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ORIGINAL ARTICLE

Prevalence and selected determinants of the risk of problem gambling among Polish secondary school students

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Abstract

Objective. The study had two aims. The first was to determine the prevalence of various types of gambling behaviour and the severity of gambling among secondary school students in one of the poorest provinces in Poland. The second was to identify correlations between selected socio-demographic variables and the severity of gambling problems.

Materials and method. The study was carried out on a group of teenagers from secondary schools in the Lublin Province of eastern Poland. The survey covered 923 respondents aged 17 – 21 (M=18.06; SD=0.367). The study used a list of gambling activities, the South Oaks Gambling Screen-Revised Adolescent (SOGS-RA), and a socio-demographic questionnaire. The effects of independent variables on the severity of gambling behaviour were evaluated using the Mann–Whitney U test (for binary variables, such as gender or age group) and Kruskal–Wallis one-way ANOVA for ternary variables (e.g., place of residence, type of school).

Results and Conclusions. The findings show that in the studied population 7.2% were pathological gamblers and 41.8% had not gambled during the 12 months prior to the study. These findings are consistent with the literature. There seems to be a clear trend in which pathological gambling is found most frequently among technical secondary school students, and least frequently among those from secondary schools of general education. In addition, persons who had lived (until the age of 10) in rural areas scored the lowest in SOGS-RA, while those from cities below 50,000 residents, scored the highest. In families with a gambling member, pathological gambling was found 1.7 times more frequently.

Key words

addiction, gambling, school students

INTRODUCTION

For several dozen years gambling has been described as a disorder although its definition has remained controversial among scholars interested in this phenomenon [1, 2, 3, 4, 5, 6, 7]. The most recent, fifth, edition of the Diagnostics and Statistical Manual of Mental Disorders – DSM-V [8] defines pathological gambling as an addiction which constitutes a profound shift in the approach to its diagnosis. Problem gambling differs from pathological gambling in terms of disorder stage, with people at earlier stages of the disorder whose behaviour does not meet the necessary criteria for pathological gambling, being referred to as problem gamblers [9]. However, the latest International Statistical Classification of Diseases and Related Health Problems (ICD-10), which is now applicable, still considers pathological gambling as one of the disorders of personality and impulse control [10]. As a result of these differences in the approach to gambling as a disorder, the diagnostic criteria for, and the definition of, gambling continue to be open for discussion.

Gambling in Poland and worldwide. Poland has been faced with a growing number of people at risk of problem or pathological gambling. A study conducted in 2011 by the Public Opinion Research Centre (CBOS) on a representative sample showed that 50% of the adult Polish population played games of chance for money [11]. In addition, a 2015 CBOS study demonstrated that approx. 2% of gamblers experienced problems due to gambling, and as many were at risk of doing so. Moreover, male gamblers proved to be more likely to develop this addiction than female gambles. In the study group, one in 5 male gamblers exhibited addiction

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symptoms, while with female gamblers this was the case half as frequently [12].

As shown in a nationwide study conducted in Poland in 2011 by the Natanaelum Association, Institute for Psychoprevention and Psychotherapy, the number of people seeking help from addiction treatment centres in relation to their excessive involvement in gambling had been growing year by year [13].

As demonstrated by Polish studies, participation in gambling games is relatively widespread among teenagers. Results of 2011 ESPAD study show that about 2% of young Poles (aged 16–19) are at risk of problem gambling [14]. Another study by CBOS in 2012, published in a report entitled 'Estimated prevalence of, and risk and protecting factors for, gambling, including problem (pathological) gambling and other behavioural addictions', reported that over the 12 months preceding the study nearly one in 4 Polish teenagers aged 15 or over had played games for money. Overall, more than 50,000 young Poles, who had gambled at least once in their lives, were addicted to gambling, and almost 200,000 more were at risk of developing the addiction [15].

Studies conducted on young gamblers aged below 20 have shown that the problem of gambling develops 6 times faster (within approx. 2 years) in teenagers than in adults. Among gamblers below 20 years of age, problem gambling is most likely to affect boys [16]. In addition, studies have shown that adolescents, and especially teenage boys, show an increased risk of developing serious problems related to, and suffering the consequences of, gambling [17]. Research into online gambling, conducted in 2007 in North America (covering both the USA and Canada), demonstrated that as many as 43% of respondents experienced problems associated with online gambling and met the criteria for problem gambling [18].

Tavares et al. (2017) conducted a nationwide study in Brazil, South America, on the prevalence of gambling among young people (aged 14 or over). The findings showed that 1% of young Brazilians were pathological gamblers and 1.3% were problem gamblers [19].

But problem gambling is not unique to the Americas. It has been estimated that as many as 59% of people living in south-eastern Asia are problem gamblers. In addition, it has been demonstrated that factors such as gender (men) and age (young people) are more likely to entail the risk of pathological gambling. Interestingly, previous studies have also shown that gambling is the most popular entertainment of choice in China. Analysis of historical statistical data shows that the proportion of pathological gamblers in China has been steadily increasing and corresponds to 4% of its population [20].

Similar findings are reported by studies conducted in Europe. A survey carried out in 2011 by the European Gaming and Betting Association at the request of the European Parliament shows that the EU gambling sector as a whole generates about EUR 80 million in profit a year. In 2011, online gambling only yielded profits of EUR 13 million [21]. The widespread popularity of gambling activities is confirmed by studies conducted in the UK, where 68% of citizens engage in gambling [22]. Epidemiological data from Switzerland, France, and The Netherlands from 2000–2005 show that 3–3.3% of adult citizens of those countries are problem gamblers, and about 1.8% meet pathological gambling criteria [23]. Also, studies carried out in Italy showed that over one million students, aged 15–19, equal to 44.2% of Italian students, have problems with gambling [24].

To sum up, it can be stated a literature review shows that approximately 0.9–8.1% of adolescents and 7.2–13.3 % of college students worldwide, meet the criteria for problem or pathological gambling [25].

The cited data show that gambling, and consequently, addiction to gambling, is becoming a major problem for many contemporary societies, all the more so because it affects a growing number of young people, including children. Factors that contribute to the risk of the problem of pathological gambling include the wide availability of, and simple rules for, most gambling games, as well as poor social awareness of the negative consequences of gambling. Psychological risk factors for gambling include low self-esteem, sense of loneliness, emotional immaturity, achievement-oriented mindset, desire to be the best, drive towards thrill seeking, and the desire for a sense of belonging and being accepted by peers [26, 27].

The literature on the subject shows that the above-mentioned psychological characteristics are also an important part of adolescence. In this unique period in their lives, adolescents are confronted with a doubly difficult situation as they face developmental issues and problems posed by the globalised world they live in [28]. Young people aged 16–19 find themselves in a developmental period during which they are more likely to develop substance addictions (to alcohol, drugs, tobacco, and medicines) and behavioural addictions (Internet, TV, computer games, and gambling) [29, 30]. A significant involvement of young people is found especially in relation to 2 types of games, namely Lotto and text-to-win SMS contests, with nearly two-fifths of all respondents declaring having participated in these. A slightly smaller popularity among young people is enjoyed by slot machines and online games, but participation in these is also considerable with figures reaching nearly one-fourth of all studied teenagers [31].

This overview of research findings reported over a span of nearly 20 years shows a growing trend in the popularity of gambling activities among young people, and suggests that this process is a long-term one.

Selected psychosocial variables associated with problem gambling. Problem behaviour associated with gambling has a number of consequences. Involvement in gambling causes social, financial, health-related, and psychological damage to the individual, family, friends and social milieu [32, 33].

Literature and research findings clearly show evidence of genetic determinants in involvement in gaming. Dopamine receptor D2 has been identified as increasing the likelihood of developing gambling addiction. In a study conducted on 171 gamblers, this gene was found in 51% of respondents [34]. In addition, the development of interest and continued involvement in gambling are supported by cognitive disorders, especially various cognitive distortions [35, 36].

Social factors associated with gambling include both growing affluence and, paradoxically, poverty. People are often encouraged to become involved in gambling through their desire to make money and become richer [37, 38]. Some studies have proved the existence of correlations between gambling behaviour in children and that of their parents. Regular involvement of one parent in gambling proved to

be linked with a threefold increase in the likelihood of risky gaming in children. However, when a parent was a pathological gambler, this likelihood increased by as much as 10 times [39]. The atmosphere at home is important, especially the lack of emotional connection, frequent quarrels, and wrong parent attitudes, such as being excessively demanding or excessively protective [38]. Family norms and values are also crucial. Unfavourable characteristics, as listed by Bellringer, include a broken home, a dysfunctional or very poor family, serious family problems, infidelity, and the attachment of excessive importance to money [38]. It is also important to note the importance of perceived social support, especially the assistance available to the individual or group in difficult, stressful or critical situations, which are difficult to overcome without support from others [37, 40].

Individual-specific factors include mainly gender and age. Studies show that men (6%) are more likely to become addicted to gambling than women (0.5%) [41]. In addition, it has been demonstrated that adult gambling addicts had their first gambling experiences as early as before the age of 10 [42]. The literature on the subject indicates that schoolchildren are at risk of gambling behaviour [43]. Moreover, Livingstone and Palmer confirmed that young people were more likely to suffer negative consequences associated with various behavioural addictions, including gambling [44]. A Polish study carried out by the Institute of Psychiatry and Neurology (IPiN) between 2015 – 2016, demonstrated that the highest proportion of problem gamblers and persons at risk of gambling addiction (12%) was found among children and teenagers aged 18 or under [45].

OBJECTIVE

The study had two aims: 1) to determine the prevalence of various types of gambling behaviour, and the severity of gambling among secondary school students from one of the poorest provinces in Poland; 2) to identify correlations between selected socio-demographic variables and the severity of gambling problems. Due to the exploratory nature of the study and the unique nature of the region where the study was conducted, no detailed hypotheses were formulated.

MATERIALS AND METHOD

Participants and procedure. The study was carried out on a group of teenagers from secondary schools in the Lublin Province in eastern Poland. GDP analyses prepared by the Statistical Office of the European Union (Eurostat), show that this region is unique in that it is not only one of the poorest in Poland, but also one of the poorest in Europe. Schools were randomly selected for the study to account for the school system in Eastern Poland considering such criteria as town/city size, type of school, and final exam pass ratio (below or above 50%). The survey was carried out in groups during lessons by trained interviewers, following prior consent from the head teacher. Participation in the study was voluntary and anonymous.

The survey covered 923 respondents aged 17–21 (M=18.06; SD=0.367). There were slightly more female (52%) than male respondents. A significant majority of respondents (85.4%) declared that they had gambled at least once in their lives, and 58.1% of them had done so during the year prior to the study.

Measures. The study used a list of gambling activities, the South Oaks Gambling Screen-Revised Adolescent (SOGS-RA), and a socio-demographic questionnaire. The list of gambling activities included 12 games (e.g., playing cards for money). Respondents were asked to assess how often they had played each game over the previous 12 months. They were to do this using a scale from 1 – never, to 5 – daily.

SOGS-RA is a screening tool for evaluating the level of problem gambling risk [46]. It contains one question about how often the respondent has returned on another occasion in an attempt to win back the money lost, and 11 yes-no, or polar questions (e.g., 'In the past 12 months when you were betting, have you ever told others you were winning when you really were not winning?'). Depending on the number of affirmative answers, respondents' gambling behaviour can be assigned to one of 4 categories, or levels, where Level 0 (non-gambling) means no risk and no past year gambling; Level 1 (non-problem gambling) describes people who play less often than every day and score 0 points in SOGS-RA, or play less often than once a week and score 1 point in SOGS-RA; Level 2 (at-risk gambling) means playing at least once a week and scoring one point in SOGS-RA, or playing less often than once a week and scoring 2 points; Level 3 (problem gambling) corresponds to problem gambling (playing every day, or 2 affirmative answers in SOGS-RA and playing at least once a week).

A number of socio-demographic variables were also taken into consideration, such as gender, age, type of school, size of place of residence until the age of 10, size of current place of residence, type of current place of residence, family type, atmosphere at home, family size, attitude to religion, presence of a mentor, and gambling among family members.

Data analysis. The effects of independent variables on the severity of gambling behaviour were evaluated using the Mann–Whitney *U* test (for binary variables, such as gender or age group) and Kruskal–Wallis one-way ANOVA for ternary variables (e.g., place of residence, type of school). Factors which increased the likelihood of problem gambling were assessed using a chi-squared test, and either the Odds Ratio (binary variables) or Adjusted Standardised Residuals (ternary variables). All statistical analyses were performed using IBM SPSS Statistics v23.

Mann–Whitney *U* test and Kruskal–Wallis one-way ANOVA are the most commonly used statistical methods in psychology or medicine, and were used in the current analysis due to simple procedure. Multifactor analysis was used to evaluate dependent variables, from which odds ratios were derived.

RESULTS

Respondents usually engaged in such forms of gambling as lotto or other lotteries, scratch lotteries, slot machines, and playing cards for money (Tab. 1). They were relatively less likely to play bingo for money, bet on animals, or play the market.

Table 1. Types and frequency of gambling activities undertaken by respondents

Form of gambling	Median
Lotto, cash lotteries or other lotteries	1.95
Scratch lotteries and 'paper-based' games other than lotteries	1.84
Slot machines, poker machines or other machines for playing games for money	1.40
Playing cards for money	1.37
Sports betting (e.g., through a bookmaker or online)	1.22
Playing bows, billiards, golf or other games of skill for money	1.16
Playing games for money online (e.g., poker, roulette)	1.12
Playing dice for money	1.09
Playing in a casino (legal or illegal)	1.09
Playing the market (e.g., investing in options or on the commodities market)	1.08
Betting on horse or dog racing, or betting on other animals (e.g., on the racetrack, through a bookmaker, or online)	1.06
Playing bingo for money	1.06

The studied population was dominated by non-problem gambling (45.3%) and non-gambling (41.9%) groups (Tab. 2). Those with the most serious gambling problems accounted for 7.2% of all respondents, and at-risk gamblers – 5.6%.

Table 2. Prevalence of each gambling risk level

SOGS (levels)	No.	%	Cumulative percent
General Physical	386	41.8	41.9
Cardiopulmonary	418	45.3	87.2
Gastrointestinal	52	5.6	92.8
Neurological	66	7.2	100.0

Analysis of socio-demographic variables moderating gambling risk levels among Polish teenagers (Levels 0–3) showed the existence of significant differences in relation to gender, type of school, place of residence until the age of 10, and gamblers in the family (Tab. 3). Gambling was found to be more popular among male than among female respondents. The highest prevalence of gambling behaviour was found in secondary schools of general education, while the lowest in technical secondary schools. The greatest gambling problems were observed among respondents from the largest cities. However, only the place of residence until the age of 10 proved significant in this respect. Another variable that substantially contributed to gambling was the presence of a gambler in the family.

Analysis of the prevalence of problem gambling (PG) in the study group indicated 2 factors which significantly increased the likelihood of PG (Tab. 4). The first factor was gender, with males being 7 times more likely than females to be at-risk problem gamblers. The second factor was having an active gambler in the family. Such gambling family members increased the likelihood of PG among Polish students by 1.7 times. Other demographic variables examined during the study proved insignificant in terms of moderating the prevalence of PG risk.

DISCUSSION

The above-mentioned findings show that in the studied population 7.2% were pathological gamblers and 41.8% had not gambled during the 12 months prior to the study. These findings are consistent with the literature. Pietrzak et al. estimated that in the USA about 20% of young people were problem gamblers. A survey carried out since 1995 showed that approx. 14% of adolescents were problem gamblers, and about 7% of studied teenagers showed serious problems related to their gambling which could be described as pathological [47].

Pathological gambling was found 6.8 times more frequently in males than in females. In addition, males obtained higher scores in SOGS-RA than women. The current findings are consistent with trends emerging from the literature on the subject – a CBOS study conducted in 2015 showed that male gamblers were more likely to develop this addiction than female gamblers. In the study group, one in 5 male gamblers exhibited addiction symptoms, while with female gamblers this was the case half as frequently[12].

Students from technical secondary schools and vocational schools scored higher in SOGS-RA than those from secondary schools of general education. There seems to be a clear trend where pathological gambling is found most frequently among technical secondary school students, and least frequently among those from secondary schools of general education.

In addition, persons who had lived (until the age of 10) in rural areas scored the lowest in SOGS-RA, while those from cities with less than 50,000 residents scored the highest. Data from the Victorian Gambling Study (VGS) and Victorian Longitudinal Attitudes Survey in Austria show that people living in metropolitan areas are characterised by increased rates of gambling problems and risk behaviour. The data show that in such areas gambling is more accessible, and, consequently, easier to engage in [48].

People who have a gambler in their family scored higher (in SOGS-RA) than those who did not. In families with a gambling member, pathological gambling was found 1.7 times more frequently. There is a correlation between gambling behaviour in children and that of their parents. Regular involvement of one parent in gambling has been linked with a threefold increase in the likelihood of risky gaming in children. When a parent is a pathological gambler, this likelihood increases by as much as 10 times [39].

No correlation was found between gambling and such variables as age (trend = 0.096), current place of residence (and type of housing: family house/privately rented room or apartment/dormitory), family size (small/large), atmosphere at home, family type (complete/single-parent), attitude to religion, or presence of a mentor.

CONCLUSION

The phenomenon of youth gambling as an emerging field of research has received increasing attention in the past 3 decades. Echoing the recommendation by Derevensky [17], it is suggested that greater attention should be paid to the study of youth gambling. It is to be hoped that the presented study will increase understanding of youth gambling when planning treatment for problem gambling and addiction, and attract more attention from researchers to conduct further studies in this field.

Table 3. Demographic data and SOGS scores

	No.	Proportion (%)	SOGS Level Score Median	test	p
Gender				8.778	0.001
Female	480	52.0	.4912		
Male	443	48.0	.8966		
School type				9.767	0.008
Secondary school of general education	525	56.9	.6076		
Technical secondary school	325	35.2	.7640		
Vocational school	73	7.9	.6984		
Age				1.666	0.096
17–18	848	91.9	.6555		
19-	75	8.1	.8033		
Place of residence until the age of 10				6.296	0.043
Rural area	526	59.1	.6411		
City with up to 50,000 residents	183	20.6	.6358		
City with more than 50,000 residents	181	20.3	.7848		
Current place of residence				3.530	0.171
Rural area	524	57.1	.6469		
City with up to 50,000 residents	186	20.3	.6347		
City with more than 50,000 residents	207	22.6	.7500		
Type of housing				0.347	0.841
Family house	826	90.7	.6589		
Dormitory	57	6.3	.7174		
Privately rented room or apartment	*28*	3.1	.6522		
Family type				.203	0.839
Complete	767	84.1	.6697		
Single-parent	145	15.9	.6563		
Atmosphere at home				3.901	0.142
Parents are very friendly towards each other	303	32.8	.6222		
Parents generally get along	432	46.8	.7170		
Parents frequently quarrel	88	9.5	.6076		
Family size				0.066	0.947
2+1 or smaller	444	48.6	.6615		
2+2 or bigger	470	51.4	.6658		
Attitude to religion				2.830	0.419
Religious	570	62.0	.6413		
Neutral/Lapsed	117	12.7	.7660		
Spiritual non-religious	150	16.3	.6838		
Non-religious/Agnostic/Atheist	82	8.9	.6667		
Presence of a mentor				0.295	0.768
No	512	56.0	.6570		
Yes	402	44.0	.6686		
Gambling family member(s)				3.145	0.002
No	674	73.0	.6242		
Yes	249	27.0	.7885		

Table 4. Prevalence of pathological gambling (PG)

	PG		test	p	Odds Ratio (95% confidence interval) v Adjusted Standardised Residuals
	No.	Proportion (%)			
Gender			38.803	0.001	6.819 (3.433–13.543)
Female	10	2.1			
Male	56	12.7			
School type			4.829	0.089	
Secondary school of general education	29	5.5			-2.2
Technical secondary school	30	9.2			1.8
Vocational school	7	9.6			0.8
Age			1.512	0.219	1.624 (0.744–3.544)
17–18	58	6.8			
19-	8	10.7			
Place of residence until the age of 10			1.205	0.547	
Rural area	41	7.8			1
City with up to 50,000 residents	10	5.5			-1
City with more than 50,000 residents	12	6.6			-0.3
Current place of residence			0.505	0.777	
Rural area	39	7.5			0.5
City with up to 50,000 residents	11	5.9			-0.7
City with more than 50,000 residents	15	7.2			0.1
Type of housing			1.660	0.436	
Family house	56	6.8			-0.5
Dormitory	6	10.5			1.1
Privately rented room or apartment	*1*	3.6			-0.7
Family type			0.150	0.903	0.958 (0.476–1.925)
Complete	55	7.2			
Single-parent	10	6.9			
Atmosphere at home			0.774	0.679	
Parents are very friendly towards each other	20	6.6			-0.5
Parents generally get along	34	7.9			0.8
Parents frequently quarrel	5	5.7			-0.6
Family size			0.001	0.989	1.004 (0.604–1.669)
Small (2+1 or smaller)	31	7.0			
Large (2+2 or bigger)	33	7.0			
Attitude to religion			1.379	0.710	
Religious	41	7.2			0.0
Neutral/Lapsed	11	9.5			1.0
Spiritual non-religious	9	6.0			-0.6
Non-religious/Agnostic/Atheist	5	6.1			-0.4
Presence of a mentor			0.962	0.327	1.294 (0.772–2.167)
No	31	6.1			
Yes	31	7.7			
Gambling family member(s)			4.263	0.039	1.720 (1.023–2.894)
No	41	6.1			
Yes	25	10.0			
Overall population	66	7.2			

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