

The Attitudes of Gamblers - Examination of Hungarian Gamblers for Prevention Purposes

Judit Tessenyi

John von Neumann University, Kecskemét, Hungary

***Correspondence to:**

Judit Tessenyi
John von Neumann University,
Kecskemét, Hungary.
E-mail: tessenyjudit@gmail.com

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Abstract

This study is comparative research that deals with the attitudes of gamblers, with a special emphasis on the prevention goal. Attitude refers to a gambler's opinion and attitude towards gambling. According to research history, attitude is closely related to past behavior and behavioral intentions. Previous research has also shown that attitudes differ between gambling addicts and non-addicts, and that problem gamblers have different attitudes towards gambling. In general, attitudes toward gambling are negative and gambling is believed to be more harmful than beneficial to individuals and society. The methodology of the research included the use of an attitude scale, the ATGS (Attitudes Towards Gambling Scale), in which the respondents had to answer 8 statements on a five-point scale. We examined the correlations of gender, age, and education level with attitude. Attitude can be an important indicator of future behavior and can help shape previous actions. The research results suggest that attitudes towards gambling are gradually becoming more accepting. Further research is needed to analyze the data in more detail and to better understand cultural influences on attitudes.

Keywords

Gambling, Attitude, Problem gambler, Addiction, Mental recreation

Introduction

One of the very first gambling attitude studies was conducted by Oh and Hsu [1]. In a study of 2,700 randomly selected individuals, they first identified "current gamblers" (those who reported having gambled in the past 12 months), and then 485 addicted gamblers were identified through systematic probability sampling. As the second step of the investigation, the players had to fill out a questionnaire independently, which related to their past gambling behavior, habits, social norms, behavior, and behavioral intentions. The researchers sent a second questionnaire to the returnees two months later to record any changes in their attitudes.

Both past behavior and behavioral intention were directly positively related to actual behavior. Past behavior, attitude, knowledge of social norms, and self-control had a direct positive relationship with behavioral intention [2]. In our interpretation, this means that the attitude test can be suitable for estimating future behavior, thus indirectly for orienting preventive measures. If we can determine who is "too close" to gambling based on their opinion by examining the attitude, we can also target preventive interventions.

In 2007, Sproston et al. [3] conducted a follow-up study using an independent attitude test (ATGS) to assess opinions on gambling. Surveying 8,880 par-

ticipants, the study found that, on average, attitudes towards gambling were negative, with 12 out of 14 questions yielding negative responses. The consensus was that gambling is more harmful than beneficial to individuals and society, suggesting non-support for its proliferation. Among the 14 questions, two exceptions stood out, both answered positively: the recognition of an individual's right to gamble and the rejection of a complete gambling ban. Furthermore, specific groups with favorable views on gambling were identified: individuals under 35 years old, frequent alcohol consumers, and those engaged in more than four types of gambling.

In a recent study from Australia, the authors, who were Australians themselves, conducted an online research project involving 500 adolescents and adults, all aged 16 and above. The participants were carefully chosen to represent a diverse cross-section of the population in terms of age and gender. These individuals were currently living in the state of Victoria, Australia.

The study aimed to delve into various aspects of gambling behavior. To measure the severity of gambling-related issues, the researchers employed a tool called the Problem Gambling Severity Index. The participants were queried about their personal gambling habits and experiences. Specifically, the study examined people's perceptions of the negative consequences associated with different forms of gambling, including electronic gambling machines, sports betting, horse betting, and casino gambling.

Furthermore, the researchers inquired about the participants' opinions on strategies aimed at reducing the harms of gambling. These strategies encompassed a range of approaches such as regulating marketing and promotions related to gambling, imposing restrictions on gambling products and venues, and implementing public education campaigns to raise awareness about gambling-related risks.

To analyze the data, the researchers employed both quantitative and qualitative methods. Quantitative data, which involved numerical information, were subjected to descriptive statistical analyses and paired t tests. On the other hand, qualitative responses to open-ended questions were analyzed using a thematic approach, which involved identifying and interpreting recurring themes and patterns in the participants' written answers [4].

In 2014, Salonen and colleagues [5] conducted a population survey of 4,484 people using the ATGS-8 attitude scale in Finland and concluded that young men with higher-than-average incomes are much more lenient in judging the harmfulness of gambling, i.e., their gambling attitudes are much more positive than of the average Finnish society, which is generally disapproving of gambling - according to the test.

"The quality and breadth of research on gambling advertising are weaker than those in comparable areas (e.g., alcohol and tobacco), with an absence of longitudinal and experimental studies." Bougettaya et al. [6] wrote a methodological problem with the field are discussed, and research directions recommended.

In their study, the Wang et al. [7] investigated what in-

fluences the behavioral intention and behavior of college students in sports betting, using the theory of planned behavior as a theoretical framework for the research. The results showed that attitude was the most important determinant of college students' intention to bet on sports, followed by the effect of subjective norms, while both behavioral intention and perceived control over behavior were significant predictors of sports betting behavior. The study also found some significant moderating effects on problem gambling severity. Subjective norms were more influential for problem gambling students, while attitude was the most important predictor for recreational sports bettors. Wang et al. [7] and Salonen's [1] study investigated female and male attitudes towards gambling, gambling participation, and gambling-related harm in the Finnish population aged 15 - 74. Cross-sectional random sample data were collected in 2011 and 2015. Attitudes were measured using the ATGS-8. Gambling-related harms were studied using the Problem Gambling Severity Index and the South Oaks Gambling Screen.

Robert Williams has a number of publications that discuss the social and economic effects of gambling (both positive and negative) which are highly relevant to this article, for example "The Social and Economic Impacts of Gambling" (2011). In this report they provided an exhaustive review of what is known about the social and economic impacts of gambling, including a compilation of 492 studies on this topic, and a summary of the findings of these studies in a series of tables organized by impact area and type of gambling [8].

Methods

In 2010 Wardle et al. [9] on behalf of the British Gambling Authority (by the way, fulfilling their legal obligations), examined the gambling "consumption" habits and attitudes of the population in Great Britain. A total of 7,756 people were examined in the latter research series. For the attitude tests, the ATGS 8 attitude scale developed in 2007, but shorter by 6 statements (Table 1), was used. The characteristic of the used attitude scale is that 4 of the 8 answers are positive and 4 are negative. Among the positive answers we can mention, e.g., that "most people play with reason", and negative answers include options such as a complete ban on gambling, or that there are too many gambling opportunities in the respondent's opinion these days. Thus, on a scale of 1 to 5 for the 8 questions, the respondent can independently evaluate his agreement or his strong disapproval. Since strongly disagreeing is

Table 1: Attitudes towards gambling scale.

1.	All people you have the right play whenever you want.	1 - 2 - 3 - 4 - 5
2.	Too many a gambling possibility nowadays.	1 - 2 - 3 - 4 - 5
3.	Against s gambling should step up.	1 - 2 - 3 - 4 - 5
4.	Most people play with their wits.	1 - 2 - 3 - 4 - 5
5.	The game of chance dangerous the family for life.	1 - 2 - 3 - 4 - 5
6.	All in all gambling good to society.	1 - 2 - 3 - 4 - 5
7.	A game of chance it cheers you up life.	1 - 2 - 3 - 4 - 5
8.	It would be better, if the gambling it would be forbidden.	1 - 2 - 3 - 4 - 5

Note: Source: [9].

worth 1 point, and strongly agreeing is worth 5-5, the average value of the scale is therefore 24. We can examine whether we can find differences between the opinions of problem gamblers, at-risk players, and normal players [2].

Attitudes towards gambling were measured with the ATGS-8. ATGS-8 is the 8-item version of the original 14-item version instrument developed for the British Gambling Prevalence Survey in 2007 [10]. ATGS-8 items were scored using a Likert scale: 1 = "strongly agree", 2 = "agree", 3 = "neither agree or disagree", 4 = "disagree", and 5 = "strongly disagree". Four items were reversely scored (Table 1). The sum of eight items forms a total ATGS-8 score (range 8 - 40). A score of 24 is a midpoint and represents the overall neutral attitude towards gambling, while scores above 24 indicate an average attitude favourable to gambling and those below 24 unfavourable attitudes towards gambling [10].

The questionnaire

The questionnaire is presented in table 1.

The sample

We used this tool as a basis for our research in June 2011, when we interviewed 65 players in Hungarian lotteries. The response was voluntary, and the questionnaires were filled out independently, in which they had to give their opinion about the games of chance on a 5-point Likert scale (A general tool for measuring attitude is the Likert scale, where the respondent must express the degree of agreement with a statement or approval of an opinion). At the same time (i.e., in 2011) and again in June 2016 at the annual gathering of Gamblers Anonymous - we also filled out the questionnaire with passionate gamblers. We were able to compare the attitude values of 21 respondents from the latter expert group in 2011 and 18 in 2016 with those of "average" players. In 2016, we already used the questionnaire module of the Google Forms service, with the help of which we were no longer only able to collect paper-based data. At the same time, this interface gave us the opportunity to include full-time university students as a separate test target group in our investigation, which - in some cases - we display separately during our data analysis. Accordingly, the five segments provided a total of 234 testable subjects from the data source and test sample presented in figure 1. Of course, in our statistical investigations, it is relevant when the sampling takes place, and the separate investigation of university student data is not necessarily justified, but we will highlight their particularities separately later on.

We evaluated a total of 261 tests. In this case, the "positive attitude" means that the respondents like gambling more than not and consider it more useful than harmful (that they liked

gambling and considered it more useful than harmful).

Analysis

52.3% of those interviewed for the first time were women, and 21 of these 65 interviewed were members of Gamblers Anonymous, i.e., we consider them as detected gambling addicts. After examining the basic data, we had to exclude one respondent's questionnaire from the detailed data analysis due to incomplete completion, and another one was classified as unvaluable based on the given answers. In the next sampling, ladies (75.3%) and singles (50.5%) were overrepresented.

It can also be inferred from the above table that university students were strongly overrepresented in the sample (Table 2).

In our 2016 sample, 16 people only had a primary education, and 31.25% of them were men. 27 people, i.e., 14.8% of the sample, had vocational training, and among them 44.4% were men. Most of the respondents had a high school diploma, about 36 (women were overrepresented in this segment as well) and 10% of our respondents had a higher education. Among the problematic players, we found only one lady, and a surprising number of them, about 44.4%, had a higher (college or university) education. Another characteristic of the group of problem players was the bipolar age group separation, i.e., those over 40 and those aged 18 - 25 together accounted for 78% of the sample, namely in a ratio of 5:9 in favor of those over 40.

The question arises, how did the responses to the ATGS-8 correspond to positive and negative attitudes?

In the original validated test, the negative and positive responses are equalized and appear on the mean value (24). The essence of our tests is precisely that "special test subjects" (problem gamblers, younger age groups, etc.) show deviations from the average.

How can we classify people with mixed opinions? If the opinions given to the negative and positive sides are exactly the same for each respondent, then the measured attitude value will be average.

Table 2: Demographic composition of the respondents according to their age (2016 - 2023 applicants) N = 260 people.

Age	N
18 - 25	152
26 - 35	43
36 - 40	15
over 40	50



Figure 1: Sampling time and number of employees of the investigated population.

Results

Based on the 2011 data adequacy test, we analyzed 63 results using the SPSS 14.1 software (Figure 2). Basically, t-test and analysis of variance (ANOVA) can be used to compare attitude values according to gender, educational level, and other groups. But: a prerequisite for both tests is the normal distribution, this can be assumed in the case of large samples (more than 100 elements in each group), in the case of small samples a normal distribution test must be run. In our study, this condition is met in all groups of all variables based on sig > 0.05 values. We tested the same with the 2016 data.

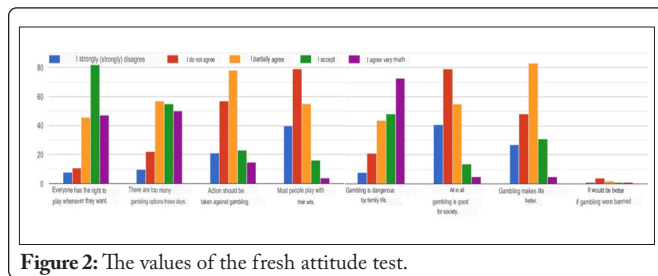


Figure 2: The values of the fresh attitude test.

To examine the differences in attitude, we performed a t-test to detect differences between the sexes, and for the other variables, an ANOVA (Table 3). Homogeneity of variance is a prerequisite for both tests, so we checked this as well. The null hypothesis of the t-test and the ANOVA is the assumption of identity, i.e., that the attitude averages in the groups can be considered the same. Since the significance value is 0.224, homogeneity of variance is fulfilled, so (based on the sig = 0.090 value) our null hypothesis can be accepted for the main question as well (if two groups are compared: 2-sample independent t-test, if more than two: ANOVA), i.e., the attitude averages of men and women can be considered the same. Similarly, the attitude averages in the age groups can be considered the same (since sig = 0.686 > 0.05). The result of our ANOVA test for educational qualifications is sig = 0.090 > 0.05, based on which our null hypothesis is also acceptable, i.e., the attitude averages in the educational qualification groups can be considered the same. Based on the value of the welch test (sig = 0.296 > 0.05) for marital status, this null hypothesis is also acceptable, i.e., the attitude averages in the marital status groups can be considered the same [2].

The first surprise was provided by the university students, as the average of their attitude values is 24.15, which is low-

er than the 2016 sample average. The latter - 24.98 among non-problem players. Therefore, we examined whether the difference in the averages of the attitudes of the university student group and the problem player group was significant, but unfortunately - in a statistical sense - there was not a sufficiently strong relationship.

The correctness of the methodology is partly confirmed by the fact that the average of the attitude values of the 261 respondents is 24. The greatest agreement was that gambling of chance dangerous the family for life. The reason for rejecting the tightening of the legal regulations is that there are currently quite strong restrictions on the organization of gambling in Hungary, i.e., the respondents do not consider further tightening to be necessary (Table 4).

In summary, the compared demographic data in 2011 only showed a measurable difference in the case of age groups, i.e., the attitude averages were the same for all the others and followed a normal distribution [2]. Men gave a higher average attitude score, i.e., the perception of gambling is more positive among them. At the same time, among the examined age groups, the "attitude" of the youngest age group is the most accepting. The situation is similar in the 2016 sample, but we found a statistically significant relationship between gender, educational level, and passionate gambler classification [11].

Table 4: Gambling attitudes values and averages.

ATGS 8 claims	Altogether	Average
All people you have the right play whenever you want.	926	3.54
Too many a gambling possibility nowadays.	944	3.61
Against s gambling should step up.	800	3.06
Most people play with their wits.	659	2.52
The game of chance dangerous the family for life.	985	3.77
All in all gambling good to society.	657	2.51
A game of chance it cheers you up life.	773	2.96
It would be better, if the gambling it would be forbidden.	534	2.42

Comparison of 2016, 2020, and 2023 results

The attitude test described above has now been published again and again every 3 years using the internet and social media, so the latest data provides an opportunity to detect certain differences over time. At the same time, it is important to point out that this cannot be considered a statistically longi-

Table 3: One-step ANOVA test.

		Sum of squares	df	Mean square	F	Sig.
Gender	Between groups	5,396	18	0.300	1.255	0.224
	Within groups	38,692	162	0.239		
	Total	44,088	180			
His age	Between groups	19,471	18	1.082	0.810	0.686
	Within groups	216,319	162	1.335		
	Total	235,790	180			
His education	Between groups	23,899	18	1.328	1.518	0.090
	Within groups	134,714	154	0.875		
	Total	158,613	172			

Note: Source: [11].



Figure 3: Summary conclusion of a time series study.

tudinal study, since we ensured the complete anonymity of the respondents, thus the repeated filling in at a later date did not allow the comparison of personal data with the individual's previous answers.

As can be seen from the above (Figure 3), the vast majority of respondents agree that everyone has the right to play (67%). Opinions are most divided on the issue of too much gambling these days: 79% said they fully or somewhat agree. The most balanced distribution of responses is regarding the following question, whether action should be taken against gambling: 40% only partly agree and the balance tilts slightly in the direction of those who disagree. The answers to the question that "most people play with reason" are surprising, with 41% of those who disagree, and 85.6% of those who absolutely disagree. The most common point of agreement is that "gambling can be dangerous for family life". On the question of whether gambling is good for society overall, 88% of the respondents said no. Many people (59.7%) believe that gambling improves life. Respondents were the least likely to take a stand on the question whether it is right or wrong to ban gambling, it would be good if gambling were banned. The latter question is clearly culturally dependent, i.e., due to the decades-long presence and legitimacy of gambling, it is unthinkable that it should be banned in our country today.

In the last 15 years, we can see a slow upward trend in relation to the measured attitude values, i.e., we have become more and more accepting of gambling. At the same time, it is an interesting trend that, while previously men's values were higher, since 2016 women's attitudes have been more positive compared to men. For reasons of scope, we will cover further, detailed analysis of the data in another article. Instead of a summary, we will finally present the distribution of the 211 responses that arrived at the latest in time, in relation to a single question (Table 5).

Table 5: Everyone has the right to play whenever they want.

	Man	Woman	All	%
I partially agree	9	44	53	25.1
I do not agree	1	10	11	5.2
I agree very much	22	28	50	23.7
I strongly (strongly) disagree	1	8	9	4.2
I accept	19	69	88	41.7

According to the data in table 5, at the time of the 2023 measurement, there was almost complete agreement in favor of accepting and permitting gambling.

Discussion

The provided statement presents a discussion around the use of t-test and ANOVA in analyzing the results of a study based on 2011 data adequacy test, utilizing SPSS 14.1 software. The central focus of the discussion revolves around the assumptions and conditions required for conducting t-tests and ANOVA, specifically pertaining to normal distribution.

1. The problem gambling, pathological gambling, addiction, and gambling disorder are not analogous constructs. Whereas Gambling Disorder is a diagnosis included in the DSM-5, problem gambling is an informal designation gleaned from self-report instruments. Furthermore, attendance to Gamblers Anonymous may indicate a treatment-seeking sample, which is notably different than non-treatment seeking PGs and other gamblers. There is a breadth of research outlining these differences which should be discussed if this is indeed the case.
2. Significance of Normal Distribution Assumption: The discussion can start by emphasizing the significance of the normal distribution assumption in statistical analyses. Normal distribution is a fundamental assumption in many statistical tests, including t-tests and ANOVA. It ensures that the underlying data follows a bell-shaped curve, which is critical for the validity and accuracy of these tests.
3. Application of t-test and ANOVA: The statement introduces the use of t-test and ANOVA as statistical tools to compare attitude values based on different groups such as gender, educational level, and others. These tests are commonly used to assess whether there are statistically significant differences between the means of two or more groups.
4. Prerequisite for t-test and ANOVA: The discussion should then delve into the prerequisites for conducting t-tests and ANOVA, with a specific emphasis on the normal distribution assumption. It can explain how t-tests and ANOVA assume that the data in each group follows a normal distribution to ensure the validity of the test results.
5. Sample Size and Normality: The statement introduces the idea that the normal distribution assumption can be reasonably assumed in large samples (more than 100 elements in each group) without performing a formal normality test. However, in the case of small samples, it is imperative to run a normal distribution test. This point can be further elaborated by discussing how larger sample sizes tend to approximate the normal distribution due to the Central Limit Theorem.
6. Handling Small Samples: The discussion should then focus on the methods used to handle small samples. This involves conducting formal normality tests (such as the Shapiro-Wilk test or Kolmogorov-Smirnov test) to assess whether the data deviates significantly from a normal distribution. The statement indicates that all groups in the study met the normality assumption based on p-values (sig > 0.05). This could lead to a discussion

on how p-values are used to determine the significance of deviations from normality.

7. Implications for Study Findings: The main takeaway from the statement is that since all groups of all variables met the normality assumption based on sig > 0.05 values, the researchers were able to proceed with t-tests and ANOVA confidently. The discussion can emphasize that meeting the normality assumption strengthens the reliability of the statistical analyses and supports the validity of the study's findings.
8. Robustness of Results: Additionally, the discussion could touch upon the robustness of the results obtained from t-tests and ANOVA when the normal distribution assumption is met. When the assumption is satisfied, the results are more likely to accurately reflect the true underlying population parameters.
9. Limitations and Future Research: Lastly, the discussion might conclude by acknowledging potential limitations. While the normal distribution assumption has been satisfied, it's important to recognize that other assumptions (such as homogeneity of variances) should also be considered for a comprehensive analysis. The discussion can suggest avenues for future research, such as exploring the impact of larger or more diverse samples on the normal distribution assumption and its effects on the results.
10. The use of the test for prediction purposes requires further investigations and results.
11. Aren't personal and social beliefs about gambling naturally the same for the individual? This could be further developed in a subsequent analysis.

Summary

This study compares the attitudes of gamblers and examines the relationship between attitudes and gambling behavior. Previous international research has shown that attitudes are positively related to past behavior and behavioral intentions. Attitudinal statements differ between problem gamblers and non-addicts, with problem gamblers exhibiting more deviant attitudes toward gambling. The general opinion on gambling is predominantly negative, with the belief that gambling is more harmful than beneficial. However, certain groups, such as young individuals, frequent alcohol drinkers, and those with multiple gambling habits, hold more positive attitudes toward gambling. Conversely, older individuals, widows, and those with close relatives or parents with gambling addictions have more negative attitudes.

The methodology involved using an attitude scale called ATGS to assess gambling attitudes. The scale consists of eight statements, with respondents indicating their agreement or disagreement on a five-point Likert scale. Demographic factors such as gender, age, and education were analyzed for potential correlations with attitudes. The results showed that gender and age did not significantly affect attitudes, but there was a statistical relationship between educational level and passionate gambler classification. Additionally, a comparison

of attitudes over time revealed a gradual increase in acceptance of gambling, with women showing more positive attitudes than men in recent years.

Conclusion

This study highlights the importance of understanding gamblers' attitudes and their relationship to gambling behavior. Attitudes can serve as indicators of future behavior and can help inform preventive interventions. The findings suggest a shift towards more accepting attitudes towards gambling over time, while also noting variations based on demographic factors. Further research is needed to delve into detailed analyses of the data and explore the cultural aspects influencing attitudes towards gambling.

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None.

Conflict of Interest

None.

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