Population screening of gambling behavior: Identifying key characteristics of at-risk players in Cyprus
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Introduction

Increased availability of gambling opportunities and the expansion of legalized gambling, has been identified as an important public health concern (Shaffer & Korn, 2002) by many countries. At the same time, the inclusion of Gambling Disorder as a Behavioral Addiction in DSM-5 (APA, 2013) instigated the need to understand the psychopathology of this condition and risk factors for its development, while many national authorities have focused their policy-making on enhancing healthy, regulated gambling versus pathological engagement with this behavior. To inform policy makers both in Cyprus and elsewhere, and implement public policy strategies that safeguard the population from developing this addiction, it is important to be able to identify characteristics of at-risk players through fast, cost-effective population screening that can be repeated at regular time intervals, in order to implement measures when risky behaviors increase. Accurate screening can lead to improved care and reduced health care cost (Tiet, Finney, & Moos, 2008).

Aims of the present study

To describe the characteristics of Individuals who self- report that their gambling behavior has been causing problems in their daily life, in order to contribute to the identification of important predictors of those at-risk to develop serious dysfunction and gambling addiction using a short and cost-effective measure. The screening tool was constructed for purposes of this study, drawing from existing knowledge of risk factors for gambling addiction and DSM-5 diagnostic criteria.

Method

Sample:

25919 phone numbers were dialed (randomly selected or generated)

15223 people answered the phone call

12852 refused to participate, 14 were younger than 18 years old and 239 reported zero gambling behavior

Final sample was N=2118 (1242 male; Mean$_{age}$=48 years, SD=15, Mode=36)

Procedure:

Questions developed based: DSM-5 criteria for Gambling Disorder, lists of gambling activities derived from common assessment tools, i.e. the South Oaks Gambling Screen-Revised (Lesieur & Blume, 1987) and Gambling Commission website, adjusted for the cultural context.
Risk factors examined by screening tool were: a) gender, b) age based on date of birth, c) income, d) employment status, e) frequency of gambling behavior, f) amount of money spent on gambling, g) reasons for gambling. (Cronbach's alpha for 15 gambling activities = 0.74 and gambling motives = 0.68).

Results

Comparison between **demographic variables, gambling behavior and gambling motives.**

At-risk gamblers: Participants who scored 2 and above (1 *SD* from the Mean; N=148 participants, **representing 7% of the total sample**) on a) need for increased gambling, b) betting more money than one can afford, c) receiving criticism about one's gambling, d) experiencing problems or negative consequences due to gambling and e) having to lie about one's gambling. The rest of the sample (***low-risk gamblers***; N=1970)

1. Chi-square test of differences between at-risk and low-risk gamblers showed a significant effect of: a) ***gender*** X^2 (1, N =2017) = 24.13, $p < .0001$, b) **reporing *amusement* as a reason for gambling** X^2 (1, N =2017) = 4.49, $p < .05$ and c) **reporting *escape from everyday problems* as a reason for gambling** X^2 (1, N =2017) = 20.52, $p < .0001$.

However, group differences in reporting *financial gain* (p=0.23) and *socialization* (p=.50) as reasons for gambling were not statistically significant.

Gender		Female		Male	
		Count	Expected	Count	Expected
Level of gambling Involvement	Risk	60	96	172	136
	Low risk	767	731	996	1032

Amusement		Mentioned		Not mentioned	
		Count	Expected	Count	Expected
Level of gambling Involvement	Risk	98	91	134	141
	Low risk	686	693	1077	1070

Way to escape from everyday problems		Mentioned		Not mentioned	
		Count	Expected	Count	Expected
Level of gambling Involvement	Risk	16	5	216	227
	Low risk	25	36	1738	1727

2. For those who mentioned amusement and escape as reasons for gambling, chi-square test of difference between at-risk and low-risk gambles showed a significant effect of gender separately for every reason: a) amusement X^2 (1, N =784) = 8.38, $p < .005$, b) escape from everyday problems, X^2 (1, N =41) = 5.66, $p < .05$. In both cases these motives were reported more frequently by men.

Mentioned Amusement as a reason for gambling		Female		Male	
		Count	Expected	Count	Expected
Level of gambling Involvement	Risk	26	39	72	58
	Low risk	287	273	399	412

Mentioned gambling as a way to escape from everyday problems		Female		Male	
		Count	Expected	Count	Expected
Level of gambling Involvement	Risk	1	4	15	12
	Low risk	10	7	15	18

3. A Mann Whitney test showed that at-risk gamblers: significantly lower monthly income (Mdn=777) than the low-risk group (Mdn=942), U=97023, p<0.0001, η^2=0.01, were involved in gambling significantly more often (Mdn=1380 *vs* Mdn=970), U=79770, $p < 0.0001$, η^2 =0.03, and spent significantly more money (Mdn=1398) than low-risk group (Mdn=966), U=77105, $p < 0.0001$, η^2 =0.07. However, there was no significant group difference on year of birth, p=0.52 or employment status, p=0.62.

Discussion

The number of participants who identified as at-risk gamblers (7%) is in agreement with European rates between 0.7% - 6.5% (Calado & Griffiths, 2016), which provides validation to the current estimate. This study shows that male gender, low monthly income, high frequency of gambling behavior, large amounts of money spent and gambling as escape and amusement specifically for men, agreeing also with previous literature e.g. Neophytou et al., 2021, are characteristics that can help in the early identification of at-risk gamblers, and that these can be assessed easily through phone screening of large populations, so that prevention practices can be implemented to reduce the problematic use of gambling activities.