Two samples were analyzed: the international HBSC 2017 study, which included 190,335 participants who completed the SMD scale, and a second sample of 2,477 Spanish adolescents who completed the SMD and BSMAS. This second sample was also assessed for anxiety, depression, loneliness, life satisfaction, and self-esteem. The factor model with two correlated factors, a peripheral factor (salience and tolerance) and a core factor (mood modification, withdrawal, conflict, and relapse), consistently showed a better fit than the single-factor model in both samples. Two structural equation models were then fitted to the second sample. The first model included the two subscales of the SMD as independent variables (core and peripheral), and the second included the two subscales of the BSMAS as independent variables (core and peripheral). Dependent variables for both models were anxiety, depression, loneliness, life satisfaction, and self-esteem. The results indicate that the core factor is positively associated with mental distress and negatively associated with positive mental health. Conversely, the peripheral factor shows the opposite relationship. These consistent findings support the theoretical distinction between core and peripheral criteria in the PSMU.



Víctor Ciudad-Fernández is an Invited Doctoral Researcher at the Institute of Psychology, University of Lausanne, Lausanne, Switzerland, and a Doctoral Researcher at the Department of Personality, Assessment and Psychological Treatments, University of Valencia, Valencia, Spain. During his doctoral studies, he had the opportunity to carry out a research stay with Professor José César Perales at the University of Granada. His research interests include statistics and behavioral addictions, with a particular focus on measuring problematic social media use among adolescents and investigating the underlying mechanisms of this phenomenon. His work also includes statistical challenges such as dealing with missing values and addressing estimation issues in factor analysis. Víctor is strongly interested in psychometrics, especially in factor analysis, structural equation modeling, and network analysis.