Symptoms of Internet Gaming Disorder in Youth: Predictors and Comorbidity

# Details

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## Authors

Wichstrøm L.;Stenseng F.;Belsky J.;von Soest T.;Hygen B.

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* Internet usage, practices and engagement
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* Risks and harms
* Online safety and policy regulation

## Sample

The Trondheim Early Secure Study (TESS) comprises mem- bers of the 2003 and 2004 birth cohorts in Trondheim, Norway (N = 3456) (Wichstrøm et al. 2012). A letter of invi- tation together with a screen for emotional and behavioral problems, the Strengths and Difficulties Questionnaire (SDQ) 4–16 version (Crone et al. 2008), was sent to the par- ents of all children in the two birth cohorts prior the routine health check-up at age four of the children (n = 3358). The health nurses at the well-child clinics recruited participants. The nurses missed asking parents of 166 children, and 176 parents were excluded due to lack of proficiency in Norwegian. The study was approved by the Regional Committee for Medical and Health Research Ethics Mid- Norway and written consent was obtained. To increase vari- ability and thus statistical power we oversampled children with higher SDQ scores. To accomplish this, children were allocated to four strata according to their SDQ scores (cut-offs: 0–4, 5–8, 9–11, and 12–40). In all, 1250 of the consenting children were drawn into the study using a random number generator with increasing probability of selection with in- creasing SDQ scores (0.37, 0.48, 0.70, and 0.89 in the four strata, respectively). Of the 1250 children from the four strata randomly recruited into the Study, 995 were successfully en- rolled at Time 1. This sample, adjusted for stratification, was not significantly different from those who consented with re- spect to gender or their SDQ score (Wichstrøm et al. 2012). Statistics Norway compared the sample with available register information on all parents of 4-year olds in Trondheim in the years 2007 and 2008; the educational level of the TESS sam- ple was virtually identical to the population’s level. The pop- ulation of Trondheim is similar to the national average on several key indicators, including, average gross income per inhabitant (i.e., 99.5% of the national average), employment rate (i.e., identical to the national rate), and proportion of two- parent families (i.e., 80.0% for Trondheim and national aver- age of 81.4%) (Statistics Norway 2010).
Children were reassessed biannually, affording investiga- tion of 740 with valid data from the third (n = 699, 8.8 years, SD = 0.24) or fourth (n = 702, 10.5 years, SD = 0.16) assess- ment. Note that 43 youth did participate at the 10-year assess- ment did not participate at the 8-year (third) assessment.

## Implications For Parents About

## Implications For Educators About

Professional development

## Implications For Policy Makers About

## Implications For Stakeholders About

* Researchers
* Industry
* Healthcare

# Abstract

Internet gaming disorder (IGD) was included in the Addendum to DSM-5 as a condition for further study. Studies of community samples using a diagnostic interview are lacking, and evaluations of the proposed symptoms, comorbidities, and predictors of IGD are scarce. To provide such information participants in a Norwegian prospective community study were assessed with a clinical interview at age 10 years. Symptoms of other psychiatric disorders were measured with the Child and Adolescent Psychiatric Assessment at ages 8 and 10 (n = 740). Children, parents, and teachers provided infor- mation on demographics, temperament, intelligence, executive functions, self-concept, social skills, victimization, emotion regulation, family climate, and parenting. Results indicated that IGD was present in 1.7% (95% confidence interval, 0.7– 2.7) of the participants (3.0% boys and 0.5% girls). Factor analysis revealed two factors: heavy involvement and negative consequences. The positive predictive value of withdrawal, tolerance, and unsuccessful attempts to control gaming symp- toms to the disorder was low. Symptoms of other common disorders correlated weakly with IGD-symptoms (i.e., from r = 0.07 to r = 0.15). Upon adjusting for gender and gaming at age 8, only limited social and emotion regulation skills at age 8 predicted more age-10 IGD symptoms. In conclusion, IGD is already present in a small percentage of Norwegian 10-year olds. At least three of the proposed symptoms – withdrawal, tolerance and unsuccessful attempts to control gaming – merit further study given their weak associations with the disorder. Symptoms of IGD are only marginally associated with symptoms of other psychiatric disorders and only predicted by social skills and emotion regulation deficits.

# Outcome

Results indicated that IGD was present in 1.7% (95% confidence interval, 0.7– 2.7) of the participants (3.0% boys and 0.5% girls). Factor analysis revealed two factors: heavy involvement and negative consequences. The positive predictive value of withdrawal, tolerance, and unsuccessful attempts to control gaming symp- toms to the disorder was low. Symptoms of other common disorders correlated weakly with IGD-symptoms (i.e., from r = 0.07 to r = 0.15). Upon adjusting for gender and gaming at age 8, only limited social and emotion regulation skills at age 8 predicted more age-10 IGD symptoms. In conclusion, IGD is already present in a small percentage of Norwegian 10-year olds. At least three of the proposed symptoms – withdrawal, tolerance and unsuccessful attempts to control gaming – merit further study given their weak associations with the disorder. Symptoms of IGD are only marginally associated with symptoms of other psychiatric disorders and only predicted by social skills and emotion regulation deficits.