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Süchtig nach Computerspielen.

Gaming-Störung und exzessives Spiel.

PSYNDEX Datenbankauszug (Stand: Juli 2018).

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https://www.psyndex.de/pub/info/zpid_news_computerspielsucht-2018.pdf

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Internet-Related Disorders: Development of the Short Compulsive Internet Use Scale

Cyberpsychology, Behavior, and Social Networking, 2017, 20 (11), 709-717

<https://doi.org/10.1089/cyber.2017.0260>

The addiction treatment system only reaches a small number of individuals suffering from Internet-related disorders. Therefore, it is important to improve case detection for preventive measures and brief interventions. Existing screening instruments are often time-consuming and rarely validated using clinical criteria. The aim of this study is to develop an optimized short screening for problematic Internet use and Internet addiction (IA). A regression analysis was conducted in random subsamples of a merged sample (N=3,040; N=1,209) to examine the item performance of the Compulsive Internet Use Scale (CIUS). Based on the results, a short version of the CIUS was developed and compared with the original CIUS. A fully structured diagnostic interview, covering the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for the Internet gaming disorder with a broader focus on all Internet activities, was conducted. A five-item version of the short screening performed best across the samples. Comparing the area under the curve (AUC) of the receiver operating characteristic between the Short CIUS and the original test revealed no significant difference (AUC=0.968; 0.977). A cutoff point of 7 turned out to perform best for case detection and yielded a sensitivity of 0.95 and a specificity of 0.87, Cronbach's alpha was 0.77. The analysis showed that the performance of the Short CIUS is just as good in detecting problematical Internet use and IA as the performance of the original CIUS. The Short CIUS provides an economical and valid instrument for the assessment of problematic Internet use and IA.

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Internet gaming disorder, social network disorder and laterality: Handedness relates to pathological use of social networks

Journal of Neural Transmission, 2015, 122 (8), 1187-1196

<https://doi.org/10.1007/s00702-014-1361-5>

The internet age bears new challenges that include health risks. It is agreed that excessive internet use may reach pathological levels. However, the concept of internet addiction lacks specificity and, therefore, warrants studies on its diagnostic and etiologic classification. This study was conducted to characterize the novel DSM-5 criteria for internet gaming disorder and the adapted criteria for the "social network disorder". Based on the established association of handedness and substance use disorders, we also explored whether internet use related to laterality. For this study, 3,287 volunteers participated in the online survey and gave particulars concerning their internet use in general, internet gaming and use of social networks, laterality markers (hand, foot, eye, ear, rotational preference in gymnastics, and head turning asymmetry) and health status. Of the participants, 1.1 % fulfilled the criteria for internet gaming disorder, and 1.8 % fulfilled the criteria for social network disorder. The applied criteria were highly correlated with the time spent on the respective internet activities ($p < 4 \times 10^{-56}$). The analyses of comorbidity and working hours support the thresholds of 5/9 criteria and a parts per thousand yen30 h/week spent on the internet for the classification as pathological ($p < 5 \times 10^{-2}$). Moreover, we found that left-handedness related to more affirmed criteria and longer times spent on social networks (p a parts per thousand currency sign 4×10^{-2}). The provided criteria proved to be user-friendly, comprehensible and well accepted. The results contribute to a better understanding of pathological internet gaming and social network use and provide evidence that biological markers of substance use disorders are involved in internet addiction.

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Personality and video gaming: Comparing regular gamers, non-gamers, and gaming addicts and differentiating between game genres

Computers in Human Behavior, 2016, 55, 406-412

<https://doi.org/10.1016/j.chb.2015.09.041>

Investigated personality differences between gaming addicts, regular gamers, and nongamers, paying particular attention to individual preferences in game genres. 2,891 respondents (aged 13-65 years) completed an online survey comprised of the 15-item short version of the Big Five Inventory (BFI-S) and the Scale for the Assessment of Internet and Computer Game Addiction. Respondents' self-reported favorite video games were categorized as action, role-playing, simulation, or strategy oriented. Interestingly, the results showed that both gaming addicts and nongamers scored high on BFI-S neuroticism, whereas moderate gamers showed low neuroticism. This finding is interpreted as evidence for the harmlessness of video gaming per se. A negative association emerged between both extraversion and conscientiousness on the one hand, and Internet gaming disorder on the other. Certain personality traits correlated with particular game genre preferences; respondent with high extraversion plus low neuroticism, tended to prefer action games. Implications for developing effective intervention approaches are considered.

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Gaming and religion: The impact of spirituality and denomination

Journal of Religion and Health, 2016, 55 (4), 1464-1471

<https://doi.org/10.1007/s10943-015-0152-0>

A previous investigation from Korea indicated that religion might modulate gaming behavior (Kim and Kim in *J Korean Acad Nurs* 40:378-388, 2010). Our present study aimed to investigate whether a belief in God, practicing religious behavior and religious denomination affected gaming behavior. Data were derived from a Western cohort of young men (Cohort Study on Substance Use Risk Factors, n = 5990). The results showed that a stronger belief in God was associated with lower gaming frequency and smaller game addiction scale scores. In addition, practicing religiosity was related to less frequent online and offline gaming. Finally, Christians gamed less frequently and had lower game addiction scale scores than subjects without religious denomination. In the future, these results could prove useful in developing preventive and therapeutic strategies for the Internet gaming disorder.

Dieter, Julia

Neurobiological correlates of avatar identification processing and emotional inhibitory control in internet gaming disorder

Heidelberg: Universität, Medizinische Fakultät Mannheim, 2017

<https://doi.org/10.11588/heidok.00023130>

Investigated internet gaming disorder (IGD), focusing on the neurobiological correlates of how the addicted gamer relates to both their avatar, their real self, and their ideal self, as well as on emotional inhibitory control abilities in socially anxious contexts. In two studies, Internet gaming addicts were neurobiologically examined by means of functional magnetic resonance imaging (fMRI) with a focus on the left angular gyrus (AG) as well as the dorsal anterior cingulate cortex (dACC) while completing specific tasks, and compared to nonaddicted controls as well as social-media addicts. Study 1 assessed

participants' concepts of self, ideal, and avatar with a reflection task asking for the evaluation of characteristics regarding the self, ideal and game avatar, comparing addicted and nonaddicted players of massively multiplayer online role-playing games (MMORPGs). Study 2 assessed (social) anxiety-related inhibitory control in specific internet addiction (addicted use of games and social networks) and its relation to altered dACC activation. Emotional inhibitory control in a socially anxious context was neurobiologically explored by means of an emotional Stroop task (EST) with socially anxious words. Furthermore, emotional inhibitory control when faced with anxious stimuli was examined neuropsychologically by means of an affective go/no-go task (AGN). - Contents: (1) Dieter, J., Hill, H., Sell, M., Reinhard, I., Vollstädt-Klein, S., Kiefer, F., Mann, K. & Leménager, T. (2015). Avatar's neurobiological traces in the self-concept of massively multiplayer online role-playing game (MMORPG) addicts. *Behavioral Neuroscience*, 129, 8-17. <http://dx.doi.org/10.1037/bne0000025> (2) Dieter, J., Hoffmann, S., Mier, D., Reinhard, I., Beutel, M., Vollstädt-Klein, S., Kiefer, F., Mann, K. & Leménager, T. (2017). The role of emotional inhibitory control in specific internet addiction - An fMRI study. *Behavioural Brain Research*, 324, 1-14. <http://dx.doi.org/10.1016/j.bbr.2017.01.046>

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Free-to-play: About addicted whales, at risk dolphins and healthy minnows. Monetization design and Internet gaming disorder

Addictive Behaviors, 2017, 64, 328-333

<https://doi.org/10.1016/j.addbeh.2016.03.008>

Investigated Internet gaming disorder (IGD), psychosocial problems, perceived stress, and coping strategies among German children and adolescents using free-to-play Internet video games, for which they sometimes spend money on to play. The average revenue per paying child/adolescent user (ARPU) was therefore also explored. A representative sample of 3,967 children (aged 12-18 years) was administered the Assessment for Internet and Computer Game Addiction (AICG-S), the Strengths and Difficulties Questionnaire (SDQ), the Perceived Stress Scale (PSS), and the Brief Coping Orientations to Problems Experienced Scale (BriefCOPE). Students were categorized into nonproblematic, risky, and addicted users (IGD) based on AICG-S scores, and an industry classification (freeloaders, minnows, dolphins, and whales) was used to describe relations to ARPU. IGD was detected in 5% of gamers, and this subgroup displayed higher psychosocial symptoms, reported more perceived stress, and employed more dysfunctional coping strategies compared to nonproblematic users. IGD subjects also showed higher ARPU. Public health implications are considered.

Duven, Eva C. P.; Müller, Kai W.; Beutel, Manfred E.; Wölfling, Klaus

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Altered reward processing in pathological computer gamers - ERP-results from a semi-natural gaming-design

Brain and Behavior, 2015, 5 (1), 13-23

<https://doi.org/10.1002/brb3.293>

Investigated whether an enhanced motivational attention or tolerance effects are present in patients with Internet gaming disorder. A clinical sample from the Outpatient Clinic for Behavioral Addictions in Mainz, Germany was recruited, fulfilling the diagnostic criteria for Internet gaming disorder. In a seminatural EEG design, participants played a computer game during the recording of event-related potentials to assess reward processing. The results indicated an attenuated P300 for patients with

Internet gaming disorder in response to rewards in comparison to healthy controls, while the latency of N100 was prolonged and the amplitude of N100 was increased. It is concluded that the findings support the hypothesis that tolerance effects are present in patients with Internet gaming disorder, when actively playing computer games. In addition, the initial orienting toward the gaming reward is suggested to consume more capacity for patients with Internet gaming disorder, which has been similarly reported by other studies with other methodological background and for substance-related addictions.

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Neurobiological correlates of Internet gaming disorder: Similarities to pathological gambling

Addictive Behaviors, 2017, 64, 349-356

<https://doi.org/10.1016/j.addbeh.2015.11.004>

Presents a comprehensive review of cognitive and neurobiological studies investigating Internet gaming disorder (IGD), which has been designated by the 5th Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as a relevant condition for further study. A systematic electronic search of PubMed thru July 2015 yielded 13 studies of interest; 5 focusing on impulsivity among gamers, 3 investigating compulsivity, and 5 examining sensitivity to reward and punishment. The body of empirical work on IGD is compared to research on pathological gambling (PG), which currently represents the only behavioral addiction acknowledged in DSM-5. Comparable alterations in brain function and behavior have been observed between PG and IGD, including reduced loss sensitivity, enhanced reactivity to disease-specific cues, heightened impulsive choice behavior, abnormal reward-based learning, and stagnant cognitive flexibility. It is concluded that the formal inclusion of IGD into diagnostic systems as an addiction disorder will require more empirical research that elucidates its pathogenesis and maintenance.

Hornung, Antje

Pathologische Internet- und Computerspielnutzung

In: Lukesch, Helmut (Ed.), Auffälligkeiten im Erleben und Verhalten von Kindern und Jugendlichen. Handlungsmöglichkeiten für Lehrkräfte (S. 335-361). Göttingen: Hogrefe, 2016

Nach einem einleitenden Fallbeispiel aus der Schulpraxis wird im Überblick informiert über pathologische Internet- und Computerspielnutzung bei Schülerinnen und Schülern. Folgende Punkte werden besprochen: (1) Historische Entstehung des Phänomens "Internetabhängigkeit". (2) Begriffsklärung. (3) Beschreibung des Störungsbildes (Symptome, Klassifikation und Forschungskriterien zu "Internet Gaming Disorder" nach DSM-5). (4) Verbreitung. (5) Begleiterscheinungen (Folgen des pathologischen Internetgebrauchs, Komorbidität mit anderen psychischen Störungen, neuropsychologische Befunde). (6) Entstehung (integratives Modell zur Computerspielsucht von Wölfling und Müller). (7) Diagnostik. (8) Intervention, Beratung und Förderung (Eltern, Schule, Therapie).

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Attentional bias in excessive Internet gamers: Experimental investigations using an addiction Stroop and a visual probe

Journal of Behavioral Addictions, 2016, 5 (1), 32-40

<https://doi.org/10.1556/2006.5.2016.012>

Investigated whether excessive Internet gamers show an attentional bias towards computer stimuli. This study sought to determine whether Internet gaming disorder, which has been included in the DSM-5, shares features (e.g. conditioning and attentional processes) with other substance use and gambling disorders. Reaction times to massively multiplayer online role-playing game (MMORPG) stimuli and towards computer stimuli in general were measured in 51 college students (mean age 23 years). Participants performed an addiction Stroop and visual probe tasks with computer-related and neutral words/pictures. Measures included the Ishihara Test and the Compulsive Internet Use Scale for WoW (CIUS-WoW). Results showed that the addition Stroop, but not the visual probe provided evidence of an attentional bias in excessive Internet gamers. Further studies using direct measures of attentional bias (e.g., eye tracking) and more challenging tasks are suggested.

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Validation of the Internet Gaming Disorder Questionnaire in a sample of adult German-speaking Internet gamers

Cyberpsychology, Behavior, and Social Networking, 2016, 19 (7), 453-459

<https://doi.org/10.1089/cyber.2016.0168>

With the inclusion of Internet Gaming Disorder (IGD) in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders comes the need for a reliable and valid questionnaire to assess the diagnosis. The Internet Gaming Disorder Questionnaire (IGDQ) is a short tool that measures IGD. The present study aimed at investigating its psychometric properties in a sample of German gamers. Eight hundred ninety-four Internet game players (mean age: 26.5 ± 8.5 years, range: 18-75 years, 87.36% male) completed an online version of the IGDQ and the Compulsive Internet Use Scale (CIUS) and provided information on their Internet and gaming use. Item and reliability analyses were computed. To investigate the component structure, the sample was randomly divided into two subsamples. A maximum likelihood factor analysis was conducted for one subsample and a confirmatory factor analysis (CFA) for the other subsample. The IGDQ had a Cronbach's alpha of 0.70. The IGDQ score correlated with the CIUS score ($r = 0.59$) and the time spent playing ($r = 0.24$). The maximum likelihood factor analysis extracted one component, explaining 30.26% of the variance, which was confirmed by the CFA. The correlation of the IGDQ score with the CIUS score is a first indicator that the IGDQ allows for valid interpretations. In all, 7.94% of the gamers met the criteria for IGD.

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Using two web-based addiction Stroops to measure the attentional bias in adults with Internet gaming disorder

Journal of Behavioral Addictions, 2016, 5 (4), 666-673

<https://doi.org/10.1556/2006.5.2016.075>

Investigated whether adults with internet gaming disorder (IGD) show an attentional bias using an addiction Stroop. People with substance abuse and pathological gamblers show such a bias, and it has been found in IGD in a laboratory setting. To test the effect in nonlaboratory settings, two Web-based experiments were conducted. Participants completed the Ishihara Farbtafeln (Ishihara's Tests for Color-Deficiency, ITCD) to exclude those with color blindness. Internet and gaming usage was assessed with German versions of the Compulsive Internet Use Scale (CIUS, Study 1) or the Internet Gaming Disorder Questionnaire (IGDQ, Study 2). For Study 1, 27 gamers with IGD, 27 casual gamers, and 27 nongamers (total N=81, mean age 28 years) completed a Web-based addiction Stroop test with a fully randomized word order. They saw computer-related and neutral words in four colors, and indicated the word color via keypress. For Study 2, 29 gamers with IGD, 29 casual gamers, and 29 nongamers (total N = 87, mean age 23 years) completed a Web-based addiction Stroop and a classical Stroop (incongruent color and neutral words) with a block design. It was expected that only the gamers with IGD would react more slowly to computer-related words in the addiction Stroop. All groups were expected to react more slowly to incongruent color words in the classical Stroop. Results show that gamers with IGD did not differ in reaction times to computer-related words compared with neutral words. In Study 2, all groups reacted more slowly to incongruent color words than to neutral words, which is thought to confirm the validity of the assessment. It is concluded that gamers with IGD did not show a significant attentional bias. IGD may either differ from substance abuse and pathological gambling in this respect; or experimenting on the Internet may have introduced error variance.

Jeromin, Franziska

Aufmerksamkeitsbias bei Personen mit einer Störung durch Spielen von Internetspielen

Marburg: Universität, Fachbereich Psychologie, 2017

<https://doi.org/10.17192/z2017.0468>

Die diagnostischen Kriterien für die Störung durch Spielen von Internetspielen (SSIS) basieren auf denen für die Störung durch Glücksspielen und Störungen durch Substanzkonsum. Es stellt sich die Frage, ob den Störungen auch vergleichbare aufrechterhaltende Mechanismen zugrunde liegen, beispielsweise ein Aufmerksamkeitsbias. Ein Aufmerksamkeitsbias manifestiert sich in einer verstärkten Aufmerksamkeitslenkung auf suchtbezogene Stimuli und ist ein robuster Befund bei Personen mit Abhängigkeiten und exzessiven Glücksspielern. In den Beiträgen der vorliegenden kumulativen Dissertation wird untersucht, ob Personen mit einer SSIS einen Aufmerksamkeitsbias in Bezug auf computerbezogene Stimuli zeigen: (1) Jeromin, F., Rief, W. & Barke, A. (2016). Validation of the Internet Gaming Disorder Questionnaire in a sample of adult German-speaking Internet gamers. *Cyberpsychology, Behavior, and Social Networking*, 19, 453-459. doi:10.1089/cyber.2016.016. (2) Jeromin, F., Nyenhuis, N. & Barke, A. (2016). Attentional bias in excessive Internet gamers: Experimental investigations using an addiction Stroop and a visual probe. *Journal of Behavioral Addictions*, 5, 32-40. doi:10.1556/2006.5.2016.012. (3) Jeromin, F., Rief, W. & Barke, A. (2016). Using two web-based addiction Stroops to measure the attentional bias in adults with Internet Gaming

Disorder. *Journal of Behavioral Addictions*, 5, 666-673. doi:10.1556/2006.5.2016.075. (4) Jeromin, F., Gorbunova, A. & Barke, A. (2017). Are reaction times collected on the Internet equivalent to those measured in the laboratory? A comparison of a laboratory and three web-based settings using the Stroop task. Manuscript submitted for publication.

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Validation of the Ten-Item Internet Gaming Disorder Test (IGDT-10) and evaluation of the nine DSM-5 Internet gaming disorder criteria

Addictive Behaviors, 2017, 64, 253-260

<https://doi.org/10.1016/j.addbeh.2015.11.005>

Developed and tested the validity of the Ten-Item Internet Gaming Disorder Test (IGDT-10) for the assessment of Internet gaming disorder (IGD) according to the nine operational criteria specified in DSM-5. 4,887 Hungarian gamers (age range 14-64 years; 92.5% male) were recruited through Facebook and a gaming-related Website. Participants were given a shopping voucher (value of approximately 300 Euros) for their online completion of the IGDT-10. Confirmatory factor analysis and structural regression modeling were performed to test IGDT-10 psychometric properties. The IGDT-10 achieved good validity, reliability, and suitability to be used in future research. IRT analysis suggested IGD is manifested through different symptom groups depending on disorder severity. Specifically, continuation, preoccupation, negative consequences, and escape were associated with lower IGD severity, while tolerance, loss of control, giving up other activities, and deception criteria were associated with more severe IGD. Latent class analysis also confirmed DSM-5 proposed cut-off thresholds.

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Addiction and engagement: An explorative study toward classification criteria for Internet gaming disorder

Cyberpsychology, Behavior, and Social Networking, 2015, 18 (6), 343-349

<https://doi.org/10.1089/cyber.2015.0063>

Investigated differences between game engagement and game addiction in a German-speaking sample of expert World of Warcraft players. The DSM-5 introduced Internet gaming disorder (IGD) as a condition needing more research. Proposed criteria include tolerance, preoccupation, deceiving, or continued excess despite psychosocial problems. Using an online-based questionnaire, 682 participants (mean age 23 years) from German-speaking areas were surveyed. An adapted version of the Asheron's Call questionnaire (which covers six addiction criteria, including salience, euphoria, and tolerance), the abbreviated version of the World Health Organization - Quality of Life Inventory (WHOQOL-BREF), the Gaming Motivation Scale (GAMS), the Beck Depression Inventory (BDI-II), the Social Phobia Inventory (SPIN), and a brief version of the personality questionnaire Big-Five Inventory (BFI-10) were used. Results show that the average gamer in the sample played on Level 88 and had been playing for five years. Addicted players had higher scores on the BDI and SPIN and significantly lower scores in all dimensions of quality of life. Addicted gamers played for 39 hours per week (engaged players: 12 hours per week) with significantly higher scores in items tapping achievement and immersion. There were differences regarding the BFI-10 in terms of agreeableness, conscientiousness, and neuroticism. It is concluded that factors such as achievement and immersion set engaged and addicted users apart. Addiction seems to be significantly more connected to other

psychopathologies such as depression and social anxiety. Moreover, findings are argued to suggest that euphoria, tolerance, and cognitive salience should be handled with caution when it comes to a classification of IGD similar to (behavioral) addiction.

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Towards classification criteria for Internet gaming disorder: Debunking differences between addiction and high engagement in a German sample of World of Warcraft players

Computers in Human Behavior, 2015, 45, 345-351

<https://doi.org/10.1016/j.chb.2014.11.098>

Examined the criteria for Internet gaming disorder (IGD) to clarify differences between addiction and high engagement in an online pilot study. 577 high-level players (mean age 24) of the Internet game World of Warcraft (WoW) completed an adapted version of the Asheron's Call Questionnaire, the Internet Addiction Scale (ISS-20), the World Health Organization-Quality of Life Inventory (WHOQOL-BREF), the Immersion Tendency Questionnaire (ITQ), and the Big-Five Inventory (BFI-10). Results showed that only 3% of hardcore gamers were actually addicted to playing. The Addiction Scale (which assesses interpersonal conflicts, withdrawal symptoms, relapse, reinstatement and behavioral salience), and the engagement scale (which assesses euphoria and cognitive salience) revealed differences between highly engaged and addicted players. Criteria such as euphoria, tolerance, and cognitive salience were shown to be of limited use for a classification of IGD as they are expressions of nonproblematic, highly engaged gaming behavior.

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Internet addiction. Neuroscientific approaches and therapeutical interventions

Cham: Springer, 2015

<https://doi.org/10.1007/978-3-319-46276-9>

Presents contributions discussing Internet addiction and recent neuroscientific findings regarding the disorder. - Contents: (1) K. Young: The evolution of Internet addiction disorder. (2) F. Lin and H. Lei: Structural brain imaging and Internet addiction. (3) C.-H. Ko, G.-C. Liu, and J.-Y. Yen: Functional imaging and Internet gaming disorder. (4) H. S. Park and S. E. Kim: Internet addiction and PET. (5) D. H. Han, S. M. Kim, and P. F. Renshaw: Functional brain changes in response to treatment of Internet gaming disorder. (6) C. Montag and M. Reuter: Molecular genetics, personality, and Internet addiction. (7) A. C. W. Huang: Autonomic nervous system and brain circuitry for Internet addiction. (8) C. Montag, E. Duke, and M. Reuter: A short summary of neuroscientific findings on Internet addiction. (9) C. Montag, M. Reuter, and A. Markowitz: The impact of psychoinformatics on Internet addiction. (10) G. Camardese et al.: Pharmacological treatment of Internet addiction. (11) E. Cho: Therapeutic interventions for treatment of adolescent Internet addiction - Experiences from South Korea. (12) W. Dau, J. D. G. Hoffmann and M. Banger: Therapeutic interventions in the treatment of problematic Internet use - Experiences from Germany. (13) Y.-S. Koh: the Korean National Policy for Internet addiction.

Müller, K. W.; Beutel, M. E.; Egloff, B.; Wölfling, K.

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Investigating risk factors for internet gaming disorder: A comparison of patients with addictive gaming, pathological gamblers and healthy controls regarding the big five personality traits

European Addiction Research, 2014, 20 (3), 129-136

<https://doi.org/10.1159/000355832>

Engaging in online games has become increasingly important as a part of leisure activity in adolescents and adults. While the majority of people use these games in a healthy way, epidemiological studies show that some develop excessive use and symptoms that are related to those of substance-related addictions. Despite increasing research concerning the epidemiology of internet gaming disorder (IGD), predisposing factors have been examined to a lesser extent. Knowing about specific risk factors would help clarify the nosological features of IGD and enhance prevention and intervention. This study aimed to evaluate the relationships between personality traits and IGD. A total of 115 patients meeting the criteria for IGD were compared to 167 control subjects displaying either regular or intense use of online games. Additionally, 115 patients meeting diagnostic criteria for pathological gambling were included. IGD was associated with higher neuroticism, decreased conscientiousness and low extraversion. The comparisons to pathological gamblers indicate that low conscientiousness and low extraversion in particular are characteristic of IGD. An integration of personality variables into an etiopathological model describing presumable mechanisms fostering and maintaining addictive online gaming is proposed. This model could be helpful for the theoretical understanding of addictive gaming, public health campaigns and psychoeducation within therapeutic settings. (C) 2013 S. Karger AG, Basel

Müller, K. W.; Janikian, M.; Dreier, M.; Wölfling, K.; Beutel, M. E.; Tzavara, C.; Richardson, C.; Tsitsika, A.

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Regular gaming behavior and internet gaming disorder in European adolescents: Results from a cross-national representative survey of prevalence, predictors, and psychopathological correlates

European Child & Adolescent Psychiatry, 2015, 24 (5), 565-574

<https://doi.org/10.1007/s00787-014-0611-2>

Excessive use of online computer games which leads to functional impairment and distress has recently been included as Internet Gaming Disorder (IGD) in Section III of the DSM-5. Although nosological classification of this phenomenon is still a matter of debate, it is argued that IGD might be described best as a non-substance-related addiction. Epidemiological surveys reveal that it affects up to 3 % of adolescents and seems to be related to heightened psychosocial symptoms. However, there has been no study of prevalence of IGD on a multi-national level relying on a representative sample including standardized psychometric measures. The research project EU NET ADB was conducted to assess prevalence and psychopathological correlates of IGD in seven European countries based on a representative sample of 12,938 adolescents between 14 and 17 years. 1.6 % of the adolescents meet full criteria for IGD, with further 5.1 % being at risk for IGD by fulfilling up to four criteria. The prevalence rates are slightly varying across the participating countries. IGD is closely associated with psychopathological symptoms, especially concerning aggressive and rule-breaking behavior and social problems. This survey demonstrated that IGD is a frequently occurring phenomenon among European adolescents and is related to psychosocial problems. The need for youth-specific prevention and treatment programs becomes evident.

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Kriminologisches Forschungsinstitut Niedersachsen, Hannover

CSAS - Computerspielabhängigkeitsskala

Göttingen: Hogrefe, 2015

Diagnostische Zielsetzung: Mit dem CSAS kann die Computerspielabhängigkeit nach den Diagnosekriterien des DSM-V ermittelt werden. Sie kann bei Schülern des siebten bis zehnten Schuljahres jeglicher Schulform sowie bei Jugendlichen und Erwachsenen im Alter von 16 bis 49 Jahren eingesetzt werden. Die neun Skalen der CSAS bilden die neun Kriterien des DSM-V für die Internet Gaming Disorder ab und sollen bei Diagnoseentscheidungen helfen.

- Aufbau: Es gibt vier Versionen der CSAS: die CSAS-J für Kinder und Jugendliche und die CSAS-E für Erwachsene sind Selbsteinschätzungsverfahren; die CSAS-FE für Eltern und die CSAS-FP für Partner sind Fremdbeurteilungsverfahren. Die Fragebögen erfassen folgende neun Skalen (je 2 Items = 18 Items): (1) Gedankliche Vereinnahmung, (2) Entzugserscheinungen, (3) Toleranzentwicklung, (4) Kontrollverlust, (5) Verhaltensbezogene Einengung, (6) Fortsetzung trotz psychosozialer Probleme, (7) Lügen/Verheimlichen, (8) Dysfunktionale Gefühlsregulation und (9) Gefährdung/Verluste.

- Grundlagen und Konstruktion: Die Testkonstruktion beruht auf der klassischen Testtheorie. Die CSAS wurde entwickelt, um die neun Kriterien der Störung Computerspielabhängigkeit nach DSM-V komplett zu erfassen. Bisherige Instrumente konnten lediglich einige Teilaspekte abdecken. Die erste Vorversion (CSAS-I) wurde in Anlehnung an die Internetsuchtskala (ISS) 2005 konzipiert, bestehend aus den Skalen Kontrollverlust, Negative Konsequenzen und Entzugserscheinungen (11 Items), und in Westdeutschland an einer Stichprobe von $N = 17\,021$ Neuntklässlern aus allen Schulformen durchgeführt. Mit einer internen Konsistenz von $\alpha = .89$ für die Gesamtskala sowie einer guten Trennschärfe ($\text{rit} > .50$) und einem hohen Schwierigkeitsniveau der Items konnte gezeigt werden, dass die CSAS-I das Computerspielverhalten erfasst. Die zweite Vorversion (CSAS-II) wurde durch Itemselektion und durch Hinzunahme zwei weiterer Skalen (Vereinnahmung des Denkens und Einengung des Verhaltens) verbessert, sodass für die nun fünf Skalen ein Itempool aus 14 Items entstand. Bei der Endversion wurden die Kriterien des DSM-V für die Störung Internet Gaming Disorder berücksichtigt. Um die neun Skalen einheitlich aufeinander abzustimmen, wurden für jede Skala je zwei Items ausgewählt.

- Empirische Prüfung und Gütekriterien: Reliabilität: Die interne Konsistenz beträgt $\alpha = .94$, die Retestreliabilität nach vier Wochen $\text{rtt} = .84$.

Validität: Die Items bilden die Diagnosekriterien ab und sind somit augenscheinvalide. Sie sind damit auch inhaltsvalide, weil die Items den DSM-V-Kriterien entsprechend entwickelt wurden. Die faktorielle Validität der Skalen konnte durch eine explorative Faktorenanalyse bestätigt werden. Für die externe Validierung wurden die Maße CSAS-II, die Spielzeit sowie die Selbsteinschätzung der Probanden herangezogen: Die Korrelationen hierfür sind als hoch bis mittelhoch einzustufen (z.B. $r = .95$ für Summenwert von CSAS und CSAS-II, Spearman $\rho = .49$ für CSAS-Score und Selbsteinschätzung). In Bezug auf die konvergente Validität konnten mehrere Symptome bei den als abhängig eingestuften Schülern festgestellt werden, wie z.B. Schlaf- und Schulprobleme, aber auch Persönlichkeitsprobleme (erhöhte Impulsivität und depressive Verstimmung, Suizidgedanken, erhöhte Werte in Aggressivität/Feindseligkeit, Paranoidem Denken und Somatisierung).

Normen: Die Normierung der CSAS-J wurde 2013 an $N = 3\,189$ Schülern ($n = 1\,729$ Jungen, $n = 1\,460$ Mädchen) der siebten bis zehnten Klasse von Real- und Gesamtschulen sowie Gymnasien aus Hannover vorgenommen. Die Normierung der CSAS-E fand im Jahre 2014 in einer landesweiten

Untersuchung des Kriminologischen Forschungsinstituts Niedersachsen an n = 609 Erwachsenen (n = 320 Männer, n = 289 Frauen) statt. Es liegen geschlechts- und jahrgangsspezifische Normwerte (Staninewerte und Prozentrangbänder) für Schüler und entsprechende geschlechts- und altersspezifische Normen für Erwachsene vor.

Rehbein, Florian; Zenses, Eva-Maria; Mößle, Thomas
Kriminologisches Forschungsinstitut Niedersachsen, Hannover

Problematischer Alkohol-, Zigaretten-, Cannabis-, Glücksspiel- und Computerspielkonsum im Jugendalter: Sind Jungen gefährdeter?

In: Mößle, Thomas; Pfeiffer, Christian; Baier, Dirk (Ed.), Die Krise der Jungen. Phänomenbeschreibung und Erklärungsansätze (S. 217-236). Baden-Baden: Nomos, 2014

https://www.nomos-elibrary.de/10.5771/9783845258560_217.pdf

Erkenntnisse zum problematischen Konsum von Alkohol, Zigaretten, Cannabis, Glücksspiel und Computerspielen bei Jugendlichen werden unter der Fragestellung präsentiert, ob Jungen gegenüber Mädchen im besonderen Maße gefährdet sind. Ausgehend von einer Charakterisierung des Jugendalters als Lebensphase besonderer Risikoneigung sowie männlicher Jugendlicher als besondere Risikogruppe für die Ausbildung kritischer Konsummuster wird intensiver auf die Computerspielsucht als neue stoffungebundene Suchterkrankung eingegangen. Nach einem Fallbeispiel wird über die Verbreitung von Computerspielsucht sowie psychische, soziale und psychosomatische Auffälligkeiten computerspielsüchtiger Personen informiert. Im Anschluss werden erste Ergebnisse der Studie "Adolescent Development of Internet Gaming Disorder" (ADIGD) berichtet. Die Daten von 4436 Jugendlichen belegen, dass die Jungen signifikant häufiger als die Mädchen einen problematischen Konsum hinsichtlich Alkohol, Cannabis, Glücksspiel und Computerspielen aufwiesen. Auch im Hinblick auf psychisch abhängiges Verhalten (Glücksspielsucht, Computerspielsucht) waren Jungen weitaus stärker betroffen als Mädchen. Computerspielsüchtige und glücksspielsüchtige Jungen hatten waren durch einige gesundheitliche und funktionelle Beeinträchtigungen charakterisiert. Die Studienergebnisse werden abschließend unter Bezugnahme auf die Ergebnisse einer thematisch ähnlichen Erhebung aus dem Jahr 2007 diskutiert.

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Prevalence of Internet gaming disorder in German adolescents: Diagnostic contribution of the nine DSM-5 criteria in a state-wide representative sample

Addiction, 2015, 110 (5), 842-851

<https://doi.org/10.1111/add.12849>

BACKGROUND AND AIMS: Internet gaming disorder (IGD) is included as a condition for further study in Section 3 of the DSM-5. Nine criteria were proposed with a threshold of five or more criteria recommended for diagnosis. The aims of this study were to assess how the specific criteria contribute to diagnosis and to estimate prevalence rates of IGD based on DSM-5 recommendations. **DESIGN:** Large-scale, state-representative school survey using a standardized questionnaire. **SETTING:** Germany (Lower Saxony). **PARTICIPANTS:** A total of 11,003 ninth-graders aged 13-18 years (mean=14.88, 51.09% male). **MEASUREMENTS:** IGD was assessed with a DSM-5 adapted version of the Video Game Dependency Scale that covered all nine criteria of IGD. **FINDINGS:** In total, 1.16% [95% confidence interval (CI)=0.96, 1.36] of respondents were classified with IGD according to DSM-5 recommendations. IGD students played games for longer periods, skipped school more often, had lower grades in school, reported more sleep problems and more often endorsed feeling 'addicted to gaming' than their non-IGD counterparts. The most frequently reported DSM-5 criteria overall were

'escape adverse moods' (5.30%) and 'preoccupation' (3.91%), but endorsement of these criteria rarely related to IGD diagnosis. Conditional inference trees showed that the criteria 'give up other activities', 'tolerance' and 'withdrawal' were of key importance for identifying IGD as defined by DSM-5.

CONCLUSIONS: Based on a state-wide representative school survey in Germany, endorsement of five or more criteria of DSM-5 internet gaming disorder (IGD) occurred in 1.16% of the students, and these students evidence greater impairment compared with non-IGD students. Symptoms related to 'give up other activities', 'tolerance' and 'withdrawal' are most relevant for IGD diagnosis in this age group.

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Addictive potential of Internet applications and differential correlates of problematic use in internet gamers versus generalized Internet users in a representative sample of adolescents

European Addiction Research, 2017, 23 (3), 148-156

<https://doi.org/10.1159/000475984>

Aims: This paper examines the addictive potential of 8 different Internet applications, distinguishing male and female users. Moreover, differential correlates of problematic use are investigated in Internet gamers (IG) and generalized Internet users (GIU). Method: In a representative sample of 5,667 adolescents aged 12-19 years, use of Internet applications, problematic Internet use, psychopathologic symptoms (emotional problems, hyperactivity/inattention, and psychosomatic complaints), personality (conscientiousness and extraversion), psychosocial correlates (perceived stress and self-efficacy), and coping strategies were assessed. The addictive potential of Internet applications was examined in boys and girls using regression analysis. MANOVAs were conducted to examine differential correlates of problematic Internet use between IG and GIU. Results: Chatting and social networking most strongly predicted problematic Internet use in girls, while gaming was the strongest predictor in boys. Problematic IG exhibited multiple psychosocial problems compared to non-problematic IG. In problematic Internet users, GIU reported even higher psychosocial burden and displayed dysfunctional coping strategies more frequently than gamers. Conclusion: The results extend previous findings on the addictive potential of Internet applications and validate the proposed distinction between specific and generalized problematic Internet use. In addition to Internet gaming disorder, future studies should also focus on other highly addictive Internet applications, that is, chatting or social networking, regarding differential correlates of problematic use. (C) 2017 S. Karger AG, Basel

Thomasius, Rainer; Sack, Peter-Michael; Strittmatter, Esther; Kaess, Michael

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Substanzgebrauchsstörung und nicht-substanzgebundene Süchte im DSM-5

Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie, 2014, 42 (2), 115-120

<https://doi.org/10.1024/1422-4917/a000278>

Informiert wird über die Eingliederung der Suchtstörungen in die fünfte Auflage des Diagnostic and Statistical Manual of Mental Disorders (DSM-5) der American Psychiatric Association. Eine DSM-5-Diagnose wird entlang einer Schweregrads-Dimension "Substanzgebrauchsstörung" (Substance Use Disorder) gestellt, wofür explizit operationalisierte diagnostische Kriterien vorgegeben sind. Als einzige "Verhaltenssucht" wurde die "Glücksspielstörung" (Gambling Disorder) in das DSM-5 aufgenommen, zusätzlich wurden vorläufige Kriterien für eine "Koffeingebrauchsstörung" (Caffeine

Use Disorder) sowie für eine "Internetspielstörung" (Internet Gaming Disorder) definiert und in das Kapitel III (Störungsbilder, die weiterer Forschung bedürfen) integriert. Für die Versorgung suchtgefährdeter und süchtiger Kinder und Jugendlicher in Deutschland hätte eine Übernahme des Kriterienkataloges des DSM-5 weitreichende Folgen. Da die diagnostische Schwelle niedriger ist, würden mehr Patienten einen Behandlungsanspruch erhalten. Verschiedene Forderungen seitens der entwicklungswissenschaftlichen Suchtforschung werden durch das neue Suchtkapitel nicht optimal erfüllt (etwa zu enge Fassung von "Toleranzentwicklung" und "Entzugssymptomen", unpräzise Definition von "Craving", zu niedriger Cut-off-Wert für die Diagnose Substanzgebrauchsstörung). Aus entwicklungspsychopathologischer bzw. kinder- und jugendpsychiatrischer Sicht wird die im DSM-5 erfolgende Berücksichtigung auch moderater Störungsformen jedoch wegen der damit verbundenen Stärkung von Frühinterventionen begrüßt. Es wird davon ausgegangen, dass die neuen Kapitel III-Diagnosen durch die erstmals vereinheitlichte Definition von diagnostischen Kriterien international vergleichbare Forschung stimulieren werden.

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Dysfunctional default mode network and executive control network in people with Internet gaming disorder: Independent component analysis under a probability discounting task

European Psychiatry, 2016, 34, 36-42

<https://doi.org/10.1016/j.eurpsy.2016.01.2424>

Background: The present study identified the neural mechanism of risky decision-making in Internet gaming disorder (IGD) under a probability discounting task. Methods: Independent component analysis was used on the functional magnetic resonance imaging data from 19 IGD subjects (22.2 ± 3.08 years) and 21 healthy controls (HC, 22.8 ± 3.5 years). Results: For the behavioral results, IGD subjects prefer the risky to the fixed options and showed shorter reaction time compared to HC. For the imaging results, the IGD subjects showed higher task-related activity in default mode network (DMN) and less engagement in the executive control network (ECN) than HC when making the risky decisions. Also, we found the activities of DMN correlate negatively with the reaction time and the ECN correlate positively with the probability discounting rates. Conclusions: The results suggest that people with IGD show altered modulation in DMN and deficit in executive control function, which might be the reason for why the IGD subjects continue to play online games despite the potential negative consequences. (C) 2016 Elsevier Masson SAS. All rights reserved.

Wang, Lingxiao; Zhang, Yifen; Zhou, Hongli; Dong, Guangheng; Wu, Lingdan; Lin, Xiao; Du, Xiaoxia

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Altered brain functional networks in people with Internet gaming disorder: Evidence from resting-state fMRI

Psychiatry Research: Neuroimaging, 2016, (254), 156-163

<https://doi.org/10.1016/j.psychresns.2016.07.001>

Investigated the topological properties of brain networks in Internet gaming disorder (IGD). Resting-state fMRI was recorded in 37 subjects with IGD (mean age 22 years) and 35 healthy controls (mean age 22 years). Participants were assessed using Young's Online Internet Addiction Test (IAT) and the DSM-5 criteria of IGD. Results of network analyses revealed that both participants with IGD and healthy controls showed efficient and economic small-world topology as well as high local efficiency and almost equivalent global efficiency in functional networks. Decreased nodal centralities in the prefrontal cortex, left posterior cingulate cortex, right amygdala, and bilateral lingual gyrus were observed in IGD participants. Furthermore, increased functional connectivity in sensory-motor-related

networks were also observed in IGD participants as compared to controls. The results are argued to reflect lack of control and poor emotional management in persons with IGD as well as enhanced coordination among sensory systems.

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Altered brain activities associated with craving and cue reactivity in people with Internet gaming disorder: Evidence from the comparison with recreational Internet game users

Frontiers in Psychology, 2017, 8, No. 1150

<https://doi.org/10.3389/fpsyg.2017.01150>

Investigated the neural substrates of cue reactivity in Internet gaming disorder (IGD) by comparing IGD subjects and recreational Internet game users (RGU) who play online games recreationally but do not develop dependence. Previous studies mostly focused on comparisons with healthy controls, which cannot exclude a potential effect of cue familiarity. For the present study, data from RGU and IGD subjects were collected while they were performing an event-related cue reactivity task (picture classification) in the functional magnetic resonance imaging (fMRI) scanner. Results show that IGD subjects displayed enhanced activation in the left orbitofrontal cortex (OFC) and decreased activation in the right anterior cingulate cortex (ACC), right precuneus, left precentral gyrus and right postcentral gyrus in comparison with the RGU subjects. According to previous research, OFC is involved in reward evaluation and ACC is implicated in executive control function. Moreover, the activation of OFC was correlated with the desire for game-playing. It is argued that the observed higher activation in OFC might suggest high desire for gaming, and the lower activation in ACC might indicate impaired ability in inhibiting the urge for gaming-related stimuli in IGD subjects. Furthermore, it is argued that decreased activation in the precuneus and the precentral and postcentral gyrus may suggest a deficit in disengaging from game stimuli. It is concluded that findings explain why IGD subjects develop a dependence on game-playing while RGU subjects can play online games recreationally and do not transition from voluntary game-playing to IGD.

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Impaired executive control and reward circuit in Internet gaming addicts under a delay discounting task: Independent component analysis

European Archives of Psychiatry and Clinical Neuroscience, 2017, 267 (3), 245-255

<https://doi.org/10.1007/s00406-016-0721-6>

Utilized independent component analysis to explore abnormal functional connectivity (FC) in male participants with internet gaming disorder (IGD). Functional magnetic resonance imaging and behavioral data were collected from 21 healthy controls (HC) and 18 IGD patients while they performed a delay discounting task. Measures included the Internet Addiction Test (IAT) and the MINI International Neuropsychiatric Interview. Behavioral results revealed that the IGD patients showed higher delay discounting rates than HC. Two networks were found to be associated with IGD: (1) the executive control network containing the anterior cingulate cortex and the medial and superior frontal gyrus, and (2) the basal ganglia network containing the lentiform nucleus. Comparing to HC, IGD exhibited stronger FC when selecting small and now options. In addition, the delay discounting rates were positively correlated with the modulation of the two networks and the reaction time. The results suggested that the IGD patients have enhanced sensitivity to reward and decreased ability to control their impulsivity effectively, which leads to myopic decision making.

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Internet gaming disorder in early adolescence: Associations with parental and adolescent mental health

European Psychiatry, 2017, 43, 14-18

<https://doi.org/10.1016/j.eurpsy.2016.12.013>

Background: Internet gaming disorder (IGD) has been included in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Currently, associations between IGD in early adolescence and mental health are largely unexplained. In the present study, the relation of IGD with adolescent and parental mental health was investigated for the first time. Methods: We surveyed 1095 family dyads (an adolescent aged 12-14 years and a related parent) with a standardized questionnaire for IGD as well as for adolescent and parental mental health. We conducted linear (dimensional approach) and logistic (categorical approach) regression analyses. Results: Both with dimensional and categorical approaches, we observed statistically significant associations between IGD and male gender, a higher degree of adolescent antisocial behavior, anger control problems, emotional distress, self-esteem problems, hyperactivity/inattention and parental anxiety (linear regression model: corrected R-2 = 0.41, logistic regression model: Nagelkerke's R-2 = 0.41). Conclusions: IGD appears to be associated with internalizing and externalizing problems in adolescents. Moreover, the findings of the present study provide first evidence that not only adolescent but also parental mental health is relevant to IGD in early adolescence. Adolescent and parental mental health should be considered in prevention and intervention programs for IGD in adolescence. (C) 2017 Elsevier Masson SAS. All rights reserved.

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Prävalenz und psychosoziale Korrelate von Internet Gaming Disorder. Studie auf der Grundlage einer bevölkerungsrepräsentativen Stichprobe von 12- bis 25-Jährigen

Deutsches Ärzteblatt, 2017, 114 (25), 419-424

<https://doi.org/10.3238/arztebl.2017.0419>

Prävalenz und psychosoziale Korrelate der Internet Gaming Disorder (IGD) bei Kindern und Jugendlichen wurden erfasst. Dazu wurde eine für Deutschland repräsentative Stichprobe von 1.531 12- bis 25-Jährigen im September 2016 mit einem standardisierten Instrument ("Internet Gaming Disorder Scale", IGDS) untersucht. Zusätzlich wurden bei den Befragten soziodemografische und psychosoziale Aspekte erhoben. Es wurden Prävalenzschätzungen und binäre logistische Regressionen berechnet (jeweils ohne und mit multiplen Imputationen in der IGDS). Es ergab sich eine Prävalenzschätzung von 5,7 % für IGD in der Altersgruppe der 12- bis 25-Jährigen in Deutschland. In einer Sensitivitätsanalyse unter Berücksichtigung der multiplen Imputationen stieg der Wert auf 7,0 %. Die Prävalenzschätzung für männliche Befragte war mit 8,4 % statistisch signifikant höher als für weibliche (2,9 %). Statistisch signifikante Zusammenhänge zeigten sich zwischen IGD und männlichem Geschlecht, niedrigerem Lebensalter, höherer Depressivität, höherer Ängstlichkeit und häufigerer Vernachlässigung sozialer Kontakte wegen der Computerspielnutzung. Angesichts der ermittelten Prävalenzwerte in dieser Altersgruppe wird die weitere Erforschung von IGD, seiner Korrelate und Ätiologie insbesondere in Längsschnittstudien als erforderlich erachtet. Bei den genannten psychosozialen Auffälligkeiten sollte gezielt nach Computerspielnutzung gefragt werden.

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Associations of social support, friends only known through the Internet, and health-related quality of life with Internet gaming disorder in adolescence

Cyberpsychology, Behavior, and Social Networking, 2017, 20 (7), 436-441

<https://doi.org/10.1089/cyber.2016.0535>

Examined the relationship between social support, friends only known through the Internet, health-related quality of life, and Internet Gaming Disorder (IGD) in adolescence. IGD has been included in the current edition of the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5). For this purpose, 1,095 adolescents (aged 12-14 years) were surveyed with the Internet Gaming Disorder Scale (IGDS), the Oslo Social Support Scale (OSSS), and the Kidscreen-10. The authors conducted unpaired t-tests, a chi-square test, as well as correlation and logistic regression analyses. Results, according to the statistical analyses, showed that adolescents with IGD reported lower self-perceived social support, more friends only known through the Internet, and a lower health-related quality of life compared with the group without IGD. Both in bivariate and multivariate logistic regression models, statistically significant associations between IGD and male gender, a higher proportion of friends only known through the Internet, and a lower health-related quality of life (multivariate model: Nagelkerke's R² = 0.37) were revealed. Lower self-perceived social support was related to IGD in the bivariate model only. In summary, quality of life and social aspects seem to be important factors for IGD in adolescence and therefore should be incorporated in further (longitudinal) studies. The findings of the present survey may provide starting points for the development of prevention and intervention programs for adolescents affected by IGD.

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Störungsbild Internet- und Computersucht. Ein junges, aber zunehmend verbreitetes Phänomen

Psychotherapie im Dialog, 2017, 18 (1), 38-41

<https://doi.org/10.1055/s-0042-121698>

Der Kenntnisstand zum Störungsbild "Internet- und Computersucht" wird zusammengefasst. Behandelt werden dabei: Verhaltenssuchte und deren diagnostische Einordnung; das Konstrukt "Internetsucht" und deren Subtypen; Verbreitung der Internetsucht im Kindes- und Jugendalter sowie bei Erwachsenen; Diagnosekriterien der "Internet Gaming Disorder" im DSM-5 und Diagnosestellung; Komorbiditäten; Behandlung der Internetsucht (Emotionsregulation; Psychoedukation; Expositionsbehandlung; Motivationsaufbau; Wochenprotokolle; Psychopharmaka); Effektivität verschiedener Behandlungsansätze; Präventionsansätze.

Yao, Yuan-Wei; Chen, Pin-Ru; Li, Chiang-shan R.; Hare, Todd A.; Li, Song; Zhang, Jin-Tao; Liu, Lu; Ma, Shan-Shan; Fang, Xiao-Yi

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Combined reality therapy and mindfulness meditation decrease intertemporal decisional impulsivity in young adults with Internet gaming disorder

Computers in Human Behavior, 2017, 68, 210-216

<https://doi.org/10.1016/j.chb.2016.11.038>

Assessed the efficacy of a group behavioral intervention combining mindfulness meditation and reality therapy on heightened decisional impulsivity in participants with Internet gaming disorder (IGD). The authors hypothesized that the intervention would improve intertemporal and risky decision-making behavior and decrease IGD severity and that a significant relationship would be discernible between reduced IGD severity and improved decisional impulsivity. IGD participants and healthy controls (HC) were assessed at baseline for Internet gaming characteristics with the Chen Internet Addiction Scale (CIAS), and for anxiety and depression with the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI). Delay-discounting tasks (DDT) included a questionnaire to determine intertemporal decision-making, and the Balloon Analog Risk Test (BART) measured risky decision-making. Assessments were taken again for half of the IGD participants one week after a 6-week behavioral intervention that combined reality therapy based on the WDEP model (wants, direction and doing, evaluation, planning and commitment) with supplemental brief mindfulness meditation. The other half of the IGD group and the HC group, both of which completed no intervention, were reassessed twice in the 7-week period. Findings showed higher intertemporal and risky decisional impulsivity in the IGD group at baseline compared to the HC group, as expected. The IGD group with intervention exhibited significantly reduced decisional impulsivity and CIAS scores, and significantly lower values for IGD, depression, and anxiety severity. No significant differences could be confirmed with the BART. The authors conclude that results support the efficacy of behavioral intervention combining reality therapy and mindfulness meditation for IGD regarding decisional impulsivity in intertemporal decision-making, but not in risky decision-making. They suggest further research and recommend that future studies include a control group of Internet game players who do not meet the criteria of IGD in addition to controls who do not play at all.

Young, Kimberly S.; Brand, Matthias

Center for Internet Addiction; Russell J. Jandoli School of Journalism and Mass Communication; St. Bonaventure University; Olean; NY

Merging theoretical models and therapy approaches in the context of internet gaming disorder: A personal perspective

Frontiers in Psychology (Online Journal), 2017, (8), No. 1853

<https://doi.org/10.3389/fpsyg.2017.01853>

Although, it is not yet officially recognized as a clinical entity which is diagnosable, Internet Gaming Disorder (IGD) has been included in section III for further study in the DSM-5 by the American Psychiatric Association (APA, 2013). This is important because there is increasing evidence that people of all ages, in particular teens and young adults, are facing very real and sometimes very severe consequences in daily life resulting from an addictive use of online games. This article summarizes general aspects of IGD including diagnostic criteria and arguments for the classification as an addictive disorder including evidence from neurobiological studies. Based on previous theoretical considerations and empirical findings, this paper examines the use of one recently proposed model, the Interaction of Person-Affect-Cognition-Execution (I-PACE) model, for inspiring future research and for developing new treatment protocols for IGD. The I-PACE model is a theoretical framework that explains symptoms of Internet addiction by looking at interactions between predisposing factors, moderators, and mediators in combination with reduced executive functioning and diminished decision making. Finally, the paper discusses how current treatment protocols focusing on Cognitive-Behavioral Therapy for Internet addiction (CBT-IA) fit with the processes hypothesized in the I-PACE model.

Zadra, Sina; Bischof, Gallus; Besser, Bettina; Bischof, Anja; Meyer, Christian; John, Ulrich; Rumpf, Hans-Jürgen

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The association between Internet addiction and personality disorders in a general population-based sample

Journal of Behavioral Addictions, 2016, 5 (4), 691-699

<https://doi.org/10.1556/2006.5.2016.086>

Background and aims: Data on Internet addiction (IA) and its association with personality disorder are rare. Previous studies are largely restricted to clinical samples and insufficient measurement of IA. Methods: Cross-sectional analysis data are based on a German subsample (n = 168; 86 males; 71 meeting criteria for IA) with increased levels of excessive Internet use derived from a general population sample (n = 15,023). IA was assessed with a comprehensive standardized interview using the structure of the Composite International Diagnostic Interview and the criteria of Internet Gaming Disorder as suggested in DSM-5. Impulsivity, attention deficit hyperactivity disorder, and self-esteem were assessed with the widely used questionnaires. Results: Participants with IA showed higher frequencies of personality disorders (29.6%) compared to those without IA (9.3%; $p < .001$). In males with IA, Cluster C personality disorders were more prevalent than among nonaddicted males. Compared to participants who had IA only, lower rates of remission of IA were found among participants with IA and additional cluster B personality disorder. Personality disorders were significantly associated with IA in multivariate analysis. Discussion and conclusion: Comorbidity of IA and personality disorders must be considered in prevention and treatment.