Perceptions of Gambling Disorder Among University Students in Hidalgo: An Exploratory Study Based on the Health Belief Model

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DOI: https://doi.org/10.47772/IJRISS.2026.102500017

Received: 28 October 2026; Accepted: 02 November 2026; Published: 16 November 2026

ABSTRACT

Online betting has become a relevant research topic due to its potential association with financial difficulties, emotional distress, and loss of control, particuularly among young people. Understanding how university students perceive betting-related behaviors and their potential consequences may contribute to the development of prevention strategies. The objective of this study was to explore university students' perceptions of risk behaviors and potential consequences associated with betting, using the Health Belief Model as a reference framework. An exploratory, cross-sectional, non-experimental study was conducted using a structured questionnaire consisting of 20 items with a five-point response scale. The analysis included 321 valid responses from participants aged 17 to 30 years. Descriptive statistics were used to examine response patterns, internal consistency was assessed using Cronbach's alpha coefficient, and differences between age groups were explored using nonparametric tests. The questionnaire demonstrated acceptable internal consistency ($\alpha = .79$). The percentage of agreement with individual items ranged from 40.5% to 54.8%. The highest levels of agreement were observed for statements related to betting again to recover losses, potential effects on sleep and mood, and the use of money intended for essential expenses, such as transportation, food, or education, for betting. According to the exploratory classification criteria used in the study, 41.7% of participants fell into the high or very high score categories; these results do not constitute estimates of a clinical diagnosis of gambling disorder. Although differences were found between age groups, the relationship between age and the total score was weak and not statistically significant. The findings suggest the importance of strengthening prevention efforts and research on risk behaviors associated with betting. However, validated instruments, more representative samples, and direct measurements of the dimensions of the Health Belief Model are required to draw more robust conclusions.

Keywords: Online betting, young population, problem gambling, risk perception, Hidalgo.

INTRODUCTION

In recent years, betting has become increasingly integrated into the digital environment through platforms that allow users to participate in different games and place sports bets using internet-connected devices. Ease of access, a wide variety of options, and the ability to place bets from different locations have made this form of gambling a relevant topic for research on risk behaviors. According to Ghelfi et al. (2024), accessibility, anonymity, and game diversity are important characteristics for understanding the growth of online betting. Similarly, the World Health Organization (WHO, 2024) warns that gambling can have negative consequences for health, finances, and personal relationships when harmful gambling patterns develop.

In Mexico, gambling is a matter of public health interest. The 2025 National Survey on Drug, Alcohol, and Tobacco Use (ENCODAT) reported that approximately 3.97 million people aged 12 to 65 participated in gambling activities during the previous 12 months, equivalent to 4.3% of this population; it also estimated that 249,239 people showed indicators of problem gambling (Secretaría de Salud et al., 2025). Meanwhile, Villatoro Velázquez et al. (2018), drawing on data from ENCODAT 2016–2017, identified differences in gambling participation and problem gambling symptoms across population groups. Although these data help establish the scope of the phenomenon nationwide, it is important to note that general gambling statistics do not refer

exclusively to online betting, nor do they independently describe the specific situation of young people in Hidalgo.

Young people deserve particular attention in this area because various personal, social, and emotional factors may influence decision-making during this stage of life. A systematic review by Richard and King (2023) found associations between certain emerging forms of gambling, such as online sports betting and esports-related betting, and an increased risk of problem gambling among young people. Additionally, Ghelfi et al. (2024) indicate that factors associated with online betting may operate at the individual, interpersonal, and contextual levels. These findings highlight the importance of examining not only whether people engage in betting, but also their habits, motivations, and perceptions of the potential risks associated with this activity.

The consequences associated with problem gambling include financial difficulties, conflicts in personal relationships, and negative effects on mental health. The WHO (2024) states that gambling-related losses can reduce the resources available to cover essential needs and can also affect people close to the gambler. Similarly, Ghelfi et al. (2024) emphasize the importance of recognizing both risk and protective factors to better understand gambling behaviors and guide potential preventive measures. However, participating in gambling activities does not necessarily mean that a person has a gambling problem. Therefore, it is important to distinguish recreational participation from behaviors involving loss of control or negative consequences.

In this context, the present study aims to analyze online betting among young people in Hidalgo, considering their habits and perceptions of the risks associated with this activity. To this end, a questionnaire was administered through Google Forms and completed by 321 participants, and the research was supplemented by the qualitative activities included in the study. The analysis draws on the Health Belief Model, which makes it possible to examine how perceived susceptibility, perceived severity of consequences, perceived benefits and barriers, cues to action, and self-efficacy may be related to individuals' decisions regarding their behavior. This model is discussed in the work of Champion and Skinner (2008), while Tong et al. (2019) examined its application to responsible gambling behavior. In this way, the study seeks to provide information on the perceptions and self-reported behaviors of the participants and contribute to understanding the phenomenon in the context of Hidalgo, without assuming that the sample results automatically represent the entire young population of the state.

Based on the foregoing, it is necessary to review previous research to gain a deeper understanding of online betting and the factors associated with problem gambling among young people. Accordingly, the literature review brings together studies on risk perception, betting habits, the consequences associated with this activity, and the theoretical models used to explain participants' decisions. Richard and King (2023) emphasize the importance of examining the development of problem gambling from childhood through emerging adulthood, while Ghelfi et al. (2024) examine risk and protective factors associated with online gambling. Reviewing this background will make it possible to identify the main findings, recognize the limitations of the available evidence, and establish the theoretical foundation for interpreting the data obtained in this study, taking into account the specific characteristics of online betting and the context of young people in Hidalgo.

LITERATURE REVIEW

Previous studies have used surveys, screening instruments, and theoretical models to examine gambling behavior among young people and university students. Relevant background research includes studies on beliefs about gambling among Mexican students and studies applying health behavior models to analyze responsible gambling. However, understanding the specific situation of young people in Hidalgo requires information collected directly from this population and a distinction between findings on online betting and those examining gambling in general (Chan-Gamboa et al., 2019; Tong et al., 2019).

The present study seeks to provide information on online betting among young people in Hidalgo, taking into account their habits, perceptions, and potential factors associated with risk behaviors. In this way, it aims to contribute to knowledge on this subject within the local context.

A literature review was conducted to identify studies on perceptions, prevalence, and factors associated with gambling disorder or problem gambling among young people and university students, with an emphasis on the application of health behavior models, particularly the Health Belief Model and related models. Studies published between 2016 and 2025 were prioritized, focusing on higher education settings and Mexican or Latin American populations whenever available.

Table 1: Review of Relevant Studies on Gambling Disorder and Perceptions Among University Students

#	Author(s) and year	Objective	Methods	Key findings	Limitations
1	Kapukotuwa et al. (2023)	Explain the initiation and maintenance of stopping gambling among university students using the Multi-Theory Model (MTM)	Cross-sectional survey, hierarchical regression, MTM	MTM constructs explained 22.6%–27.7% of the variance in behavior change	Cross-sectional design; single institution
2	Nowak (2018)	Meta-analysis of pathological gambling prevalence among university students (1987–2016)	Meta-analysis of 72 studies, SOGS	Pathological gambling prevalence: 6.13%; problem gambling: 10.23%	Heterogeneity of instruments and contexts
3	Chan-Gamboa et al. (2019)	Beliefs about gambling and pathological gambling symptoms among Mexican students	Survey of 2,400 university students, IPJA and CBJP	14.60% with probable gambling problems; higher among men	Non-probability sample
4	Tong et al. (2019)	Application of the Health Belief Model to responsible gambling	Telephone survey, analysis of HBM constructs	HBM constructs explained adherence to responsible gambling practices	Macao context; not university students
5	Botella-Guijarro et al. (2022)	Prediction of adolescent gambling behavior using the COM-B model	Survey, regression analysis	The COM-B model predicted gambling behavior	Adolescent population, not university students
6	Kapukotuwa et al. (2025)	Systematic review of gambling interventions among university students	PRISMA review of RCTs (past 25 years)	CBT, motivational interviewing, and normative feedback reduced frequency and harm	Few studies on online gambling
7	Avenyo et al. (2024)	Relationship between gambling and academic performance	Scoping review	Negative association between problem gambling and academic grades	Most studies were older
8	Villatoro et al. (2018)	Magnitude of pathological gambling in the Mexican population	National survey (ENCODAT)	0.4% of adolescents meet criteria for gambling disorder	2018 data; not specific to university students
9	Tecnológico de Tepic (2025)	Behavioral effects of gambling disorder among students	Survey of 150 students, PGSI	30% showed indications of gambling disorder;	Small, local sample

				impact on mental health and academics	
10	Theory of Planned Behaviour study (2022)	Role of social cognition, past behavior, and habit in student gambling	Short longitudinal design, TPB	Attitude and perceived control predicted intention; habit was a mediator	Short follow-up (4 weeks)
11	Hispanic college students study (2024)	Norms, attitudes, and self-efficacy among Hispanic students	Survey, Theory of Planned Behavior	Positive attitudes associated with greater frequency and severity	U.S.–Mexico border sample
12	European Journal of Public Health (2024)	Gambling disorder and associated factors among university students	Cross-sectional survey	2.2% with gambling disorder; predictors: male sex, family members with problems	Low reported prevalence
13	Multi-Theory Model intervention protocol (2025)	MTM intervention protocol for responsible gambling	Proposed RCT design	Intervention proposal based on six MTM constructs	Not yet implemented (protocol)
14	Brandstrat / La República (citado 2025)	Betting preferences among young people aged 18–30	Market research	56% prefer football for betting	Not a peer-reviewed academic study
15	UNAM / Cenadic (2026)	Care model for pathological gambling in Mexico	Institutional development	First specialized care model in Mexico	Institutional information, not empirical
16	Ocronos (2024)	Causes and consequences of gambling disorder among young people	Narrative review	Access to online platforms and advertising as key factors	Non-systematic review
17	Forbes México (2025)	Gambling disorder as a progressive loss of control	Popular science article	Between 1% and 5% of the global population experience gambling problems	Non-empirical
18	Proceso (2026)	Gambling disorder among young people and sports betting in Mexico	News report using institutional data	Historically high prevalence among young people aged 18–25	Journalistic data
19	Encodat 2025	Prevalence of gambling in Mexico	National survey	4 million people engage in betting; 249,000 have problems	National data, not specific to university students
20	Kapukotuwa et al. (2023) - Healthcare	Application of MTM to gambling behavior among university students	Survey of 1,474 students	MTM useful for designing interventions to reduce problem gambling	Cross-sectional design

The review indicates that the prevalence of problem gambling among university students is consistently higher than in the general population (approximately 6–10%, according to meta-analyses). Studies applying health behavior models (HBM, MTM, COM-B, or the Theory of Planned Behavior) show that cognitive constructs (risk perception, self-efficacy, norms, and attitudes) are relevant predictors of gambling behavior and readiness

to change. In Mexico, studies on prevalence and beliefs are available, but research specifically applying the Health Belief Model to perceptions of gambling disorder among university students in states such as Hidalgo remains scarce. The main limitations are the predominance of cross-sectional designs, the shortage of longitudinal studies, and the limited representation of regional contexts in Mexico.

Table 2: Count and analysis of methodological tools used

Tool / Approach	Frequency	Main purpose	Notes
Cross-sectional surveys / questionnaires	14–16	Measure prevalence, beliefs, and perceptions	Most common design
Health behavior models (HBM, MTM, TPB, COM-B)	6–8	Explain cognitive factors underlying behavior	Useful for designing interventions
Screening instruments (SOGS, PGSI, CBJP)	8–10	Identify problem or pathological gambling	Standardized and widely used
Systematic reviews / meta-analyses	3–4	Synthesize prevalence and interventions	Highly useful for providing context
Regression / correlational analysis	7–9	Explore associations between variables	Suitable for exploratory studies

Cross-sectional surveys using screening instruments and belief scales predominate. Health behavior models appear less frequently, but are particularly valuable for designing evidence-based interventions. For the study in Hidalgo, combining a brief screening instrument with a scale adapted to the constructs of the Health Belief Model is recommended; this would make it possible to assess risk perception and explore potential cognitive predictors.

Overall, the studies reviewed show that surveys and assessment instruments are used to examine habits, perceptions, and potential risks related to betting. Health behavior models also provide a basis for analyzing beliefs and individuals' willingness to change their behavior. However, findings from studies conducted in other countries or populations should be interpreted cautiously when examining young people in Hidalgo, particularly when the studies do not focus exclusively on online betting.

THEORETICAL FRAMEWORK

The Health Belief Model (HBM) makes it possible to analyze how a person's perceptions may relate to health-related and preventive decisions. In this study, it serves as a framework for examining how young people perceive the risks associated with online betting.

The model includes perceived susceptibility, perceived severity of consequences, perceived benefits of preventing or reducing the behavior, perceived barriers to doing so, cues to action, and self-efficacy. These components make it possible to explore how personal beliefs relate to risk perception and willingness to reduce betting or seek help.

The choice of this model is related to the objective of understanding participants' beliefs and perceptions without assuming that everyone who bets has a gambling problem. Its application should correspond to the dimensions actually included in the questionnaire.

METHODOLOGY

The study used a mixed-methods approach with a non-experimental, cross-sectional design, as information was collected during a specific period without deliberately manipulating the study variables. The quantitative component made it possible to analyze responses obtained through a structured questionnaire, while the qualitative component explored perceptions and experiences related to online betting through interviews.

The study had an exploratory and descriptive-correlational scope, aimed at identifying characteristics of betting behaviors, perceptions of their risks, and related factors among young people in Hidalgo. The Health Belief Model was used as a theoretical reference to organize the analysis of perceptions, perceived benefits and barriers, cues to action, and self-efficacy.

The independent variables corresponded to the constructs of the Health Belief Model: perceived susceptibility to developing gambling disorder; perceived severity of consequences; perceived benefits of preventing or reducing gambling; perceived barriers to seeking help or reducing gambling; cues to action (information, campaigns, and peer influence); and self-efficacy to control or avoid problem gambling. These variables were measured using Likert-type scales adapted to the gambling context (Tong et al., 2019).

The dependent variables included overall perception of gambling-disorder risk, the intention to reduce or avoid gambling, and willingness to seek professional help if symptoms occurred. The sociodemographic control variables considered were age, sex, semester, degree program, gambling frequency (when applicable), type of gambling activity (online sports betting, casinos, lottery, among others), and perceived socioeconomic status (Chan-Gamboa et al., 2019; Kapukotuwa et al., 2023).

The main instrument consisted of a structured questionnaire incorporating items adapted from validated scales of Health Belief Model constructs and screening instruments for problem gambling, such as the PGSI or SOGS. The questionnaire was administered to a non-probability sample of university students from public and private institutions in Hidalgo. The analysis included descriptive statistics, reliability analysis using Cronbach's alpha, and correlations or regressions to explore associations between HBM constructs and risk perception or behavioral intention.

The study was organized into five sequential phases, with the possibility of making adjustments in response to preliminary findings. The design remained exploratory and prioritized feasibility in the context of universities in Hidalgo.

Phase 1. Instrument design and adaptation (3–4 weeks)

The items from the Health Belief Model were culturally and linguistically adapted to the topic of gambling disorder and the Mexican university context. A brief screening instrument, such as the PGSI or an equivalent, was selected or adapted. Content validity was assessed through expert judgment by psychology and addiction specialists. A pilot test was also conducted with 20–30 students. This phase resulted in the final questionnaire and administration protocol.

Phase 2. Sampling and data collection (4–6 weeks)

The sample was defined as students from public and private universities in Hidalgo, preferably between 18 and 25 years of age. The questionnaire was administered in person or online through Google Forms or a similar tool, seeking to ensure informed consent and participant anonymity. A minimum target of 300 students was established. This phase resulted in a cleaned dataset.

Phase 3. Data analysis (3–4 weeks)

Descriptive statistical analysis was performed using frequencies, means, and standard deviations. Scale reliability was also assessed, and exploratory correlations and regressions were conducted between HBM constructs, risk perception, and behavioral intention. Gambling frequency was also considered. This phase produced preliminary results and analysis tables.

Phase 4. Interpretation and discussion (2–3 weeks)

The findings were interpreted in light of the Health Belief Model and national and international literature. The constructs with the greatest predictive weight were identified, and the study's limitations and implications for preventing gambling disorder in Hidalgo were discussed. This phase resulted in the results and discussion sections.

Phase 5. Report preparation and recommendations (2–3 weeks)

The final report or research article was written, and recommendations were developed for educational institutions, including awareness campaigns, early-detection strategies, and referral mechanisms to specialized services. The presentation of results to university or health authorities in Hidalgo was also considered. The final document and presentation of results were the outputs of this phase.

Research Design

The study used a mixed-methods approach with a non-experimental, cross-sectional design, as information was collected during a specific period without deliberately manipulating the study variables. The quantitative component made it possible to analyze responses obtained through a structured questionnaire, while the qualitative component explored perceptions and experiences related to online betting through interviews.

The study had an exploratory and descriptive-correlational scope, aimed at identifying characteristics of betting behaviors, perceptions of their risks, and related factors among young people in Hidalgo. The Health Belief Model was used as a theoretical reference to organize the analysis of perceptions, perceived benefits and barriers, cues to action, and self-efficacy.

Population and Sample

The target population consisted of young people in Hidalgo associated with the phenomenon of online betting. The quantitative sample included 321 people who completed the questionnaire through Google Forms. Participants were selected using non-probability sampling, according to the recruitment procedure described in the study.

The sociodemographic information collected made it possible to characterize participants according to the variables included in the questionnaire. The results were interpreted in light of the sample's characteristics and were not assumed to automatically represent all young people in Hidalgo.

The qualitative component consisted of interviews with participants selected according to the procedure established for the study. The information obtained was used to complement the interpretation of the quantitative data.

Instruments and Data Analysis

The data collection instrument was a structured questionnaire aimed at young people aged 18–29 residing in Hidalgo. The questions gathered information about participants' characteristics, their knowledge and use of online betting platforms, participation frequency, reported spending, exposure to advertising, motivations, and perceptions of possible consequences. Where applicable, questions about risk perception and the perceived benefits and barriers to avoiding or reducing betting were included, drawing on the Health Belief Model.

The survey was voluntary, and participants were informed of the academic purpose of the study. Information was handled confidentially and analyzed in aggregate, avoiding disclosure of data that could identify individuals. The survey was administered through [indicate the platform or method actually used].

Once responses had been collected, they were organized in a database for analysis. Descriptive statistics, using frequencies and percentages, were employed to present participant characteristics and response trends. Results were presented in tables and charts to facilitate interpretation. Additional analyses, such as reliability tests, correlations, or regressions, were included only when they had been conducted and were appropriate for the data obtained.

The questionnaire made it possible to identify habits, perceptions, and potential signs of risk, but it did not, by itself, establish a clinical diagnosis of addiction. Therefore, the results were interpreted according to the scope of the instrument used and the limitations of the sample.

RESULTS AND DISCUSSION

Main Findings

Participants showed similar levels of agreement across nearly all questionnaire statements (overall mean of 3.21 out of 5), with between 40.5% and 54.8% selecting 4 or 5 for each item. The statements with the highest agreement concerned betting again to recover losses (54.8%), effects on sleep or mood (52.3%), and using money intended for essential expenses such as transportation, food, or education to bet (50.8%). Based on each participant's score, 41.7% were classified as having a high or very high level. In keeping with the article's objective, results are presented by potential associated factors (reasons for betting and loss of control), economic, personal, and academic consequences, and then overall level and age.

Participants and Preliminary Analysis

A total of 321 university students aged 17–30 completed the survey (M = 21.0, SD = 2.5; median = 21). Most were adults (n = 295, 91.9%), while 26 participants were 17 years old (8.1%). By age group, 66 were aged 17–18 (20.6%), 74 were 19–20 (23.1%), 91 were 21–22 (28.3%), and 90 were 23 or older (28.0%).

The questionnaire contained 20 statements rated on a scale from 1 to 5, with higher values indicating greater agreement. There were no missing data. The internal consistency of the 20 items was acceptable (Cronbach's $\alpha = .79$).

Methodological Consistency

As specified in the methodology, the study was non-experimental and cross-sectional, with an exploratory-descriptive scope, and a structured questionnaire was administered to a non-probability sample of volunteers. The final dataset contained 321 valid responses, within the target of 300–400 students established for the sampling and data collection phase. The analysis followed the planned descriptive statistics (frequencies, percentages, means, and standard deviations) and reliability assessment (Cronbach's alpha), and the results are presented in tables and one figure. Since the methodology allowed additional analyses when appropriate, comparisons by age group and a correlation between age and total score were added. Data were analyzed in aggregate, and names and telephone numbers recorded in the database were not used.

There were differences between the planned methodology and what the questionnaire made possible. The target population was defined as young people aged 18–25 in Hidalgo; in the dataset, 293 participants (91.3%) were aged 18–25, 26 were 17, and 2 were over 25, and the questionnaire did not ask about place of residence. It also did not include questions about sex, semester, degree program, type of gambling, gambling frequency, or amount spent. Therefore, comparisons by sex and frequency, as well as correlations or regressions involving the Health Belief Model constructs (susceptibility, severity, benefits, barriers, cues to action, and self-efficacy), were not conducted, since the methodology made them conditional on their inclusion in the questionnaire. Accordingly, the dependent variables of overall risk perception, intention to reduce gambling, and willingness to seek help were not measured. These results concern only the quantitative component and are limited to describing motivations, loss of control, risk behaviors, and perceived consequences.

Descriptive Analysis

The means for the 20 statements fell within a narrow range, from 3.03 to 3.39, and between 40.5% and 54.8% of participants selected 4 or 5 for each item. For presentation, the statements were grouped into four categories: reasons for betting, loss of control, risk behaviors and emotional states, and academic and personal consequences. Table 3 summarizes the results for each statement.

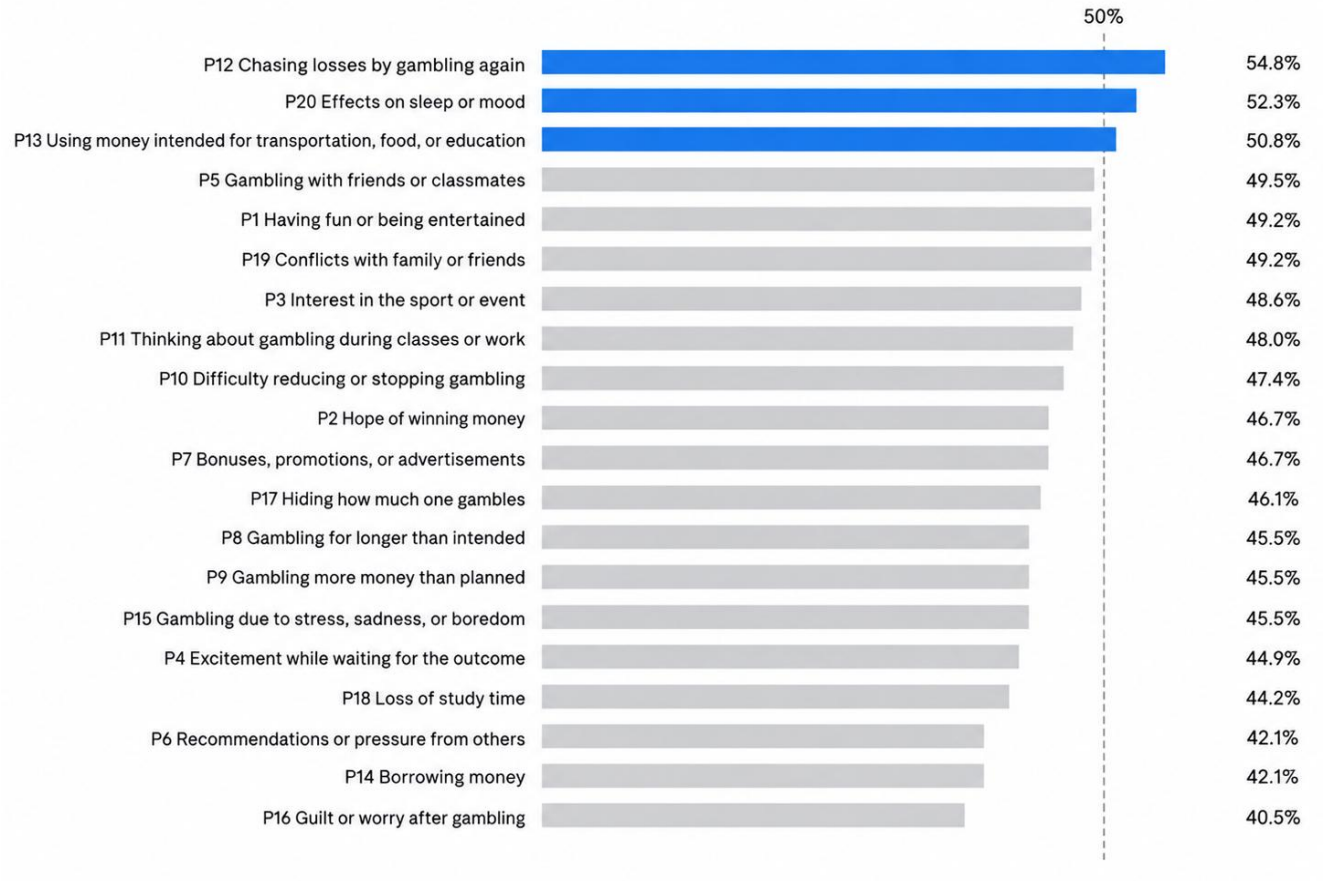
Table 3: Descriptive statistics for questionnaire statements (N = 321)

Category	Statement	M	DE	Agreement (4–5), %
Motivations	P1. I bet for fun or entertainment	3.36	1.31	49.2

Motivations	P2. I bet in the hope of winning money	3.26	1.40	46.7
Motivations	P3. I bet because I am interested in the sport or event	3.26	1.33	48.6
Motivations	P4. I bet for the excitement of waiting for the result	3.29	1.32	44.9
Motivations	P5. I bet with friends or classmates	3.34	1.42	49.5
Motivations	P6. I bet because of recommendations or pressure from others	3.09	1.34	42.1
Motivations	P7. Bonuses, promotions, or advertisements motivate me to bet	3.25	1.49	46.7
Loss of control	P8. I bet for longer than I intended	3.12	1.43	45.5
Loss of control	P9. I bet more money than I had planned	3.11	1.48	45.5
Loss of control	P10. I try to reduce or stop betting, but find it difficult	3.15	1.45	47.4
Loss of control	P11. I think about betting during classes, work, or other activities	3.27	1.49	48.0
Loss of control	P12. After losing, I bet again to recover the money	3.39	1.39	54.8
Risk and emotions	P13. I use money intended for transportation, food, or education to bet	3.22	1.51	50.8
Risk and emotions	P14. I borrow money to bet	3.03	1.52	42.1
Risk and emotions	P15. I bet when I feel stressed, sad, or bored	3.15	1.43	45.5
Risk and emotions	P16. I feel guilty or worried after betting	3.05	1.45	40.5
Risk and emotions	P17. I hide from my family or friends how much I bet	3.15	1.49	46.1
Consequences	P18. Betting has taken time away from my studies	3.15	1.42	44.2
Consequences	P19. Betting has caused conflicts with family, my partner, or friends	3.21	1.37	49.2
Consequences	P20. Betting has affected my sleep or mood	3.27	1.40	52.3

***Note. M* = mean; SD = standard deviation. Scale from 1 to 5. Agreement = percentage of responses of 4 or 5.**

. **Figure 1: Percentage of agreement (responses of 4 and 5) by statement (N = 321)**



Motivations for Gambling

The reasons-for-betting category had a mean of 3.27 (SD = 0.73), and no item clearly stood out above the others. The highest agreement percentages were for betting with friends or classmates (P5; 49.5%, M = 3.34) and betting for fun or entertainment (P1; 49.2%, M = 3.36, the highest mean in the category). These were followed by interest in the sport or event (P3; 48.6%), the hope of winning money (P2; 46.7%), and the excitement of waiting for the result (P4; 44.9%).

The item with the lowest agreement was betting because of other people's recommendations or pressure (P6; 42.1%, M = 3.09), which also had the lowest mean in the category. By contrast, bonuses and promotions (P7; 46.7%, M = 3.25) showed the greatest spread of responses in the category (SD = 1.49): 21.2% selected 1 and 29.0% selected 5. This suggests that advertising and bonuses divided participants more than any other motivation.

Loss of Control

The loss-of-control category had a mean of 3.21 (SD = 0.82). The statement with the highest agreement in the entire questionnaire was in this category: more than half of participants (54.8%) said that after losing, they bet again to recover their money (P12; M = 3.39, median = 4). Only 25.9% disagreed with this statement.

Between 45.5% and 48.0% agreed with the other statements in this category. Nearly half acknowledged thinking about betting during classes, work, or other activities (P11; 48.0%), and 30.2% selected response 5, the highest percentage for that response in the category. In addition, 47.4% said they tried to reduce or stop betting but found it difficult (P10), and 45.5% bet for longer (P8) or spent more money (P9) than they had planned. The means for the latter two items (3.12 and 3.11) were the lowest in the category.

Risk Behaviors and Emotional States

This category had the lowest mean of the four (M = 3.12, SD = 0.87). Nevertheless, half of the participants (50.8%) agreed that they used money intended for transportation, food, or education to bet (P13; M = 3.22, median = 4), and 26.8% selected 5. Nearly half said they hid how much they bet from family or friends (P17; 46.1%) and bet when feeling stressed, sad, or bored (P15; 45.5%).

The items with the lowest agreement were borrowing money to bet (P14; 42.1%, M = 3.03) and feeling guilty or worried after betting (P16; 40.5%, M = 3.05). P14 had the highest percentage of response 1 in the entire questionnaire (26.2%), while P16 had the highest disagreement (37.7% selected 1 or 2); in other words, nearly four in ten participants did not report guilt or worry after betting.

Academic and Personal Consequences

The three statements about consequences had a category mean of 3.21 (SD = 0.98). The item with the highest agreement concerned effects on sleep or mood (P20; 52.3%, M = 3.27, median = 4), followed by conflicts with family, partners, or friends (P19; 49.2%, M = 3.21).

In the academic domain, 44.2% agreed that betting had taken time away from studying (P18; M = 3.15), while 36.1% disagreed. In addition, 48.0% said they thought about betting during classes, work, or other activities (P11). These data describe participants' perceptions and do not establish causal relationships between betting and academic performance.

Overall Risk Level and Age Differences

To place each participant into a category, the mean of their 20 responses was calculated and classified into five levels (Table 4). These cutoffs were defined for this analysis and do not correspond to a validated norm. The mean total score was 64.1 out of 100 (SD = 12.8; minimum = 20, maximum = 98). Nearly half of participants (47.4%) fell into the medium category, 41.7% into the high or very high categories, and 10.9% into the low or very low categories.

Table 4: Distribution of participants by level (N = 321)

Level	Participant mean	n	Porcentaje
Very low	below 1.8	11	3.4
Low	1.8 to 2.59	24	7.5
Medium	2.6 to 3.39	152	47.4
High	3.4 to 4.19	121	37.7
Very high	4.2 or higher	13	4.0

When comparing age groups (Table 5), participants aged 17–18 had the highest mean (M = 3.39, SD = 0.51), while those aged 19–20 had the lowest (M = 3.11, SD = 0.70). The difference between groups was statistically significant (Kruskal–Wallis test, H(3) = 9.35, p = .025), although small in practical terms: the correlation between age and score was weak and not statistically significant (Spearman's ρ = −.09, p = .11).

Table 5. Mean score by age group (N = 321)

Age group	n	M	DE
17–18 years	66	3.39	0.51
19–20 years	74	3.11	0.70
21–22 years	91	3.18	0.75
23 years or older	90	3.18	0.53

Note. M = mean of the 20 statements (scale from 1 to 5); SD = standard deviation.

DISCUSSION

The results show that a substantial proportion of participants acknowledged behaviors and consequences related to online betting: between 40.5% and 54.8% agreed with each statement, and 41.7% obtained a high or very high score. These figures are not prevalence estimates of gambling disorder and should not be directly compared with such estimates. The questionnaire describes perceptions and behaviors, has no clinical cutoff, and does not use a screening instrument such as the SOGS or PGSI. For reference, the literature reviewed reports 10.23% problem gambling among university students (Nowak, 2018), 14.60% with probable gambling problems among Mexican students (Chan-Gamboa et al., 2019), and indications of gambling disorder in 30% of a local sample of 150 students (Tecnológico de Tepic, 2025). The 41.7% in this study is higher than the first two figures, but it depends on cutoffs proposed for this analysis. The type of statements, the possibility that more people who already bet responded, or voluntary participation may have influenced the result; the available data cannot determine this.

The statement with the highest agreement was betting again to recover losses (54.8%); for more than half of the participants, a loss led to betting again rather than stopping. In addition, 47.4% reported difficulty reducing or stopping betting, and 48.0% thought about betting during classes, work, or other activities. Taken together, these data point to difficulties controlling behavior, which Suriá-Martínez et al. (2024) specifically associate with academic responsibilities.

Economically, 50.8% reported using money intended for transportation, food, or education to bet (P13), 45.5% bet more money than planned (P9), and 42.1% borrowed money (P14). This is consistent with the financial difficulties identified in the introduction as a possible consequence of problematic online betting.

Academically, 44.2% reported that betting had taken time away from studying. This is consistent with the negative association between problem gambling and grade point average reported in Avenyo et al.'s (2024) review, although academic performance was not measured here; only participants' perceptions were recorded. Effects on sleep or mood were also common (52.3%), consistent with the mental health and academic impacts described in the Tecnológico de Tepic study (2025). Since anxiety has been associated with university students' academic performance (Trunce Morales et al., 2020), mood-related effects could have an additional academic impact, although this study did not measure it. Conflicts with family, partners, or friends (49.2%) indicate that the effects are not limited to school.

The reasons for betting were mainly recreational and social: betting with friends or classmates (49.5%) and betting for fun (49.2%) had higher agreement than pressure from other people (42.1%). This suggests that, among these young people, betting is experienced more as a shared leisure activity than as something imposed by others.

In relation to the Health Belief Model, which provides the article's theoretical framework, some results can be interpreted in light of its components, although the questionnaire was not designed to measure them. Betting with friends (P5), pressure from others (P6), and bonuses and advertisements (P7) resemble the cues to action defined in the methodology (information, campaigns, and peer influence), with agreement ranging from 42.1% to 49.5%. Statements about guilt and academic and personal consequences (P16 and P18–P20) are related to perceived severity, but describe reported experiences rather than beliefs about what might happen. Similarly, difficulty reducing or stopping betting (P10; 47.4%) may be related to self-efficacy and perceived barriers to reducing gambling. These interpretations are approximate and do not replace direct measurement of the model's constructs.

Finally, participants aged 17–18 had the highest mean score (M = 3.39), but the difference from the other groups was small and age was not significantly associated with the total score. The literature review in this article does not include specific background studies on this age range, so this issue remains for future research.

Limitations and Implications

This study has several limitations. Its cross-sectional design and volunteer sample mean that the results describe the participants and cannot be generalized to all university students (Hernández-Sampieri et al., 2018); the literature review also notes the predominance of cross-sectional designs in this field. The questionnaire did not ask whether participants bet or what type of betting they engaged in, so those who did not bet could not be separated, and the risk levels use cutoffs proposed for this analysis rather than a validated norm. In addition, although the 20 items had acceptable internal consistency ($\alpha = .79$), the consistency within each category was low (.48–.57), and responses were widely distributed across the five response options (18.5% selected 1 and 24.2% selected 5). Therefore, the total score should be interpreted rather than the categories separately.

The questionnaire also did not collect the Health Belief Model constructs or variables such as sex, degree program, or gambling frequency, so the findings could not be tested against the theoretical framework and the comparisons planned in the methodology could not be conducted. Finally, as noted in the methodology, the questionnaire does not provide a clinical diagnosis.

The results support the need for prevention initiatives at universities. Among the interventions assessed, cognitive behavioral therapy, motivational interviewing, and normative feedback reduced gambling frequency and harm among students, although few of these studies focused on online gambling (Kapukotuwa et al., 2025). Based on these findings, awareness campaigns and early detection could focus on using money intended for basic expenses, chasing losses, and the influence of advertising, which showed the highest agreement or the most divided responses. Future studies should include a screening question, a validated screening instrument such as the PGSI, and questions based on the Health Belief Model to enable comparisons with previous studies.

CONCLUSION

The findings of this exploratory study suggest that risk behaviors related to betting and their possible consequences are relevant issues among the university students surveyed. Responses particularly highlighted the tendency to bet again to recover losses, possible effects on sleep and mood, and the use of money intended for essential expenses to place bets.

The Health Belief Model provided a theoretical framework for addressing the issue and identifying dimensions that could be examined more directly in future research. In practical terms, the results support the value of promoting prevention and awareness initiatives at universities to inform students about betting-related risks, encourage responsible financial decisions, and facilitate access to information about support services.

Nevertheless, the results should be interpreted cautiously because of the exploratory, cross-sectional nature of the study, the use of self-reported responses, and the absence of an instrument designed to establish clinical diagnoses. In addition, the questionnaire did not directly measure all dimensions of the Health Belief Model and did not allow participants' residence in Hidalgo to be confirmed. Therefore, the findings cannot be generalized to the entire university population of the state or interpreted as estimates of the prevalence of gambling disorder.

Future research should include larger and more representative samples, verify participants' place of residence, and use validated instruments to assess problematic betting behaviors and the dimensions of the Health Belief Model. Longitudinal studies and research incorporating interviews could also help explain how beliefs and betting-related behaviors evolve and support the design of more targeted prevention strategies.

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