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Correlational Analysis Between Economic Income and the Frequency of Sports Betting in the Province of Pichincha, Ecuador

Wilson German Nieto Aguilar [1,*], William Fernando Ortega [1] and Josué Guillermo Tamayo [2]

[1] Faculty of Administrative and Economic Sciences, Main Campus, Universidad Tecnológica Israel, Quito 1700103, Ecuador; wortega@uisrael.edu.ec
[2] Faculty of Arts and Humanities, Main Campus, Universidad Tecnológica Israel, Quito 1700103, Ecuador; jtamayo@uisrael.edu.ec
* Correspondence: wnieto@uisrael.edu.ec

Abstract

The growth of the digital sports betting market is configured as an emerging public health challenge in economies with high levels of informality and inequality. This study analyzes the relationship between family income and the frequency of participation in bets through digital platforms in Pichincha, Ecuador. A cross-sectional and correlational design was used, administering a questionnaire to 1852 adults. Overall, 27.4% of the sampled adults ($n = 507$) stated that they had participated in digital betting. Although for H2, the global chi-square statistic is not significant ($\chi^2 = 24.067$; $p = 0.088$), the linear trend is ($\chi^2 = 7.203$; $p = 0.007$). The Spearman correlation rho = 0.119; $p = 0.007$; $n = 507$ indicates a weak positive relationship, suggesting that higher levels of income are associated with lower betting frequency. The results do not show a statistically significant association between family income and participation in online sports betting. However, among the participants who reported having gambled, a statistically significant association of low magnitude was observed between income level and frequency of participation in betting. These findings suggest the existence of differences in participation patterns according to socioeconomic level, the practical magnitude of which was limited. In this context, it is necessary to adopt public health policies with differentiated approaches, considering territorial realities, to favor structural prevention over individual responsibility. The purpose is to mitigate the risks of gambling addiction in populations exposed to greater social and economic inequalities.

Keywords: sports betting; problem gambling; household income; betting behavior; economic behavior; Ecuador

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1. Introduction

The global betting market has undergone a structural transformation driven by digitalization and the rapid expansion of iGaming, a phenomenon that carries significant implications for public health. This industry, consisting of predicting the outcomes of sporting events, online casinos, eSports, and sports betting (Endava 2026), has ceased to be a recreational activity to consolidate itself as a global public health problem, with approximately 80 million adults affected by disorders related to problem gambling. The estimated prevalence of problem gambling in the general population is around 1.4% with higher rates among young people (Wardle et al. 2024). From an economic perspective, the global betting industry in 2025 reached USD 111.2 billion and is estimated to reach USD 123.4 billion in

2026. This growth is linked to the expansion of the internet and the massification of mobile devices, factors that allow the accessibility and availability of these platforms 24 h a day, 7 days a week (Grand View Research 2026). To reach these astronomical figures, the betting industry allocated USD 3.9 billion to advertising, of which USD 1.42 billion corresponded to television, digital marketing USD 980 million, celebrities USD 520 million, public relations USD 90 million, and responsible gaming programs USD 60 million (Ambrosi 2026). The United States is a benchmark in the industry, and in 2025 it recorded USD 166,940 million in profits after paying prizes and taxes (Surendran 2026).

The growth dynamics of the sector are supported by affiliate marketing and streaming platforms, which operate as interaction channels that facilitate access to prediction houses, in the US, digital advertising investment was mainly distributed between Meta (30.1% USD 25.34 billion), YouTube (8.3% USD 6.99 billion) and Tiktok (6.5% USD 5.48 billion) (Lebow 2023). In contrast, gambling involves substantive risks, including over-indebtedness, disruption of family dynamics and the appearance of disorders associated with gambling behavior. The regulatory response to the global expansion of gambling has shown a marked diversity. While in countries that have developed legislation, a safeguards approach predominates, focusing on the individual responsibility of the player, in the case of European countries, they have opted for strict regulations that limit and control the offer of gambling. In this sense, Germany, Sweden, and Switzerland stand out for having solid and comprehensive regulatory frameworks (Ukhova et al. 2024). On the other hand, in South America, sports betting houses have grown abruptly in the absence of clear regulatory structures.

Brazil leads the region with 23 million users in 2024, followed by Colombia with 8 million players; in Chile, online betting contributes 2% annually to sports financing (Cervantes 2024).

In the Latin American scenario, as in other emerging economies, according to the World Health Organization (WHO 2024), vulnerability to gambling intensifies in environments characterized by poverty, inequality and financial stress, where gambling acts as an escape mechanism; in fact, 60% of the sector's global income comes from vulnerable players. In Peru, for example, 70% have mobile access to these platforms, with the pattern of use concentrated in young men with a lower level of education (Cervantes 2025). This is how they become the channel for the expansion of eSports, Virtual leagues and real-time betting, and at the same time, risk exposure has intensified.

In Ecuador, specifically in Pichincha, the SRI registers 16 companies linked to betting, although only 5 operate formally; however, users report the use of up to 24 different platforms (Nieto Aguilar et al. 2025). This difference shows regulatory gaps that increase risk exposure. In 2008, the Constitution laid the foundations for intervening in social risk activities, including gambling. In 2011, after a popular consultation, 53.43% of the electorate spoke out against the permanence of physical casinos (Official Registry Organ of the Government of Ecuador 2011). Subsequently, in the government of Lenin Moreno, a legal vacuum was detected that allowed the entry of digital platforms, as they were not explicitly contemplated in the prohibition of the Official Register of the Government of Ecuador No. 490 (National Electoral Council 2011). The (Constitutional Court of Ecuador 2023) ruled that sports predictions do not depend only on chance, but also on the analysis and knowledge of the user, thus allowing the establishment of the Single Income Tax and advertising restrictions. Currently, sports betting platforms must have a Sports Betting Operation License (LOPD) with a validity of five years and a cost of 655 unified salaries (USD 307,850 in 2025) and must apply a 15% tax withholding to the winners (Presidency of the Republic of Ecuador 2026).

1.1. Rational Choice Theory and Addiction from the Economic Perspective

From the perspective of microeconomics, betting is interpreted as a decision under risk: the subject compares the profit he expects to obtain from the bet that is derived from the probability of winning and the pleasure associated with the risk with the utility of preserving his resources (von Neumann and Morgenstern 1944). Some scholars argue that addictive behaviors related to gambling can be interpreted as rational decisions, to the extent that gamblers prioritize immediate profit without evaluating future consequences (Becker and Murphy 1988). From this perspective, the frequency of betting is conditioned by budget constraints. In addition, (Hagfors et al. 2023) point out that gambling usually functions as an emotional compensation mechanism for the lack of power, prestige, or social recognition.

1.2. Theory of Structural Tension and Economic Inequality with a Social Approach

The theory proposed by Merton (Merton 1938) maintains that the distance between socially valued goals and the means to achieve them generates pressures that favor the adoption of alternative behaviors. In scenarios marked by inequality, this tension intensifies, motivating bettors to seek income through gambling (Deeming 2013). On the other hand, the general theory of tension proposed by (Agnew 1992) points out that the loss of resources can cause individuals to engage in negative behaviors when they feel that their goals are not met. Theoretical evidence shows that the lack of social opportunities increases participation in betting (Broidy 2006). In this sense, gambling is considered as the answer to limited economic opportunities (Mazerolle et al. 2000). The specialized literature shows the existence of a pattern in the prevalence of gambling-associated disorders, pointing out that people with fewer economic resources tend to experience more severe impacts. In addition, it is recognized that the relationship between economic status and risks of problem gambling is complex, since one must understand both objective and subjective dimensions (Floyd et al. 2024), which means that the perception of relative deprivation could be as relevant as the target income.

In Ecuador, this context is critical: in May 2026, the underemployment rate stood at 18.3% (compared to 20.9% in May 2025), while adequate employment reached 36.6%. employment in the informal sector reached 52.8% of the employed population (National Institute of Statistics and Censuses 2026). Previously, in April 2026, informal employment had reached 55.8% (Central Bank of Ecuador 2026). These conditions reflect a labor market characterized by low or unstable incomes and limited opportunities, which may influence the adoption of alternative economic strategies to cover basic needs. The literature on socioeconomic vulnerability shows that "the burden of problem gambling is felt most strongly among people experiencing poverty" (Hahmann et al. 2020) and that problem gambling was associated with several measures of poverty, including employment/unemployment, housing instability, low income, and neighborhood disadvantage. Faced with this scenario and with the purpose of contributing to the reduction of the gap in the Ecuadorian context, the following research question is posed: What is the relationship between the level of family income and the frequency of bets on sports betting platforms in Pichincha, Ecuador? In accordance with this question, the general objective of the study is to analyze the relationship between the level of family income and the frequency of participation in online sports betting in the province of Pichincha, Ecuador.

Based on theoretical and empirical evidence, the following research hypotheses are formulated, which were contrasted using non-parametric analysis techniques:

Hypothesis 1 (H1). *There is a statistically significant association between household income level and participation in online sports betting.*

Hypothesis 2 (H2). *There is a statistically significant association between family income level and frequency of sports betting among individuals who use sports betting platforms.*

The arguments presented allow us to understand the Ecuadorian scenario, characterized by labor informality and economic inequality. In these circumstances, there is evidence of a significant gap in local scientific production to identify behavioral patterns and risk factors faced by the bettor, a situation that limits the development of explanatory models that explain the local environment regarding the subject to strengthen the capacity for evaluation and decision-making in the face of risk.

2. Materials and Methods

The study was designed with a quantitative approach, based on the positivist paradigm to guide the treatment of the variables through statistical techniques to identify associations between variables within the surveyed population (Hernández-Flóres and Klimenko 2025). A non-experimental, cross-sectional design and correlational scope was used. This design allows the relationship between socioeconomic level and betting behavior at a single point of time to be analyzed (Manterola et al. 2023). Under this approach, the target population was made up of 1,993,629 inhabitants of the province of Pichincha aged between 18 and 65 years (National Institute of Statistics and Censuses 2026). From this population, the sample size was calculated following the procedures proposed by (Fernández Nogales 2024). A total of 1852 participants were obtained through digital recruitment strategies. Although this sample size allowed the identification of patterns and associations between the variables analyzed, the results should not be interpreted as statistically representative of the entire study population, due to the non-probabilistic nature of the sampling procedure used.

Data collection was carried out in May 2025. Citizens over 18 years of age residing in the province of Pichincha were considered eligible. Their participation was voluntary, and they gave their informed consent prior to completing the questionnaire. The selection procedure combined gender and age group criteria, an adaptation of the Random Digit Dailing (RDD) technique to recruit participants randomly through telephone numbers was used (Gundersen et al. 2021). In this study, this methodology was adopted to the digital environment through the generation of random sequences linked to social networks and instant messaging services. Surveys with incomplete information were excluded from the analysis, after the process of filtering and quality control of the data, a final analytical sample of 1852 valid questionnaires were obtained. This strategy made it possible to reach a large population with access to digital devices and platforms; however, the potential exclusion of people without access to the internet constitutes a methodological limitation. Consequently, the findings should be interpreted in the context of the surveyed population and not as a strict probabilistic representation of the inhabitants of Pichincha.

The instrument and for the operationalization of the variables consisted of a questionnaire structured in four blocks containing 32 questions, designed to collect information on citizens' behavior regarding sports betting. The reliability of the instrument is validated through Cronbach's alpha coefficient ($\alpha = 0.84$), which shows high reliability for the frequency and risk perception scales. The data were processed using IBM SPSS v.27, and initially descriptive statistics were applied to characterize the sociodemographic profile of the respondents. To evaluate the association between variables "the level of family income and the frequency of participation in sports betting" ($N = 1852$), Pearson's Chi-square test of independence and Cramer's V coefficient were applied as a measure of effect size. Subsequently, to analyze the relationship between family income and betting frequency among participants who reported having gambled ($n = 507$), Pearson's chi-square test, the linear-by-line association statistic, Spearman's rank correlation coefficient (p) and Kendall's

Tau-b coefficient were applied. These tests were selected due to the ordinal nature of the variables analyzed. In all cases, a statistical significance level of $\alpha = 0.05$ was established.

Regarding ethical considerations, the study was developed in accordance with the principles of the Declaration of Helsinki and the Organic Law on Data Protection of Ecuador. The participation of the respondents was voluntary, anonymous, and based on digital informed consent. No data was collected to identify the participants, and all information was treated confidentially. In accordance with current institutional regulations for social research based on anonymous surveys, the approval of an ethics committee was not necessary.

3. Results

3.1. Sociodemographic Profile of the Sample

The sociodemographic profile of the participants in the study is composed of a sample of 1852 people whose distribution is inclined towards a slight predominance of the female gender: 910 women (49.1%), 893 men (48.2%) and 49 people who do not identify with traditional genders (2.6%). Regarding age, the surveyed population is concentrated in the range of 23 to 31 years old, with a maximum peak observed at 24 years old with (113 participants, 6.1%), followed by 25 years old with (111 participants, 6.0%) and 31 years old with (93 people, 5.0%). It is considered that the predominant population is young adults who are in the working stage and with high digital connectivity, factors that are usually relevant for the consumption of products or services related to online gambling.

The breakdown of academic training is as follows: 23.6% of the participants ($n = 437$) say they have completed university studies, while 22.6% ($n = 418$) have completed secondary education. In addition, 19.1% ($n = 354$) have started but have not completed higher education, and 16.1% ($n = 298$) have completed technological training. The data allows us to affirm that 81.4% have at least completed secondary education, which suggests that they have at least the basic knowledge to understand sports betting platforms and betting mechanisms.

Regarding activities and employment status, 45.7% ($n = 847$) are part of the group of people who claim to be private employees, followed by public employees at 18.7% ($n = 347$) and students at 15.2% ($n = 281$). The percentage of people who claim to be unemployed is 7.4% ($n = 137$). The data show that a large part of the population is inserted into the labor market in a formal market.

The composition of households reveals that 28.1% ($n = 520$) of households are composed of four members, followed by three-person households with 26.2% ($n = 485$). In the household economy, 49.6% ($n = 919$) have two members who contribute to the economy, while 24.3% ($n = 450$) depend on a single provider. Regarding housing conditions, 39.6% ($n = 734$) live in their own home, 30.1% ($n = 557$) live in rented housing, and 17.7% of people live in family homes.

Monthly family income is the central indicator of the socioeconomic profile. In total, 36.2% of the sample ($n = 671$) report monthly income between USD 501 and USD 1000, while 23.8% ($n = 440$) receive between USD 1001 and USD 2000. On the other hand, incomes below USD 450 represent 11.8% and may present financial vulnerability to gambling practices.

3.2. Participation in Sports Betting

Table 1 shows that only 27.4% of respondents have participated in online sports betting, so only this group (507 people) continued to answer the questionnaire. Consequently, the subsequent analysis focuses on people who have participated in sports betting.

Table 1. Association between participation in online sports betting and gender of respondents.

	Male		Female		Other/Non-Binary		Total	
	N	%	N	%	N	%	N	%
Yes, I have participated.	309	34.6%	177	19.5%	21	42.9%	507	27.4%
No, I have never participated.	584	65.4%	733	80.5%	28	57.1%	1345	72.6%
Total	893	100.0%	910	100.0%	49	100.0%	1852	100.0%

3.3. Sports Betting Participation Patterns Based on Household Income Level

Table 2 presents the distribution of participation in online sports betting according to family income level. Among the participants who have declared having participated in sports betting ($n = 507$), the highest percentage corresponds to households with incomes between USD 501 and 1000 (33.3%), followed by individuals located in the range of USD 1001 to 2000 (26.4%). On the other hand, individuals who are in the strata with incomes below 450 and between USD 450 and 500 represent 14.4% and 16.2% of bettors respectively, while households with incomes above USD 2000 concentrate 9.7% of the participants who declare participation in sports betting. Among those who reported not participating in sports betting ($n = 1345$), a similar distribution is observed, with a predominance of households whose income is between USD 501 and 1000 (37.3%), followed by the segment with income between USD 1001 and 2000 (22.8%). The results show that participation in sports betting is present at all levels of family income, although its absolute concentration is greater in the intermediate strata, which also constitutes the largest proportion of the sample studied. Table 3 presents the results of the Pearson's Chi-square test of independence between family income level and participation in online sports betting.

Table 2. Participation in sports betting with respect to the level of family income.

	Yes, I Have Participated.		No, I Have Never Participated.		Total	
	N	%	N	%	N	%
Less than USD 450.	73	14.4%	145	10.8%	218	11.8%
From USD 450 to USD 500.	82	16.2%	253	18.8%	335	18.1%
From USD 501 to USD 1000.	169	33.3%	502	37.3%	671	36.2%
From USD 1001 to USD 2000.	134	26.4%	306	22.8%	440	23.8%
USD 2000 and up.	49	9.7%	139	10.3%	188	10.2%
Total	507	100.0%	1345	100.0%	1852	100.0%

Note: the percentages of participation and non-participation were estimated independently for each family income stratum.

Table 3. Test of independence between family income level and participation in online sports betting.

	Value	gl	Asymptotic Significance (Bilateral)
Pearson's Chi-square	9.388 [a]	4	0.052
Likelihood Ratio	9.239	4	0.055
Linear-by-Linear Association	0.145	1	0.703
N of valid cases	1852		

[a]. 0 boxes (0.0%) have expected a count less than 5. The minimum expected count is 51.47.

To determine whether participation in sports betting differs according to the level of family income, Pearson's Chi-square independence test was applied using the complete

sample (N = 1852). The results establish that the level of association did not reach statistical significance, $X^2(4) = 9.388$, $p = 0.052$. Table 4 presents the measures of association (Phi and Cramer's V) between family income level and participation in sports betting. Table 4 presents Cramer's V statistics, and the result was low (V = 0.071), indicating an association of reduced magnitude between both variables.

Table 4. Measures of association (Phi and V Cramer) between family income level and participation in sports betting.

		Value	Signification Approximate
Nominal by Nominal	Phi	0.071	0.052
	V of Cramer	0.071	0.052
N of valid cases		1852	

3.4. Betting Frequency by Income Level

Table 5 shows the distribution of frequencies. Of the total number of participants who were part of the survey and declared having participated in bets ($n = 507$, 27.4%), the group with economic capacity between USD 501 and USD 1000 (33.3%) had the most significant portion of bettors with respect to other segments of participants. When analyzing the percentages by rows, it is found that bettors with incomes above USD 2000 bring together the largest number of sporadic bettors (49.0%), while in the low-income segments (<USD 450), with respect to the daily, weekly and monthly frequency of betting, the distribution is more balanced. This behavior identifies an inverse relationship between income and frequency and participation in bets.

Table 5. Distribution of betting frequency on sports platforms by average family income level.

		Daily	Weekly	Biweekly	Monthly	Occasional	Total
Below USD 450	Count	14	13	12	14	20	73
	What is the average income of all members of your household?	19.2%	17.8%	16.4%	19.2%	27.4%	100.0%
	% within How often do you place bets on sports forecasting platforms?	32.6%	13.5%	12.8%	14.9%	11.1%	14.4%
USD 450–500	Count	8	18	16	14	26	82
	What is the average income of all members of your household?	9.8%	22.0%	19.5%	17.1%	31.7%	100.0%
	% within How often do you place bets on sports forecasting platforms?	18.6%	18.8%	17.0%	14.9%	14.4%	16.2%
USD 501–1000	Count	9	29	35	35	61	169
	What is the average income of all members of your household?	5.3%	17.2%	20.7%	20.7%	36.1%	100.0%
	% within How often do you place bets on sports forecasting platforms?	20.9%	30.2%	37.2%	37.2%	33.9%	33.3%
USD 1001–2000	Count	8	27	28	22	49	134
	What is the average income of all members of your household?	6.0%	20.1%	20.9%	16.4%	36.6%	100.0%
	% within How often do you place bets on sports forecasting platforms?	18.6%	28.1%	29.8%	23.4%	27.2%	26.4%
USD 2000 and above	Count	4	9	3	9	24	49
	What is the average income of all members of your household?	8.2%	18.4%	6.1%	18.4%	49.0%	100.0%
	% within How often do you place bets on sports forecasting platforms?	9.3%	9.4%	3.2%	9.6%	13.3%	9.7%

Table 5. *Cont.*

		Daily	Weekly	Biweekly	Monthly	Occasional	Total
Total	Count	43	96	94	94	180	507
	What is the average income of all members of your household?	8.5%	18.9%	18.5%	18.5%	35.5%	100.0%
	% within How often do you place bets on sports forecasting platforms?	100%	100%	100%	100%	100%	100%

3.5. Contrast of Independence and Linear Trend Between Household Income and Betting Frequency

To study the existence of an association between ordinal variables, Pearson's Chi-square test was applied. The global statistic yielded a value $\chi^2\ (16) = 24.067$ with a significance for $p = 0.088$. With a value of $(\alpha) = 0.05$, the test result does not provide sufficient significant evidence to reject the independence hypothesis. Since the two variables are ordinal, the linear trend was examined, which was statistically significant ($\chi^2\ (1) = 7.203$; $p = 0.007$).

Methodologically, the result is relevant: the omnibus test for the case is limited analytically to identify specific differences between multiple categories; due to the dispersion in the 5 × 5 matrix, the statistical significance of the linear trend component corroborates the existence of a systemic and monotonic gradient. As family income increases, frequent participation in bets is oriented in favor of sporadic participation. The statistical validity of the test is supported by meeting the criterion of expected frequencies, since only 4% of the cells register values less than 5, with a minimum of 4.16. Table 6 presents the results of the independence test between family income and habitual gambling behavior.

Table 6. Test of independence between family income and habitual gambling behavior.

	Value	gl	Asymptotic Significance (Bilateral)
Pearson's Chi-square	24.067 [a]	16	0.088
Likelihood Ratio	23.131	16	0.110
Linear-by-linear Association	7.203	1	0.007
N of valid cases	507		

[a]. 1 polling stations (4.0%) expected countless than 5. The minimum expected count is 4.16.

Spearman's Nonparametric Association

Since the variables are ordinal scales and, therefore, do not meet the required parametric assumptions of normality, the Spearman correlation coefficient (Rho) was applied to estimate the intensity and orientation of the monotonic relationship between average household income and the frequency of participation in sports betting.

The results show a positive, weak and statistically significant correlation (Rho = 0.119; $p = 0.007$; $n = 507$). Although the magnitude of the coefficient is low according to Cohen's criteria, its significance is robust at 99% confidence.

It is important to highlight the coding of the variable, which was measured on an ordinal scale where 1 represents daily participation and 5 represents sporadic participation. Since the coefficient is positive, this indicates that as family income increases, the value on the frequency scale also tends to increase approaching 5. Consequently, strata with higher incomes tend to participate less frequently in sports betting compared to strata with lower incomes.

As a complementary analysis and to strengthen the study, Kendall's Tau-b coefficient was calculated, which confirmed the observed trend (Tau-b = 0.091; $p = 0.017$), maintaining the positive direction and statistical significance, although with a slightly lower magnitude.

Table 7 presents the results of the non-parametric association analysis between average household income and sports betting participation.

Table 7. Non-parametric association between average household income and sports betting participation.

Variables	Statistician	Coefficient	*p*-Value	*n*
Average Household Income vs. Betting Frequency	Rho de Spearman	0.119	0.007	507
	Tau-b de Kendall	0.091	0.017	507

4. Discussion

The results of the study provide empirical evidence of the relationship between family income and participation in sports betting in the province of Pichincha, showing that the results did not show significant evidence for an association between the level of family income and participation in online sports betting. However, among those who reported having participated in betting, a weak statistical association was identified between family income and frequency of participation. Although the probability of participating is manifested in a cross-sectional manner among the different economic strata, households belonging to lower-income segments register more frequent participation patterns. However, due to the cross-sectional design of the study, these results should be interpreted as observed associations and not as evidence of causal relationships. The finding is consistent with the international literature, which indicates that "participation in gambling tends to decrease as the socioeconomic status increases" and that respondents with lower socioeconomic status are more likely to be frequent gamblers than respondents from higher socioeconomic strata (Welte et al. 2011).

The findings of the study show consistency with the evidence documented in different international contexts, suggesting the existence of relatively homogeneous patterns of behavior between geographical and cultural realities. European literature agrees that economic inequality and financial constraints increase vulnerability to problematic gambling-related behaviors. In this sense, (Şimşek and Weidner 2023) observed a higher demand for gambling among low-income groups; in the study carried out by (Girard et al. 2023), an increased risk of gambling disorder was identified in these strata; and (Marionneau et al. 2024) demonstrated a close relationship between gambling participation, indebtedness, and associated financial damages, while empirical evidence from the United States shows that unfavorable socioeconomic conditions can increase vulnerability to the negative effects of gambling, generating greater exposure to harms and problems associated with this behavior (Floyd et al. 2024). The findings should be contextualized to the Ecuadorian market, marked by labor informality, a developing regulatory framework and the growth of digital betting platforms, factors that could differentiate their behavior with respect to markets with greater regulations. Under these conditions, the research contributes to strengthening the available empirical evidence on an emerging context that is still underrepresented in international literature.

These findings can be interpreted from the perspective of Rational Choice Theory and Structural Strain Theory. The results suggest that, although participation in betting does not differ significantly according to income level, the frequency of this behavior is associated with economic factors, reflecting a greater vulnerability of groups with fewer resources.

Barnes et al. found that (Barnes et al. 2013) "when neighborhood disadvantage was high and individual socioeconomic status was low, the highest levels of problem gambling were observed" (p. 86). This pattern is consistent with international evidence that associates the higher frequency of gambling participation with financial coping strategies characteristic of socially disadvantaged groups (Binde 2013). However, our results qualify

this interpretation: proportional spending does not reproduce this trend, suggesting that the frequency of bets constitutes a stronger indicator of addictive risk than the amount allocated to gambling, probably due to the cognitive distortions associated with the management of spending in contexts of scarcity (Hahmann et al. 2020). The literature confirms that "the chances of experiencing gambling-related harm increase steadily the more frequently gambling" (Floyd et al. 2024). This distinction between frequency and spending in the lower strata contrasts with previous studies in Anglo-Saxon contexts (Barnes et al. 2013), which point to cultural specificities in betting consumption in Latin America. In this sense, digital massification could be homogenizing risk exposure over economic barriers, by generalizing shared vulnerabilities that affect users from different economic strata in a transversal way (Balmaceda et al. 2022), which have a common factor that is football culture.

From a psychosocial approach, this pattern of greater participation among lower-income households is understood from the so-called "social compensation theory" (Domenech Mira 2018): given that these lower-income segments go through higher levels of economic insecurity and a lower availability of resources to allocate to formal leisure activities, this favors the adoption of behaviors that seek to increase social compensation mechanisms. Sports betting platforms become an environment of illusion of control. In this framework, the reiteration of bets functions as a behavioral reinforcement mechanism in the absence of formalized recreational alternatives. On the contrary, in the upper strata, betting is detached from economic need and integrated as an entertainment alternative, which mitigates the recurrence of participation.

It is important to recognize the limitations of the study. First, the sample comes only from the province of Pichincha, so the results should not be generalized to the entire Ecuadorian territory. Psychological research "frequently encounters criticism regarding the representativeness of the samples under study, highlighting concerns about the external validity of the results obtained" (Pollet et al. 2024).

Second, ($\rho = 0.119$) indicates a very weak relationship, suggesting that income explains only 1.4% of the variance in betting frequency. This implies that other factors such as exposure to advertising, access to platforms, social norms, or individual psychological characteristics probably have a greater weight in explaining gambling behavior. The literature recommends that "the presentation of affect sizes that can be interpreted in terms of clinical or practical significance is currently urged whenever statistical significance is reported" (Kraemer 2006). Spearman's rho = 0.119, and the effect size is trivial (explains less than 1.5% variance), which should be considered in the interpretation of the findings.

Third, the use of RDD through social media and instant messaging may have introduced a coverage bias, excluding populations without digital access or with less familiarity with these technologies. The literature documents that "the main disadvantage of the list-assisted method is that it excludes some households from the sample, creating a coverage bias in the estimates" (Gundersen et al. 2021).

The findings of the study offer clear results for the design of responsible gambling policies in Ecuador. Given that the profile of bettors is concentrated in lower-middle-income segments, regulatory measures must be adapted to this socioeconomic reality to achieve greater effectiveness. Recent literature argues that "public health scholars have pointed out that gambling regulation tends to privilege individual responsibility over structural prevention" (Ukhova et al. 2024). The study should explicitly advocate for an approach that "defines gambling as a primarily public health problem and that prioritizes health and well-being over economic gains" (Wardle et al. 2024). Control and prevention policies in Ecuador show low effectiveness and are aimed at generating fiscal resources that are still incipient. These findings may contribute to the development of future early warning systems and prevention strategies focused on higher-risk groups. The literature suggests

that "the effects of policies on irresponsible gambling are much greater within the lower-income population" (Hahmann et al. 2020). This implies that interventions should be territorially and socioeconomically focused. In addition, the future incorporation of a law regulating platforms should require reports of recurrent usage metrics to keep track of problem gambling. International evidence suggests that the prevalence of possible problem gambling in the general population is around 1.4% and that only 0.14% of gamblers seek formal help (Wardle et al. 2024), which points to the urgency of implementing prevention and early detection strategies.

5. Conclusions

The results suggest that the relationship between family income and sports betting presents differentiated behaviors according to the dimension analyzed. No statistically significant association was identified between family income and participation in online sports betting. In contrast, among participants who claimed to have gambled, a weak association was observed between income level and frequency of participation. The evidence presented by the study demonstrates that vulnerability to sports betting in the province of Pichincha is partially governed by income, but not in the way that is usually assumed. The results suggest that the frequency of participation could constitute a relevant dimension to understand differences in the behavior patterns observed between socioeconomic groups. However, the present study does not allow establishing clinical, economic or social consequences derived from these behaviors. However, it should be noted that the observed correlation ($\rho = 0.119$) is in a range that is considered clinically irrelevant. In this case, the statistical significance can be partially attributed to the sample size, while the practical magnitude of the association remains small.

The findings obtained can serve as a reference for future research and for the analysis of possible regulatory and preventive strategies in sports betting. However, the observational and cross-sectional nature of the study calls for caution when translating the data into public policy recommendations.

The available evidence shows the reality of knowledge, so it is essential to promote new lines of research: (a) for the development of future research, national coverage is adopted in order to verify the ability to determine if the findings are replicated in other provinces of the country; (b) integrate key mediating variables, including exposure to advertising, internet access, social behaviors, and "variables that make it possible to determine the financial motives for gambling and perceived deprivation" (Floyd et al. 2024), in order to estimate their influence on the recurrence of the behavior; (c) the results are worked through longitudinal designs that make it possible to evaluate the causality and evolution in the behavior of the different socioeconomic strata with respect to participation in betting; (d) it studies the extent to which preventive and regulatory public policies are mitigating risk in the country. The identification of the socioeconomic factors associated with gambling behavior is a key step in developing effective interventions that protect the most vulnerable segments of the population from the rapid digital expansion of companies in the sector.

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Abbreviations

The following abbreviations are used in this manuscript:

EE. UU.	United States
SRI	Internal Revenue Service (Servicio de Rentas Internas)
LOPD	Sports Betting Operation License (Licencia de Operación de Pronósticos Deportivos)
RDD	Random Digit Dialing
SPSS	Statistical Package for the Social Sciences
USD	United States Dollar
INEC	Instituto Nacional de Estadística y Censo
WHO	World Health Organization
ENEMDU	Encuesta Nacional de Empleo, Desempleo y Subempleo
eSPORTS	Electronic Sports
iGAMING	Internet Gaming
X^2	Chi-square statistics
(RHO)	Spearman's rank correlation coefficient
TAU-B	Kendall's Tau-B coefficient
V DE CRAMER	Effect size measure for contingency tables

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