



Original article

The Association Between Compulsory School Achievement and Problem Gambling Among Swedish Young People



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ABSTRACT

Purpose: We aimed to examine the association between school grades at the age of 16 years and problem gambling at the age of 17–25 years among Swedish females and males.

Methods: In a cohort design, we followed the 16- to 24-year-old participants in the representative Swedish Longitudinal Gambling Study for 2 years, 2008/2009 and 2009/2010, generating 3,816 person-years of follow-up time. The outcome, incidence of mild and moderate/severe gambling problems, was measured by the Problem Gambling Severity Index in telephone interviews. The exposure was register-linked information about final grades in compulsory school. The association between school grades and problem gambling was estimated in multinomial logistic regressions.

Results: Low and average school grades were associated with increased incidence of mild and moderate/severe problem gambling compared to high grades, adjusted for sociodemographic characteristics, psychological distress, and alcohol use. Low grades, compared to high grades, were associated with a higher risk of mild gambling problems for adolescent males, whereas the incidence proportion of moderate/severe problem gambling was high for males aged 20–25 years with low grades, among whom unemployment was also very high. Furthermore, we found a strong and graded association between school grades and moderate/severe problem gambling for women in both age groups, despite a low prevalence of gambling participation among females compared to males.

Conclusions: Our findings show that Swedish youth with low school achievement have an increased risk of gambling problems up to 8 years after school graduation, after control for confounding from sociodemographic characteristics, psychological distress, and alcohol use, and that this association is stronger for females than males.

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IMPLICATIONS AND CONTRIBUTION

The association between school achievement and gambling problems has not been examined in a nationally representative cohort before. Compared to high grades, low school grades were associated with gambling problems up to 8 years after compulsory school graduation for Swedish youth; however, the association was stronger for females than males.

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among friends, an NGO-owned Finnish gambling company, outside the submitted work.

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Problem gambling among youth is a significant public health concern [1]. Gambling, wagering money on games of chance, becomes a problem when losing control and experiencing adverse consequences, such as anxiety, family, and financial problems [2]. The prevalence of problem gambling, referring to gambling problems of both high and moderate severity, is generally higher among youth than adults [3,4] and among young males than females [3–6]. Further, some studies show that youth with a low socioeconomic background have more gambling problems than other youth [7].

Problem gambling is linked to many conditions of importance for young people’s development, such as depression, anxiety, alcohol abuse, delinquency, disrupted relations, and a poor school achievement [3,8], with some studies suggesting sex differences in these associations [9,10]. When picturing a burden of interrelated perils like these during adolescence, school stands out as a possible provider of positive development, through the achievement of certain abilities, a higher sense of influence over life, and a healthier life style. Conversely, low school achievement may lead into less favorable life-paths, with unemployment, lower earnings, and health problems [11]. Such a scenario may also include problem gambling as a detrimental factor.

Truancy, conflicts, and other deviant behaviors displayed in school have been associated with problem gambling [12,13]; yet, the association between school achievement and problem gambling has been less researched. Some studies find that poor school performance co-occurs with problem gambling [14,15], and it is possible that gambling leads to worsening achievements. However, the direction of this association is unclear, and the process could be reciprocal. In a cohort of youth in Minnesota, poor school grades at the age of 16–17 years were associated with gambling problems at the age of 24 years [16], suggesting that poor school achievement is on the path to problem gambling.

According to Agnew [17,18], poor school achievement can be a major stressor for youth, because of the failure itself and the circumscribed opportunities that it might bring. Further, to get a relief or distraction from such stressors, young people engage in deviant behaviors [18]. Accordingly, youth with poor school achievement could be more inclined to gambling because of fewer predicted life chances and because gambling offers a relief from stress. However, in continuation, excessive gambling tends

to result in a lower sense of context, contributing to worse well-being and problem gambling, which could result in a vicious circle [19].

To examine if low school grades are associated with an increase in problem gambling, we studied the association between final grades in compulsory school and mild and moderate/severe problem gambling in a cohort of Swedish 17- to 25-year-olds, controlling for sociodemographic circumstances, psychological distress, and alcohol use. Second, we examined if there were sex differences in the association between school grades and problem gambling, given the sex differences regarding other psychosocial problems associated with youth problem gambling reported in some studies [9,10].

Methods

Study population and design

We used data among the 16- to 24-year-old participants in the Swedish Longitudinal Gambling Study (Swelogs), initiated as a stratified random sample selected from the frame population of 16- to 84-year-old residents in Sweden in 2008 (details in [20]). Youth, in particular, 16- to 17-year-olds were oversampled to enable in-depth studies of youth problem gambling.

Applying a cohort design, we linked register information about grades in the final school year to the Swelogs data, serving as Time at Exposure (TE) (column 1, Figure 1). We followed up the participants at the first two Swelogs data collections, with Time at follow-up 1 (TF1) in 2008/2009 and Time at follow-up 2 (TF2) in 2009/2010 (columns 2–10, Figure 1). Each participant generated two person-years of follow-up time, except: (1) Participants aged 16 years were excluded at TF1 because TF1 coincided with their final school year and (2) Participants with moderate/severe problem gambling at TF1 were excluded at TF2. The outcome was assessed retrospectively through telephone interviews (see Figure 2).

We excluded 356 participants from analyses. Those who reported no gambling but gambling problems were omitted (n = 5). Then, we excluded those who could have attended school abroad because of immigration after the age of 15 years (n = 118) or emigration before the age of 16 years (n = 28). Third, we omitted participants who, according to register information, had

Number of study participants (n), follow-up time (FT) by final school year (TE: Time at Exposure) and by Swelogs data collections with Time at follow-up 1 (TF1) in 2008/2009 and Time at follow-up 2 (TF2) in 2009/2010.								Follow-up time in person-years (FT)		
Age (years): 16	17	18	19	20	21	22	23		24	25
TE: Final school year 2000 (n=150)								TF1 FT: 150	TF2 FT: 144*	294
TE: Final school year 2001 (n=172)							TF1 FT: 172	TF2 FT: 165*		337
TE: Final school year 2002 (n=136)						TF1 FT: 136	TF2 FT: 130*			266
TE: Final school year 2003 (n=133)					TF1 FT: 133	TF2 FT: 129*				262
TE: Final school year 2004 (n=99)				TF1 FT: 99	TF2 FT: 91*					190
TE: Final school year 2005 (n=103)			TF1 FT: 103	TF2 FT: 90*						193
TE: Final school year 2006 (n=109)		TF1 FT: 109	TF2 FT: 105*							214
TE: Final school year 2007 (n=765)	TF1 FT: 765	TF2 FT: 739*								1,504**
TE: Final school year 2008 (n=574)	TF2 FT: 556*									556**
Total:										3,816

Note * Participants with moderate/severe problem gambling at TF1 were not included at TF2.

Note **: There was an oversampling of participants aged 16-17 in 2008.

Figure 1. The study design. The figure describes how register information about grades in the final school year were linked to the Swelogs data.

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