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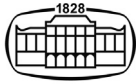
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# How gambling motives are associated with socio-demographics and gambling behavior - A Finnish population study

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## FULL-LENGTH REPORT



### ABSTRACT

**Background and aims:** The aims were to examine how socio-demographics and gambling behavior relate to both primary and additional gambling motives, and whether the gambling motives change during a one-year-period. **Methods:** The Finnish Gambling Harms Survey data was used. Gambling motives were measured with a categorical question. Gambling severity was measured using the Problem and Pathological Gambling Measure (PPGM). Using the first-wave data including only past-year gamblers ( $n = 5,684$ ), five logistic regression models were utilized to explore the associations of gambling motives with socio-demographics and gambling behavior. The stability of gambling motives was assessed with McNemar's test using longitudinal data ( $n = 2,078$ ). **Results:** Gambling for positive feeling was associated with younger age, high income, high gambling involvement and at-risk gambling. Monetary motive was associated with female gender, high gambling involvement, online or mixed-mode and at-risk gambling. Supporting worthy causes was associated with older age, monthly and weekly gambling, and land-based gambling. Socializing was associated with younger age and gambling occasionally on land-based venues with multiple game types. Finally, the motive to escape was intensified among 25–34-year-olds, homemakers, and those with high gambling involvement and at-risk or problem gambling. Gambling motives remained relatively stable for one year. **Discussion and conclusions:** Gender and age profiles varied in different motives. Positive feeling, socializing and escape motive was heightened among younger respondents while supporting worthy causes was heightened among the oldest. Women gambled for money more often than men. Escape motive was associated with problem gambling. Longer follow-up is needed to confirm the longitudinal results.

### KEYWORDS

at-risk gambling, gambling motives, gambling behavior, longitudinal study, problem gambling, population study

## INTRODUCTION

Gambling is a very popular activity in Finland. Around 80% of the Finnish population are past-year gamblers (Salonen, Hagfors, Lind, & Kontto, 2020; Salonen, Latvala, Castrén, Selin, & Hellman, 2017). While the majority of the population have no identified problems, 3.0% of Finns are estimated to have past-year gambling problems (South Oaks Gambling Screen, SOGS 3+) and 10.7% gamble at an at-risk level (SOGS 1–2; Salonen, Hagfors, et al., 2020). Gambling motives shape gambling behavior and are important factors in the development of gambling problems (Błaszczynski & Nower, 2002; Francis, Dowling, Jackson, Christensen, &

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Wardle, 2015; Sundqvist, Jonsson, & Wennberg, 2016). Nevertheless, studies on this topic among Finns are scarce (Salonen, Hellman, Latvala, & Castrén, 2018; Salonen et al., 2017; Salonen, Lind, Hagfors, Castrén, & Kontto, 2020).

Three to five different gambling motives have been identified in the previous literature: monetary, social, enhancement, challenge and escape (Binde, 2013; Dechant, 2014; Francis et al., 2015; Stewart & Zack, 2008; Wardle et al., 2011). Monetary motive refers to gambling to make or win money. Social motive denotes using gambling to socialize with friends and family, whereas enhancement motive means excitement, competing with others and reinforcing positive emotions. The challenge motive encapsulates the idea of developing skills and challenging oneself intellectually, while escape motive includes tension relief and reducing or avoiding negative emotions with gambling as a coping style (Barrada et al., 2019; Binde, 2013; Dechant, 2014, Wardle et al., 2011.) In such countries, Finland among them, where gambling profits are used to fund public interests, gambling to support worthy causes has also been recognized as a motive to gamble (McGrath, Stewart, Klein, & Barrett, 2010). According to previous studies, gambling for enhancement or entertainment and to win money are usually the most common motives for gambling, whereas gambling to escape is one of the least endorsed motives (Francis et al., 2015; Pallesen et al., 2020; Volberg et al., 2015; Wardle et al., 2011).

Gambling can serve many different purposes; hence gamblers may have several motives. Based on our knowledge, no previous study has examined the difference between the primary gambling motive and additional motives. Only one longitudinal study has explored the stability of gambling motives. A five-year follow-up study explored the categorical stability of gambling motives and the results suggest that gambling motives are relatively unstable: the proportion of respondents who remained in their primary motive category for five years was only 22%. Enhancement and financial motives were the most stable (43.9% and 31.6% of respondents remained in the same category) while socializing (11.6%) and escape (5.7%) motives were the least stable. Migrating in motive categories occurred in all five time points indicating high fluidity (McGrath & Konkoly Thege, 2018).

### Socio-demographic differences in gambling motives

Following socio-demographic differences have been reported on gambling motives: gambling for money and enhancement is more common among men, whereas socializing and supporting worthy causes are usual motives for women (Francis et al., 2015; Pallesen et al., 2020; Volberg et al., 2015). Recent prevalence studies, however, show that gender roles are becoming less clear, i.e. women's problem gambling rates are increasing and motives to gamble start resemble to those with men (McCarthy et al., 2018; McCarthy, Thomas, Bellringer, & Cassidy, 2019; Wardle et al., 2011). Gambling for socializing, enhancement, challenge and escape reasons are more common among younger

gamblers (Francis et al., 2015; Pallesen et al., 2020; Wardle et al., 2011), whereas monetary motives and supporting worthy causes tend to be more common among older gamblers (McGrath et al., 2010; Pallesen et al., 2020; Volberg et al., 2015; Wardle et al., 2011). The following differences are reported concerning income and employment groups: enhancement, recreational and escape motives are common motives in the low-income group, while the monetary motive is mutual for all income groups (Wardle et al., 2011). Enhancement, recreational and escape motives are common among unemployed and students, although students gamble for social reasons, as well. Those with long-term disability or retired often gamble for recreational reasons, whereas homemakers report gambling for escape. Money motive is common in all employment groups, but particularly commonly it is reported among those with long-term disability.

### Gambling motives and gambling behavior

The associations between gambling motives and gambling behavior (e.g. gambling frequency, number of game types and gambling mode) have been explored, as well. Greater gambling frequency is associated with escape, enhancement and money motives (Stewart & Zack, 2008; Volberg et al., 2015), whereas gambling with multiple game types is associated with escape, enhancement and socializing motives (Francis et al., 2015; Stewart & Zack, 2008; Wardle et al., 2011). Gambling can take place on land-based platforms, online portals or both (mixed-mode) (Canale, Santinello, & Griffiths, 2015). According to previous studies, gambling on land-based venues relate to enhancement and socializing, while online gambling is associated with escape and monetary motives (Goldstein, Vilhena-Churchill, Stewart, Hoaken, & Flett, 2016).

Furthermore, escape, enhancement and money motives have consistently been associated with problem gambling (Abbott et al., 2018; Barrada et al., 2019; Francis et al., 2015; Hearn, Ireland, Eilea, & Fisk, 2021; Pallesen et al., 2020; Volberg et al., 2015; Wardle et al., 2011). Among younger gamblers and women with a problem gambling background, the escape motive is particularly common, whereas the enhancement motive is common among problem gambling men (Lloyd et al., 2010; Sundqvist et al., 2016). In contrast, the evidence between social motive and problem gambling is somewhat inconsistent as socializing has been associated with both problem gambling (Pallesen et al., 2020) and non-problem gambling (Barrada et al., 2019; Hearn et al., 2021; Volberg et al., 2015; Wardle et al., 2011). Some studies suggest that the connection between motives and problem gambling may be indirect, suggesting that motives act as mediators between problem gambling and various factors (Blaszczynski & Nower, 2002; Hearn et al., 2021).

All of the above-mentioned factors are also mentioned in the Conceptual Framework of Harmful Gambling (Abbott et al., 2018; Hilbrecht et al., 2020) which summarizes and synthesizes various factors impacting on harmful gambling. The framework also emphasizes how economic and political



environment, as well as cultural factors can impact the nature and frequency of gambling behavior. Thus, there are many different factors which are likely to impact the results in different countries.

### Aims of the current study

Better understanding of the complex role of motives in gambling behavior and related harm, as well as the stability or changes in motives, is important in preventing harms and developing support and treatment for those in need. The objectives of this study include: (1) to describe gambling motives: primary motive and additional motives, (2) to explore how gambling motives are associated with socio-demographic factors (gender, age, income and employment status) and gambling behavior (gambling frequency, number of game types, gambling mode and gambling severity), and (3) to explore whether and how gambling motives change over a one-year period.

## METHOD

### Participants and procedure

This study is based on a population-based longitudinal Finnish Gambling Harms survey which was launched to explore gambling, gambling-related harm and opinions on gambling marketing during the reform of the Finnish gambling monopoly. In the reform, three gambling operators were merged into one monopoly supplier, Veikkaus Oy. The rationale behind the reform was that one monopoly supplier would be better at preventing gambling harms than three operators who compete with each other (Salonen et al., 2017, 2019). The wave I data evaluating the situation in 2016 (before the reform) was collected between January 9th and

May 26th in 2017 by Statistics Finland and the potential participants ( $N = 20,000$ ) were randomly selected from the population register. The participants were Finnish adults who lived in three different regions; Uusimaa, Pirkanmaa and Kymenlaakso. The inclusion criteria were  $\geq 18$  years old and fluency in Finnish or Swedish. The age group of 18–24-year-olds was oversampled: 15% of this group was sampled for the survey while they represent 10% of the population. The response rate of wave I was 36% ( $n = 7,186$ ). The mean age of the participants was 48.5 years ( $SD = 17.7$ ) and 49.9% were women. A total of 82% of the participants ( $n = 5,805$ ) from the wave I had gambled in 2016. Participants without any information on gambling motives ( $n = 121$ ) were excluded from the analysis leaving a total of 5,684 participants in the final sample. Wave II data evaluating the situation in 2017 (after the reform) was collected between January 15th and April 30th in 2018. Eventually, 2,624 respondents participated in both waves, which represent 57% of those who participated in wave I and gave their consent for the wave II invitation. Finally, 2,078 past-year gamblers (49.4% women) were included for the longitudinal analysis.

### Measures

**Gambling motives.** Gambling motives were assessed with a categorical question: “What would you say is the main reason that you gamble?” (Williams, Volberg, Stevens, Williams, & Arthur, 2017). First, the participants were asked to choose only one primary reason for their gambling (primary motive). Then, the participants were instructed to choose what other possible reasons they had for their gambling (additional motives). The responses for both questions were recoded into six categories based on the Massachusetts Baseline Population Survey (SEIGMA,

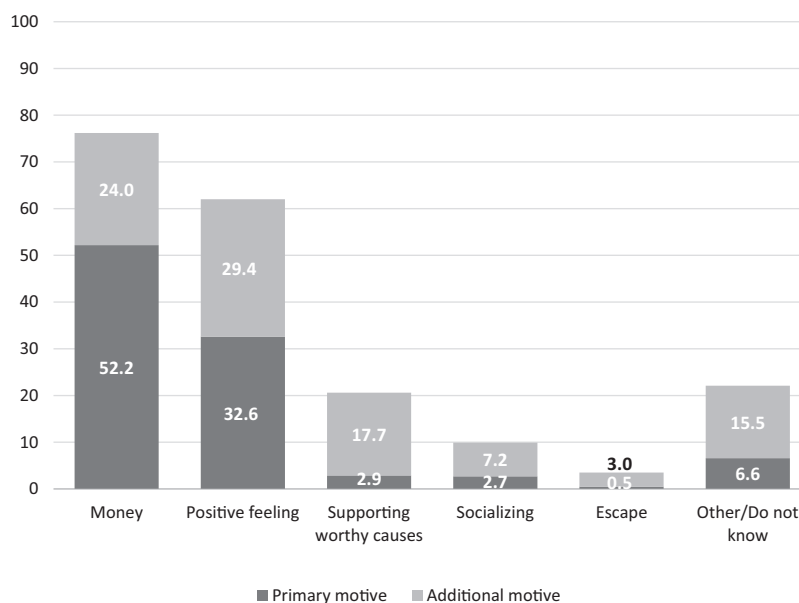


Fig. 1. Frequencies of the primary gambling motives and additional gambling motives in 2016. First-wave data including past-year gamblers (82.0%, non-weighted  $n = 5,684$ )

Volberg et al., 2015). The answer options and their recoding are presented in Table 1. As the group sizes for some primary motives were small, primary and additional motives were combined for the regression models to reflect gambling motives more broadly. Therefore, the simple term ‘motive’ is used when a primary motive and an additional motive for gambling are considered together further in the text.

**Demographics.** Register-based gender and age were used while income and employment status were requested from the participants.

**Past-year gambling participation.** The focus of the surveys was on past-year gambling participation (i.e., in 2016 and 2017). Gambling participation and frequency was inquired for 18 pre-defined game types. The participant’s gambling frequency was calculated based on the game type which the participant gambled the most often. Then, the number of game types was calculated using these game types (see Tables 2 and 3). 41 missing values were recoded as ‘1 game type’ as these participants indicated using money for gambling during 2016. The gambling mode was measured with a categorical question with three different options: land-based, online or mixed-mode. The variable was dichotomized so that ‘0’ = land-based gambling and ‘1’ = online or mixed-mode gambling. Those who had given no answer to this question but indicated gambling some game type provided online only ( $n = 61$ ) were recoded into online or mixed-mode gambling. Similarly, those who had not given answer to this question but indicated gambling game types provided in land-based venues only ( $n = 320$ ) were recoded into land-based gambling.

**Problem gambling severity.** Problem gambling severity was assessed with a 14-item Problem and Pathological Gambling Measure (PPGM; Williams & Volberg, 2010, 2014). The PPGM covers three categories: Problems (7 questions), Impaired Control (4 questions), and Other Issues (3 questions).

Table 1. Options for the reasons to gamble and how they were recoded

Option	Recoding
For excitement, entertainment or fun	Positive feeling
Because it makes you feel good about yourself <sup>a</sup>	Positive feeling
To win money	Money
To escape or distract yourself	Escape
To socialize with family or friends	Socializing
To support worthy causes	Supporting worthy causes
Other reason <sup>b</sup>	Other reason/Do not know
Do not know	Other reason/Do not know

Note. <sup>a</sup> Preliminary crosstabulations revealed that the distribution of the item ‘Because it makes you feel good about yourself’ was much closer to the distribution of ‘excitement, entertainment or fun’ than the distribution of the item ‘to escape or to distract yourself’; <sup>b</sup> Other reasons included, i.e., receiving a scratch card as a gift or wanting to get rid of loose coins.

Problem gambling severity was categorized into recreational gambling, at-risk gambling, problem gambling and pathological gambling (Williams & Volberg, 2010, pp. 85–87). 14 missing values and those who gambled less than once per month were defined as recreational gamblers. Problem and pathological gambling were combined into a single category. The PPGM has proven to be a sensitive and accurate instrument for identifying problem gambling (Williams & Volberg, 2014). Herein, Cronbach’s Alpha was 0.91.

## Statistical analysis

First, the frequencies of main gambling motive and additional motives were estimated with the first wave data to describe their prevalence. Second, five separate binary logistic regression analyses were conducted to explore the relationship of each gambling motive (including both main and additional motives) to different sociodemographic and gambling behavior-related factors. Third, the categorical stability of gambling motives and changes in the amount of motives after one year was assessed using a longitudinal design with McNemar’s test (McNemar, 1947). McNemar’s test is typically used in a pretest posttest study designs with categorical variables (Bokhove, 2018). The test compares the proportion of respondents who changed in one direction to the proportion of respondents who changed in the opposite direction. All analyses were performed with IBM SPSS 27.0 statistical software (SPSS, Chicago, IL, USA).

## Ethics

Participation in the study was voluntary and informed consent was obtained. All the answers were treated confidentially, and the study results will be reported as statistics and tables so that participants are impossible to identify. The Ethics Committee of the Finnish Institute for Health and Welfare approved the research protocol (THL/1390/6.02.01/2016).

## RESULTS

### Main motive and additional motives

Winning money was the most common motive for gambling; 52.2% chose it as their primary motive and 24.0% as an additional motive (Fig. 1). Positive feeling was the second most common motive; 32.6% of the participants selected positive feeling for their primary motive and 29.4% for an additional motive. Supporting worthy causes, socializing and escape were more common as additional motives than as primary motives. Overall, escape was the least common gambling motive, and few chose it as an additional motive.

### Gambling motives and the correlates

The results of the logistic regression models focusing on the five motives (positive feeling, money, supporting worthy causes, socializing and escape) are presented in Tables 2 and 3.





Table 2. Sociodemographic and gambling participation-related factors associated with gambling for positive feeling, money and supporting worthy causes in 2016

	Positive Feeling		Money		Worthy Causes	
	OR	95% CI	OR	95% CI	OR	95% CI
Gender						
Women	1	1	1	1	1	1
Men	0.97	0.86–1.10	0.73***	0.63–0.83	0.89	0.78–1.02
Age in years						
18–24	1	1	1	1	1	1
25–34	0.69*	0.51–0.94	1.42*	1.07–1.88	1.31	0.96–1.80
35–44	0.43***	0.31–0.58	1.39*	1.04–1.86	1.37	0.99–1.90
45–54	0.27***	0.20–0.36	1.47*	1.09–1.98	1.21	0.87–1.69
55–64	0.28***	0.20–0.38	1.37*	1.01–1.87	1.46*	1.04–2.05
≥65	0.33***	0.22–0.49	1.12	0.74–1.68	2.12**	1.37–3.28
Income <sup>a</sup> (per month)						
≤ 1300 EUR (Q <sub>1</sub> )	1	1	1	1	1	1
1301–1900 EUR (Q <sub>2</sub> )	1.20	0.99–1.46	1.04	0.84–1.29	0.99	0.80–1.22
1901–2500 EUR (Q <sub>3</sub> )	1.15	0.94–1.41	0.98	0.78–1.22	0.95	0.76–1.19
≥2501 EUR (Q <sub>4</sub> )	1.42**	1.14–1.76	1.07	0.84–1.37	1.09	0.85–1.38
No answer <sup>b</sup>	0.88	0.69–1.13	0.81	0.62–1.04	0.79	0.59–1.05
Employment status <sup>a</sup>						
Employed	1	1	1	1	1	1
Student	1.14	0.84–1.56	1.02	0.76–1.40	1.06	0.76–1.48
Unemployed or laid off	0.90	0.68–1.18	1.19	0.86–1.64	0.93	0.68–1.27
Retired	0.95	0.71–1.27	0.75	0.54–1.04	0.84	0.60–1.17
Disabled	1.36	0.97–1.91	0.92	0.63–1.36	1.13	0.79–1.62
Homemakers	0.87	0.57–1.31	1.31	0.79–2.16	0.44**	0.24–0.80
Other <sup>c</sup>	0.88	0.65–1.20	0.83	0.60–1.14	0.58**	0.39–0.86
Gambling Frequency <sup>a</sup>						
Less than monthly <sup>b</sup>	1	1	1	1	1	1
1–3/month	1.11	0.94–1.31	1.68***	1.40–2.00	1.46***	1.22–1.76
Once/week	0.90	0.76–1.06	2.30***	1.91–2.78	1.52***	1.27–1.84
Several times/week or daily	1.29*	1.00–1.66	2.00***	1.52–2.65	1.09	0.83–1.43
Number of game types <sup>a</sup>						
1 game type <sup>b</sup>	1	1	1	1	1	1
2 game types	1.59***	1.35–1.88	1.27*	1.06–1.53	1.05	0.87–1.29
3 game types	2.59***	2.15–3.12	1.27*	1.03–1.67	1.21	0.98–1.50
≥4 game types	4.09***	3.43–4.87	1.12	0.92–1.35	1.21	0.99–1.48
Gambling mode <sup>a</sup>						
Land-based <sup>b</sup>	1	1	1	1	1	1
Online or mixed-mode	1.11	0.98–1.27	1.64***	1.41–1.91	0.76***	0.66–0.88
Gambling severity <sup>a,c</sup>						
Recreational gambling <sup>b,e</sup>	1	1	1	1	1	1
At-risk gambling	1.63***	1.30–2.03	1.55**	1.19–2.02	0.94	0.75–1.16
Problem/pathological gambling	1.21	0.79–1.83	0.87	0.57–1.33	0.89	0.58–1.37
Nagelkerge R <sup>2</sup>	0.19		0.09		0.03	

First-wave data including past-year gamblers (non-weighted  $n = 5,684$ ); for the logistic regression models, the main motive and additional motives were combined to reflect gambling motives more broadly.

<sup>a</sup>in 2016; <sup>b</sup>Includes the missing values; <sup>c</sup>Includes those in military or civil service; <sup>d</sup>PPGM; the Problem and Pathological Gambling Measure, <sup>e</sup>Includes those who gambled less than once a month. \*  $P < 0.05$ , \*\*  $P < 0.01$ , \*\*\*  $P < 0.001$ .

Sociodemographic and gambling behavior-related variables were correlates in the models.

Older age groups had lower likelihood (OR = 0.27–0.69) to gamble for positive feeling than 18–24-year-olds. The odds were also higher among those with more intense gambling in terms of frequency (OR = 1.29) and number of game types (OR = 1.59–4.09). Compared to those who

gambled at recreational level, those who gambled at at-risk level had higher odds to gamble for positive feeling (OR = 1.63). The association was non-significant among those with problem gambling, however.

Men had a lower probability than women to gamble for money (OR = 0.73). The odds were also higher for respondents over 24 years (OR 1.37–1.47) than 18–24-year-olds.



Table 3. Sociodemographic and gambling participation-related factors associated with gambling for socializing and escape

	Socializing		Escape	
	OR	95% CI	OR	95% CI
Gender				
Women	1	1	1	1
Men	1.13	0.94–1.37	1.13	0.81–1.58
Age				
18–24	1	1	1	1
25–34	0.74	0.54–1.02	1.97*	1.15–3.37
35–44	0.49***	0.35–0.71	1.12	0.61–2.06
45–54	0.38***	0.26–0.56	0.91	0.49–1.70
55–64	0.46***	0.31–0.69	0.48*	0.23–1.00
≥65	0.44***	0.24–0.80	0.86	0.29–2.54
Income (per month) <sup>a</sup>				
≤ 1,300 EUR (Q <sub>1</sub> )	1	1	1	1
1,301–1,900 EUR (Q <sub>2</sub> )	0.76	0.56–1.03	1.02	0.64–1.64
1,901–2,500 EUR (Q <sub>3</sub> )	1.00	0.74–1.37	0.88	0.53–1.48
≥2,501 EUR (Q <sub>4</sub> )	1.06	0.76–1.47	0.71	0.39–1.28
No answer <sup>b</sup>	0.57*	0.37–0.88	1.24	0.66–2.36
Employment status <sup>a</sup>				
Employed	1	1	1	1
Student	1.04	0.72–1.51	1.22	0.65–2.30
Unemployed or laid off	0.93	0.62–1.40	1.34	0.73–2.43
Retired	1.00	0.59–1.71	0.74	0.27–1.993
Disabled	0.58	0.30–1.12	1.22	0.58–2.57
Homemaker	0.50	0.25–1.01	2.69**	1.31–5.53
Other <sup>c</sup>	0.76	0.46–1.27	1.24	0.61–2.54
Gambling frequency <sup>a</sup>				
Less than monthly <sup>b</sup>	1	1	1	1
1–3/month	0.53***	0.42–0.68	1.52	0.94–2.45
Once/week	0.46***	0.35–0.60	0.96	0.56–1.65
Several times/week or daily	0.40***	0.27–0.58	1.70	0.95–3.05
Number of game types <sup>a</sup>				
1 game type <sup>b</sup>	1	1	1	1
2 game types	1.37*	1.03–1.81	1.73	0.90–3.32
3 game types	1.39*	1.02–1.89	1.61	0.82–3.18
≥4 game types	2.31***	1.75–3.04	2.31**	1.25–4.24
Gambling mode <sup>a</sup>				
Land-based <sup>b</sup>	1	1	1	1
Online or mixed mode	0.66***	0.54–0.81	1.04	0.74–1.47
Gambling severity <sup>a,c</sup>				
Recreational gambling <sup>b,d</sup>	1	1	1	1
At-risk gambling	1.25	0.92–1.69	2.87***	1.95–4.23
Problem/pathological gambling	0.92	0.50–1.71	10.80***	6.68–17.47
Nagelkerge R <sup>2</sup>	0.07		0.18	

First-wave data including past-year gamblers (non-weighted  $n = 5,684$ ); for the logistic regression models, the main motive and additional motives were combined to reflect gambling motives more broadly.

<sup>a</sup>in 2016; <sup>b</sup>Includes the missing values; <sup>c</sup>Includes those in military or civil service; <sup>d</sup>PPGM; the Problem and Pathological Gambling Measure, <sup>e</sup>Includes those who gambled less than once a month. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ .

Compared to those who gambled less than monthly, those with more frequent gambling had higher odds to gamble for money (OR = 1.68–2.30). Moreover, the odds were higher among those who gambled with two or three game types (OR = 1.27), online or mixed mode (OR = 1.64) or at at-risk level (OR = 1.55) than among those who gambled using only one game type, land-based or at recreational level.

The odds of supporting worthy causes were higher among the oldest age groups (OR = 1.46–2.12) compared

to 18–24-year-olds. The odds were lower among homemakers (OR = 0.44) and those in the category of ‘other’ (OR = 0.58) than among employed. Those who gambled 1–4 times in a month had higher odds to support worthy causes (OR = 1.46–1.52) than those who gambled less than monthly. In contrast, the odds of supporting worthy causes were lower among those who gambled online or in mixed-mode (OR = 0.76) than among land-based gamblers.



The odds of socializing were lower among the respondents over 35 years (OR = 0.38–0.49) and those with more frequent gambling (OR = 0.40–0.53) compared to 18–24-year-olds and those with less than monthly gambling. On the contrary, those who gambled using multiple game types had higher odds to gamble for socializing (OR = 1.37–2.31) than those who gambled using only one game type. Compared to those who gambled land-based, those who gambled online or in mixed-mode were less likely to gamble for socializing (OR = 0.66).

Finally, compared to 18–24-year-olds, the odds of gambling to escape was higher among 25–34-year-olds (OR = 1.97) and lower among 55–64-year-olds (OR = 0.48). The odds were also higher among homemakers (OR = 2.69) than among employed. Moreover, the odds of gambling to escape were higher among those who gambled using four or more game types (OR = 2.31), at-risk (OR = 2.87) or problem level (OR = 10.80) than those who gambled using just one game type or at recreational level.

### Gambling motives between time

Overall, a small decrease in supporting worthy causes and a small increase in the category ‘Other/Do not know’ were detected (Table 4). A small decrease was detected in socializing as a primary motive. Gambling for positive feeling, money and supporting worthy causes as additional motives decreased between 2016 and 2017 while ‘Other/Do not know’ increased. The proportion of those who had one gambling motive or three gambling motives decreased while the number of those who had two gambling motives increased between 2016 and 2017 (Table 5).

## DISCUSSION

### Gambling for money and positive feeling were the most common motives

In line with previous studies, winning money and positive feeling were the most common motives for gambling. This

Table 4. The categorical stability of gambling motives from 2016 to 2017

Gambling motives (primary + additional)				Endorsed in 2016, not in 2017		Endorsed in 2017, not in 2016		McNemar's test <i>P</i>	
	Endorsed in 2016		Endorsed in 2017						
	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	
Money	79.2	(1,641)	78.9	(1,629)	9.5	(199)	9.2	(193)	0.801
Positive feeling	66.7	(1,356)	66.7	(1,351)	12.0	(255)	12.0	(260)	1.000
Worthy causes	26.3	(559)	21.0	(460)	8.1	(179)	13.4	(278)	<0.001
Socializing	10.5	(214)	10.5	(211)	6.1	(121)	6.2	(124)	0.951
Escape	3.3	(56)	2.8	(50)	2.0	(36)	2.5	(42)	0.358
Other <sup>1</sup>	18.9	(416)	22.8	(487)	13.5	(284)	9.6	(213)	<0.001
Primary gambling motives				Endorsed in 2016, not in 2017		Endorsed in 2017, not in 2016		McNemar's test <i>P</i>	
	Endorsed in 2016		Endorsed in 2017						
	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	
Money	52.8	(1,112)	53.4	(1,119)	13.0	(266)	12.4	(259)	0.634
Positive feeling	35.1	(707)	33.8	(684)	12.2	(256)	13.5	(279)	0.264
Worthy causes	3.0	(72)	3.2	(73)	1.9	(45)	1.8	(44)	0.734
Socializing	2.7	(57)	1.8	(40)	1.0	(26)	2.0	(43)	0.017
Escape	0.5	(8)	0.2	(5)	0.2	(<5)	0.4	(7)	†
Other <sup>1</sup>	4.7	(102)	5.8	(120)	4.3	(92)	3.3	(74)	0.099
Missing	1.2	(20)	1.8	(37)	1.7	(35)	1.0	(18)	0.111
Additional gambling motives				Endorsed in 2016, not in 2017		Endorsed in 2017, not in 2016		McNemar's test <i>P</i>	
	Endorsed in 2016		Endorsed in 2017						
	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	%	( <i>n</i> )	
Money	40.0	(815)	28.8	(581)	12.7	(264)	24.3	(498)	<0.001
Positive feeling	47.0	(952)	42.4	(859)	15.7	(332)	20.3	(425)	<0.001
Worthy causes	24.3	(507)	18.3	(397)	8.2	(179)	14.1	(289)	<0.001
Socializing	8.4	(168)	8.9	(177)	6.2	(120)	5.7	(111)	0.569
Escape	2.9	(49)	2.6	(45)	1.9	(34)	2.2	(38)	0.520
Other <sup>1</sup>	17.3	(383)	20.5	(440)	12.7	(269)	9.5	(212)	0.003

Note. *n* = 2,078 in both waves; Percentages are calculated from the weighted data, frequencies from the non-weighted data; <sup>1</sup>Other/Do not know; † Data too uncertain for presentation.

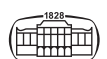




Table 5. Changes in the amount of motives in 2016 and 2017

	2016 ( <i>n</i> = 2,078 <sup>1</sup> ) % ( <i>n</i> )	2017 ( <i>n</i> = 2,078 <sup>1</sup> ) % ( <i>n</i> )	McNemar's test <i>P</i>
0 motives	1.1 (18)	1.6 (34)	0.212
1 motive	17.6 (379)	11.4 (250)	<0.001
2 motives	59.5 (1,236)	71.7 (1,485)	<0.001
3 motives	19.1 (393)	13.1 (270)	<0.001
≥4 motives	2.7 (52)	2.1 (39)	0.230

<sup>1</sup>Longitudinal non-weighted data including past-year gamblers in 2016 and 2017.

reflects the central features of gambling – the possibility of winning money and reward uncertainty – which are linked to dopamine release and pleasure (Anselme & Robinson, 2013; Binde, 2013; Dechant, 2014). Positive feeling and money motives were also associated with at-risk gambling, while the escape motive was associated with both at-risk and problem gambling, which may manifest the trajectory of problem gambling (i.e., motives change over time). The development of gambling disorder is known to start from pleasure and end at preoccupation, mood regulation, loss of control and change in tolerance (APA, 2013; Blaszczynski, Walker, Sharpe, & Nower, 2008).

Supporting worthy causes, socializing and escape were more often additional motives and multiple times more common than as primary motives. It could be that different motives are entangled and feed one another, thus additional motives support the main gambling motive (Binde, 2013). It is possible that if the individual does not find the possibility of winning pleasurable in the first place, socializing, supporting worthy causes or escape motives alone would not stand as sufficiently strong motives to gamble.

### Women gambled for money more than men

In contrast to previous population studies (Francis et al., 2015; Pallesen et al., 2020; Volberg et al., 2015), women gambled for money more than men. There may be various explanations for this. According to the Conceptual Framework of Harmful Gambling (Abbott et al., 2018), gambling takes many forms and occurs in various settings in different environments, while significant differences may also occur in gambling exposure, game types and gambling resources. Furthermore, several cultural, biological, social and psychological factors may also have an impact on gambling which should be considered when comparing the results from different countries and contexts. Women often prefer chance-based games (McCarthy et al., 2018). In Finland, there is high availability and easy accessibility to various game types, and especially chance-based EGMs which are among top three game types among Finns (Raisamo, Toikka, Selin, & Heiskanen, 2019; Salonen, Hagfors et al., 2020). Moreover, some recent prevalence studies have found that gender differences are becoming less clear as women's gambling participation is increasing, and women's gambling behavior and motives to gamble start to resemble those with men (McCarthy et al., 2019; Wardle et al., 2011). This may

reflect the 'feminization' of gambling as some forms of gambling have become more socially acceptable, safe and less stigmatizing for women (Abbott et al., 2018; McCarthy et al., 2019). However, more research on how motivational characteristics interact with gender and gambling types is needed.

### Online gambling was associated with monetary motive

In our study, the monetary motive was also associated with online gambling. For online gamblers, the monetary motive may be enhanced by a larger variation of games available and the possibility to gamble on multiple offshore and unregulated gambling sites with fast payout rates, free credits and bonuses (Gainsbury, Russell, Hing, & Blaszczynski, 2018). Online gambling paired with the monetary motive may form an additional risk since many gambling sites offer a variety of fast-phased games with easy access 24/7. However, further research is needed on motivational factors and pathways to offshore gambling. Finnish gambling provider Veikkaus Oy have various responsible gambling tools to be used online, but the efficacy linked with their usage (i.e. money setting limit, self-exclusion, panic button) has not been investigated yet. Therefore, research on account-based player data is needed in order to build up effective harm reduction initiatives.

### Gambling motives may reflect the normalization of gambling as leisure activity among youth

Both gambling for positive feeling and socializing were associated with younger age, as was found in previous research (Francis et al., 2015; Pallesen et al., 2020) and may reflect the normalization and social acceptance of gambling as a leisure activity among youth. Besides, positive feeling was linked with relatively high income, and high gambling intensity and versatility in terms of gambling frequency, game types and multiple modes. High income can buffer negative outcomes of excessive gambling to some extent, as people with high income gamble with a smaller proportion of their income than people with lower income (Castrén, Kontto, Alho, & Salonen, 2018). On the other hand, gambling for socializing was associated with infrequent gambling on land-based venues, but with multiple game types. Gambling can evoke powerful emotions, such as excitement and pleasure, and when it is linked to socializing with peers, with time it can turn into a way to cope (Jauregui & Estevez, 2020). This may explain our result regarding the escape motive being the most common among 25–34-year-olds. Youth and young adulthood are periods when socializing with peers is important, yet risk-taking is relatively common, and through social norms, peers and online peer groups can encourage risky behavior (Savolainen, Sirola, Kaakinen, & Oksanen, 2019). Due to the high prevalence of gambling among youth (Salonen, Lind, et al., 2020; Salonen & Raisamo, 2015), a plan to incorporate these findings into a preventive programs targeting public, educating professionals, and planning secondary and tertiary prevention in Finland has to be put in action.



### Supporting worthy causes was common among older adults

Older adults were found to gamble with the motive of supporting worthy causes. Again, this is in line with previous research (McGrath et al., 2010; Pallesen et al., 2020; Volberg et al., 2015). This may also reflect the culture-specific environment. There has been a state monopoly for gambling in Finland for more than 70 years and the gambling profits are used to support public interest activities, such as sports, science, art and youth work. For decades, gambling has been marketed for Finns as a support for worthy causes (Örnberg & Tammi, 2011), however, recently, gambling marketing has been changed towards more responsible marketing (Forström & Cisneros Örnberg, 2019; Nikkinen, 2019). It may be that the older generation may perceive gambling more often as a form of charity in a Finnish cultural context. Overall, a low rate of problem gambling was a distinctive feature of this age group, which may be related to less risky game types preferred by older adults, such as weekly national lottery and scratch cards (Salonen, Lind, et al., 2020).

### Escape motive was consistently associated with gambling severity and intensity

Along with young age, gambling to escape was associated with being a homemaker as well as both at-risk and problem gambling. This is largely consistent with previous findings (Binde, Romild, & Volberg, 2017; Francis et al., 2015; Mazar, Zorn, Becker, & Volber, 2020; Pallesen et al., 2020; Wardle et al., 2011; Yakovenko et al., 2016). Individuals who engage in problem gambling often use gambling to regulate emotions (Wood & Griffiths, 2007). Taking care of a relative can be an emotionally burdensome situation sometimes involving frustration and loneliness. For some homemakers, gambling may offer an escape from daily stresses, relieve tension and work as a coping strategy (Lloyd, Nicklin, Rhodes, & Hurst, 2021; Wardle et al., 2011). Some gamblers with the escape motive describe gambling as a dissociative state (Wood & Griffiths, 2007), which can intensify gambling. Thus, problem gambling often manifests in high gambling intensity and versatility, which likely explains our results (Mazar, Zorn, Becker, & Volberg, 2020).

Based on the Conceptual Framework of Harmful Gambling, gambling motives are classified as significant factors contributing to gambling-related harm (Abbott et al., 2018; Hilbrecht et al., 2020). Furthermore, gambling motives have been found to mediate the relationship between problem gambling and impulsivity traits (Canale, Vieno, Griffiths, Rubaltelli, & Santinello, 2015; Kim, Poole, Hodgins, McGrath, & Dobson, 2019), cognitive distortions (Mathieu, Barrault, Brunault, & Varescon, 2018, 2020) and affective states (Hearn et al., 2021). However, further studies on this topic are needed.

### Gambling motives remained relatively stable

The primary motives to gamble remained relatively stable for one year, which contrasts with the previous findings

(McGrath & Konkoly Thege, 2018). In turn, additional gambling motives were less stable as the proportion of positive feeling, money and supporting worthy causes decreased. The small decrease in the supporting worthy causes may be explained with the reform of the Finnish gambling market in 2017. The reform drew public attention and stirred up discussion about the role of gambling operators, as three gambling operators merged into one monopoly supplier, Veikkaus Oy. It also raised critique against the Finnish gambling system where gambling profits are used to fund public interests, as studies revealed that 50% of the gambling profits comes from 2.5% to 5% gamblers and largely from at-risk and problem gambling (Castrén et al., 2018; Grönroos, Kouvonon, Kontto, & Salonen, 2021; Salonen, Lind, et al., 2020). This may have affected public opinion; thus, it may be showing in the results. However, longer follow-up time and longitudinal research from the stability and changes of gambling motives are needed in the future.

### Limitations

This study is the first to explore Finns' gambling motives and their associations with socio-demographics and gambling behavior. Notwithstanding, this study has limitations. Gambling motives were assessed with a single question, and the challenge motive identified in some previous studies (e.g. Binde, 2013) was not included in this. This single-question solution might explain the low prevalence rate of escape motive as gamblers who would indeed score higher on a continuous escape scale might be inadequately identified when a single item is used for assessing gambling motivation (see McGrath & Konkoly Thege, 2018). Moreover, some respondents might have found the labeling of escape motive as stigmatizing and thus choose some other more socially desirable motive. Future research would benefit from using a validated measure for gambling motives. According to previous studies (e.g. Abbott et al., 2018), game types are possible factor that impacts on gambling motives. Due to small group sizes in some motives, however, the association between game types and motives was impossible to explore in this study, but future studies should try to fill this gap. It is also noteworthy that the gambling frequency may be an underestimation if it is calculated based on the game type which the participant gambles most often. For example, if a person gambles lottery once a week and EGM in some other day of the same week, her gambling frequency would still be calculated as once a week.

Lastly, socio-demographic register-based data from Statistics Finland was linked to a study sample to obtain information from respondents and non-respondents (Salonen et al., 2017). It revealed that women and older participants participated more eagerly than men and younger participants. The most active respondents included 65–74-year-olds and the least active were 18–24-year-olds. Those who were married and with higher education were more eager to participate than single, divorced or those with lower education.



## CONCLUSIONS

Gender and age profiles varied in different motives. Women gambled more often to win money than men. Young age was associated with gambling for positive feeling, socializing and escape motives although their socioeconomic and gambler profiles differed. Older adults preferred supporting worthy causes. The escape motive was the most clearly linked with problem gambling. Gambling to win money and getting a positive feeling were most often primary motives whereas socializing, supporting worthy causes and escape motives were more common as additional motives. Overall, gambling motives remained quite constant over the course of a one-year-period although longer period of time would be needed to confirm the results. Specific gambling motives that may pose a risk or harm should be noted. Policy implications would be to increase public awareness, stakeholders in promoting less harmful gambling (i.e. recognizing one's own motives and being aware of expenditure of gambling).

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