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The impact of gambling advertising on young people: identification of their latent attitudes and perceptions

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ABSTRACT

The rise in gambling in Spain, especially among young people aged 18 to 35, has been accompanied by a strong increase in gambling advertising, which promotes risky behaviours associated with gambling. This study analyses the perceptions and attitudes of this group towards betting and gambling advertising and their relationship with gambling intention. A CAWI survey was carried out with 936 young gamblers residing in Spain. The results revealed that 84% of participants perceived the influence of gambling operators' advertising, identifying four latent factors related to their attitudes and perceptions: 'credibility', 'lack of self-control and persuasive stimuli', 'knowledge', and 'conscience'. Three of these factors allow us to explain and predict the probability of perceiving advertising as driving gambling intention. Among the main contributions are the identification and quantification of the importance of the possible role that beliefs about advertising ethics play in the normalization of gambling and the influence of persuasive promotional and sports stimuli, indicating the emotional and cognitive influence of advertising messages, as well as the need for preventive policies based on empirical evidence. The reinforcement of media literacy regarding gambling and the review of regulatory frameworks are recommended to limit the most persuasive and normalizing content.

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Introduction

The gambling market in Spain has a dual structure consisting of face-to-face and online gambling, each with its own dynamics. According to the most recent Annual Report of the Directorate General for the Regulation of Gambling (DGOJ, 2024), in 2023, online gambling generated a gross gambling revenue (GGR), €1.454 billion, representing a 17.6% increase compared to the previous year. This growth has been accompanied by a notable increase in advertising investment, which reached 203 million euros in 2024, 37.3% more than in 2023. Although face-to-face gambling continues to have significant weight, favoured by products with a strong cultural presence, such as Christmas Lottery or Organización Nacional de Ciegos Españoles (ONCE) tickets, the digital environment accounts for most of the promotional effort—81% of advertising investment is allocated to online gambling, whereas 19% is directed towards in-person gambling (DGOJ, 2024).

This strategic orientation responds, in part, to the interest in capturing the attention of young adults, especially those between 18 and 25 years old, who are considered the most active group on sports betting and online casino platforms (DGOJ, 2024). At this point, it is worth clarifying that the present study focuses specifically on gambling advertising, understood as commercial communications disseminated by operators across different media, rather than on the broader concept of marketing. This segment, characterized by the intensive mobile device use, is a priority target for gambling advertising campaigns. In particular, more than 40% of these young people have been exposed to online gambling advertisements during sports broadcasts, which is one of the main broadcast channels (García Rabadán et al., 2023).

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It is not surprising, therefore, that gambling advertising directed at young people has generated growing social and academic interest. Such messages normalize gambling as a socially accepted activity and appeal to values such as fun, success, or sport, often using celebrities and influencers as models of identification (McGee, 2020; Montañés, 2023; Pitt et al., 2024). Although the participation of public figures was restricted by Spanish legislation through Royal Decree 958/2020, this limitation was annulled by the Supreme Court in April 2024, considering that it lacked a sufficient legal basis. This regulatory change reflects the strategic relevance of these figures in capturing the attention of young audiences. In addition, the emotional aesthetics of these campaigns dilute risks and can inhibit warning mechanisms in a population that is especially vulnerable to external stimuli, such as youth, whose self-regulatory processes are still developing (Brand et al., 2016; Somerville et al., 2013; Steinberg, 2007).

This vulnerability is amplified by constant exposure to persuasive content and low-level media literacy in gambling advertising strategies (Gervilla-García et al., 2021; Livingstone & Smith, 2014). Although literature has advanced the analysis of gambling advertising discourses, a void persists concerning how young people perceive and interpret these messages and what attitudes they develop towards them. Most studies have focused on content characterization and on the perceptual and emotional mechanisms mediating advertising influence, particularly among young audiences (Thomas et al., 2023). This gap hinders a comprehensive understanding of the role of advertising in the gambling experience. Therefore, it is crucial to explore how young people process these messages and what factors modulate their impact.

Theoretical framework: advertising influence and youth vulnerability to gambling

From a theoretical perspective, gambling advertising frequently resorts to metaphors—that is, implicit comparisons—that present it as an attractive and desirable practice instead of showing it as a risky or problematic activity. Expressions such as ‘gambling as a sport’ or ‘gambling as a rational decision’ link gambling with socially valued experiences, such as self-improvement, sports, or intelligence. In this way, a positive symbolic image of gambling is reinforced, which facilitates its integration into the daily lives of young people, without a critical reflection on its possible consequences (Barrientos-Báez & Caldevilla-Domínguez, 2023; Killick & Griffiths, 2020; López-González et al., 2018; Milner et al., 2013).

In line with this, gambling advertising is supported by an institutional discourse that presents the activity as legitimate and safe, promoting values such as transparency and responsibility while omitting risks (Dunlop & Ballantyne, 2021; Galmes-Cerezo et al., 2022; García Rabadán et al., 2023; Pitt et al., 2024). This approach favours an uncritical acceptance of the message—that is, a reception without questioning or analysis—which weakens warning mechanisms, especially among vulnerable audiences (Killick & Griffiths, 2020; McMullan et al., 2012; Montañés, 2023). This situation not only reduces the perception of risk but also builds an image of trust in such gambling advertising. Recent studies indicate that many young people perceive these messages as being honest and responsible, which reduces their scepticism and reinforces their predisposition to gambling (Pitt et al., 2023; Rossi & Nairn, 2022). This positive perception, although not always based on the veracity of the content itself, constitutes a key dimension in young people’s attitudes towards gambling advertising.

At the operational level online gambling operators rely on promotional incentives, such as bonuses, free bets, or offers without real cost, to activate the intention to bet, especially in the initial phases, such as registration (Challet-Bouju et al., 2020; Hing et al., 2019; Savolainen et al., 2022; Singer et al., 2024). These stimuli generate emotional urgency, reduce the perception of risk, and favour impulsive decisions (Parke & Parke, 2019; Vieira et al., 2023). Messages such as ‘last chance’ intensify this urgency and weaken rational judgement, especially in young people with low-level inhibitory control (Guillou-Landréat et al., 2021; Killick & Griffiths, 2023).

These promotional and persuasive mechanisms become particularly salient in the context of live betting, a modality that requires immediate decisions and quick reactions. This is reflected in the fact that, in Spain, live bets—closely associated with promotions and bonuses—represent 63.25% of all sports bets (DGOJ, 2024). This accelerated nature reinforces impulsivity and reduces the ability to control impulses and make conscious decisions, especially in among young people whose executive development—the ability to plan, control impulses, and make rational decisions—has not yet fully matured (Brand et al., 2016, 2020; Cemiloglu et al., 2023; Hing et al., 2019).

However, the influence of advertising also varies according to gender and age factors, aspects that modulate the reception of persuasive messages (Di Censo et al., 2024). Young men show greater exposure (Pérez-Gonzaga et al., 2024) and a lower perception of risk, whereas young women are more critical of persuasive or misleading messages (Delfabbro & King, 2020; McCarthy et al., 2022; Montañés, 2023). Young women often question the manipulation and hidden objectives of advertising (UNAD, 2024). Age also influences the interpretation of these messages. Adolescents tend to underestimate the influence of advertising, whereas young adults recognize it, although they cannot always resist it (Kristiansen & Severin-Nielsen, 2022; McMullan et al., 2012). This gap is explained by cognitive development and personal gambling experience (Gervilla-García et al., 2021; Steinberg, 2007).

Beyond its persuasive dimension, gambling advertising also fulfils an informative function. For many young people, such advertising is a key source of knowledge about platforms, payment methods, bets, and mobile applications, reducing uncertainty and presenting gambling as an accessible and modern option (Gervilla-García et al., 2021; Vázquez & Barrera, 2020). This type of message facilitates the start or continuity of gambling by reducing barriers to entry and generating a sense of control over the betting environment, thus normalizing gambling as being part of daily digital consumption (García-Castillo & Suriá Martínez, 2025; Nyemcsok et al., 2018).

However, despite the high level of exposure to gambling advertising, not all young people respond in the same way. Those with higher levels of media literacy or critical skills tend to develop scepticism regarding or reject persuasive messages (Kaakinen et al., 2020; Pedrouzo et al., 2025). Although they represent a minority group, the role of young people is key from a preventive perspective since they constitute a population that is especially receptive to evidence-based educational campaigns (Bouguettaya et al., 2020; Singer et al., 2024). In these cases, the apparent indifference towards advertising does not imply passivity but rather can be interpreted as a form of active resistance, where critical consciousness operates as a defence mechanism against commercial influence (Livingstone & Helsper, 2006). Understanding these differentiated response patterns is essential for identifying the factors that modulate the impact of gambling advertising and for designing more effective intervention strategies.

Despite advances in research on gambling advertising and young people, much of the existing literature remains predominantly descriptive, focusing on levels of exposure or general perceptions of influence. Less attention has been paid to the empirical identification of the latent dimensions that structure young people's attitudes towards gambling advertising—particularly those related to persuasive stimuli, loss of control, and the informational role of advertising—and to assessing their explanatory and predictive capacity. To address this gap, the present study identifies underlying attitudinal factors and applies an explanatory–predictive model to estimate their contribution to the probability of perceiving gambling advertising as encouraging gambling.

In this context, it is worth asking ourselves what the perceptions and attitudes of young Spanish gamblers are regarding gambling advertising and the impact it has on their gambling behaviour. Accordingly, the following research questions are proposed:

- Do young gamblers perceive gambling advertising as encouraging them to gamble?
- What are the underlying factors or dimensions of the attitudes and perceptions of young gamblers regarding the impact of gambling advertising?
- Are there gender or age differences (sociodemographic) in the global perception of the influence of advertising by gambling operators and of the latent factors found?
- Can you explain the probability of perceiving gambling advertising as encouraging gambling based on the above factors?

Thus, the general objective of this work is to obtain information on and analyse the perceptions and attitudes of young gamblers regarding gambling advertising to identify the latent factors that can explain and predict their potential influence on gambling intention. In this way, preventive intervention, self-regulation, and literacy strategies can be proposed to prevent any potential risks associated with gambling based on empirical evidence.

Method

This research, which is quantitative in nature, has a nonexperimental design of a cross-sectional type and descriptive–explanatory scope. The data collection technique used was computer-assisted web interviewing (CAWI) conducted in December 2024.¹ This design made it possible to obtain a representative snapshot of the phenomenon under investigation, which is adequate for meeting the stated objective.

Participants

One thousand people (of which 936 were valid for the analyses carried out) residing in Spain (sampling error for estimating proportions under simple random assumption of $\pm 3.1\%$ for a confidence level of 95%; $P=Q=50\%$ and 2 sigma), all of them with experience with gambling advertising, took part in this study. The selection of this sample was carried out randomly, ensuring the participation of gamblers and territorial representation according to the population distribution of autonomous communities in Spain. All participants provided their explicit written consent to take part in the study in accordance with the procedures established by the CINT panel (<https://www.cint.com/esomar/#policies-compliance>). With respect to the sociodemographic profile, 49.2% of participants identified themselves as male, 50.1% as female, and 0.7% as nonbinary.

The age range of participants was between 18 and 35 years, a range selected on the basis of the data collected in the *2023 Annual Report* of the General Directorate for the Regulation of Gambling (DGOJ, 2024), which indicates that this age group is the most active in the consumption of online gambling in Spain. Specifically, young people between 18 and 35 years old constitute 65.5% of online gamblers in Spain. In addition, according to the same report, the number young gamblers between 18 and 25 years old has increased significantly in recent years, with a growth of 21.3% in 2023 compared with 2021 and representing 32.6% of online gamblers in Spain; that is, the second largest group by age after the one made up of gamblers between 26 and 35 years old (32.9% of all gamblers). The distribution of the investigated sample within the interval of 18 to 35 years was carried out by simple allocation into four age subgroups—18 to 21 years, 22 to 25 years, 26 to 30 years, and 31 to 35 years.

Measures

To measure the degree to which gambling advertising is perceived as encouraging gambling, a 4-point scale was used (1=does not promote anything; 2=promotes little; 3=promotes a little; 4=promotes a lot), which, for subsequent analyses, was recoded into 2 categories—the first containing scores 1 and 2 and the second containing scores 3 and 4.

With respect to attitudes towards and perceptions of the impact of gambling advertising, 15 items were considered via a 5-point Likert scale (1=strongly disagree; 5=strongly agree). These items were drawn from well-established studies and scales validated in academic literature, selected for their relevance to core aspects of gambling advertising influence. Thus, the final scale resulting from the 15 items considered offers high-level reliability, with Cronbach's alpha of 0.827:

- Nine of the items were chosen from the gambling advertising impact scale (Hanss et al., 2015) and its Spanish adaptation for adolescents (Gervilla-García et al., 2021).
- Three other items were incorporated from the scales and main results obtained by Derevensky et al. (2010) and Hing et al. (2014) regarding the impact of advertising linked to promotions and sporting events on gambling behaviours and attitudes and on the review of the academic literature on the exposure of young people and adolescents to such advertising, as randomized by Labrador et al. (2021).
- Finally, three items related to attitudes and perceptions about honesty, transparency, and responsibility in gambling advertising were added on the basis of the works of Rossi and Nairn (2022) and Pitt et al. (2023).

Finally, information was collected on the personal sociodemographic characteristics of those investigated (gender, age, and province of residence) and on their status as gamblers, verifying that they have participated, in the last year, in gambling activities.

Analysis techniques

First, univariate and bivariate descriptive analysis techniques and inferential techniques were applied to establish relationships between variables (chi-square test and analysis of variance, normality, and homoscedasticity tests). The most suitable multivariate techniques were subsequently applied to answer the most relevant research questions of this work.

Thus, to identify the underlying factors or dimensions in the attitudes and perceptions of those investigated on the impact of gambling advertising, principal component analysis (PCA), a multivariate statistical technique that reduces the dimensionality of the original initial dataset by obtaining a smaller number of new variables, called factors or components, resulting from the linear combination of the original variables, was used. These components were configured to capture the maximum possible variance in the data, making PCA an effective tool for reducing dimensionality and understanding the underlying structure of the data (D'Agostino, 2005). This approach facilitates the identification of patterns in the data and the interpretation of the results, minimizing the loss of information (Jolliffe & Cadima, 2016).

Conversely, to propose an explanatory and predictive model of the probability of perceiving gambling advertising as encouraging gambling on the basis of the previously identified factors, binary logistic regression, which is a statistical method used to define the relationship between a binary dependent variable and one or more independent variables, was used. This method estimates the probability of a certain outcome occurring on the basis of predictor variables, which can be continuous, ordinal, or categorical. Logistic regression is preferable to ordinary least squares (OLS) regression in the case of binary dependent variables since it allows for the predicted probabilities to be restricted to the interval between 0 and 1, thus addressing any variance problems. Nonconstant and nonlinear relationships are inherent in this type of data (Mayerl & Urban, 2010; Kiliç, 2015; Wilson et al., 2015).

The treatment of the database and the application of the analysis techniques were carried out with SPSS v.30.

Results

Influence of gambling advertising on gambling intention

The results obtained on whether those investigated perceive gambling advertising as encouraging them to gamble are forceful and reflect a majority opinion (Figure 1): 84% of young gamblers residing in Spain (approximately 8 of every 10 gamblers) perceive gambling advertising as being effective since it encourages them to gamble. Moreover, 40.5% and 43.5% consider it as driving them to gamble a little and a lot, respectively. Only 16% perceive such advertising as driving them to gamble very little (11.9%) or not at all (4.2%).

On the basis of the available data, no gender differences were observed. However, there was an association with age (chi square = 14.767, $p=0.022$) when this variable was recoded into three sections. (Figure 2). Thus, there is a statistical relationship between belonging to the group of young people aged 23 to 33 years and perceiving gambling advertising as strongly encouraging individuals to gamble (45.2% compared with an average percentage of 40.5% with this assessment) and being older, over 33 years (52.8% above the average percentage that stands at 43.5%). Conversely, such perceptions are associated with significant differences, such as those involving being 22 years old or younger and considering to a lesser extent that advertising greatly drives gambling intention (34.3% with this assessment, which is well below the average percentage of 40.5%), with observed frequencies much lower than those expected under the independence hypothesis. However, and only descriptively, it is important to note that a relevant percentage shows a considerable assessment of the perceived influence of gambling advertising on gambling intention (47.6%). These age-related differences should be interpreted with caution, as

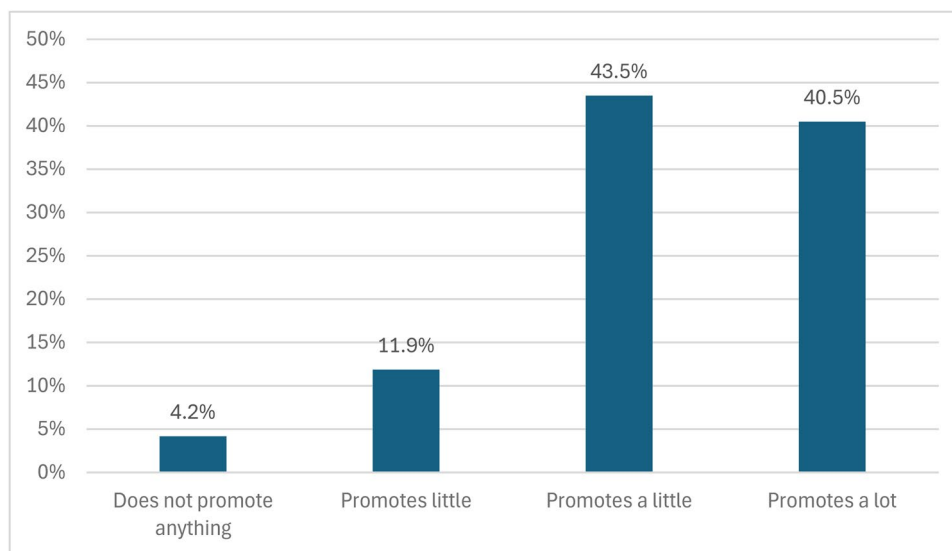


Figure 1. Perception of the influence of gambling advertising on gambling intention (data in % of the total of those individuals investigated).

Source: Own elaboration.

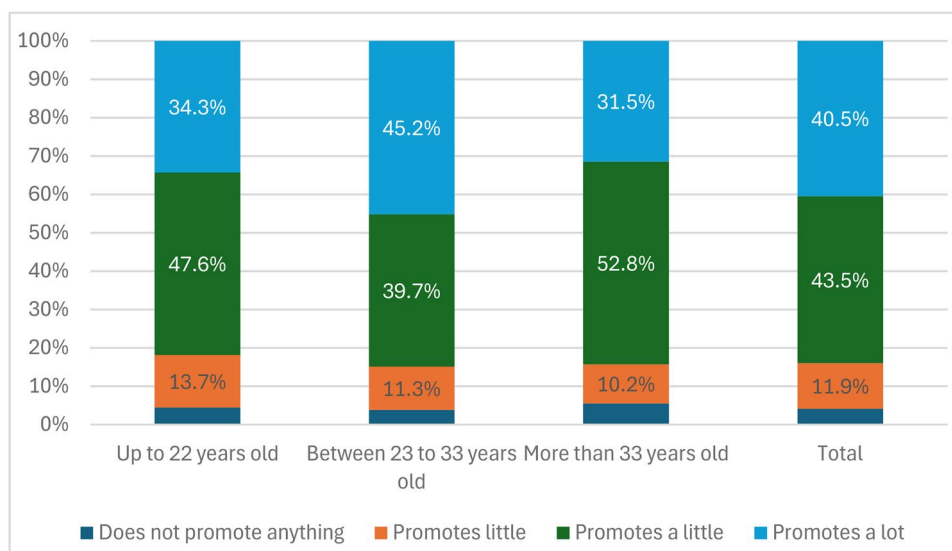


Figure 2. Percentage distribution of the perceived influence of gambling advertising on gambling intention by age segment.

Source: Own elaboration.

lower perceived influence among younger participants may reflect differences in self-awareness, critical appraisal, or perceived susceptibility to advertising, rather than a lower actual exposure or impact.

Latent factors in attitudes and perceptions about the impact of gambling advertising

PCA with varimax rotation reveals the existence of 4 latent factors in the attitudes and perceptions of young gamblers regarding the impact of gambling advertising. These 4 factors explain 70.78% of the total variance contained in the data in a significant way ($KMO = 0.795$, Bartlett's sphericity test <0.01). In the analysis, only the variables with communality greater than 0.5 and with significant factor loadings are retained for the interpretation of each component (Table 1). The resulting scale offers great reliability, with a Cronbach's alpha of 0.744.

Factor 1 (Table 1; Figure 3), called 'credibility', which explains 23.86% of the total variance, summarizes mainly those attitudes and perceptions of young gamblers that refer to the ethical aspects of the gambling operators, such as their responsibility, honesty, and transparency. This factor could contribute to increase the credibility of this type of advertising and reducing the perception of the risk inherent in gambling.

Factor 2 (Table 1; Figure 3), called 'lack of self-control and persuasive stimuli', which explains 21.25% of the total variance, integrates the attitudes and perceptions related to the stimulating and impulsive effects of gambling generated by gambling advertising in general and, more specifically, those that incorporate messages of either a promotional nature or related to sporting events or characters. In this regard, this type of content may be associated with perceptions of impulsivity, loss of control, and increased spending, factors that have been linked in the literature to gambling-related risk behaviours.

Table 1. Rotated factor matrix. Latent factors in attitudes and perceptions about the impact of gambling advertising: factor loadings.

Attitudes and perceptions about the impact of gambling advertising	F1	F2	F3	F4
Advertising by bookmakers/casinos is responsible (it does not harm the most vulnerable public).	0.861	0.003	0.095	0.040
Advertising by sportsbooks/casinos is honest (it does not lie or mislead).	0.860	0.007	0.132	0.083
Advertising by bookmakers/casinos is transparent (it offers all the important information, positive or negative, in a clear way).	0.857	0.022	0.153	0.086
You are more likely to gamble after seeing a gambling advertisement/promotion.	0.173	0.798	0.057	-0.126
Advertising related to bonuses and promotions makes people spend more money than they expect.	-0.080	0.732	0.089	0.169
Advertising by betting houses or casinos that involves favourite soccer teams or athletes promotes the desire to gamble/bet more.	0.053	0.689	0.252	-0.033
Advertising related to stocks, bonds, cash back, super increase, etc., generates more impulsiveness and loss of control among gamblers.	-0.170	0.628	0.336	0.270
Advertising has increased my knowledge of the gambling options that exist.	0.168	0.208	0.815	0.009
Advertising has increased my knowledge of apps, websites, bookmakers, or casinos.	0.199	0.219	0.805	-0.016
I do not pay attention to gambling ads	0.188	0.078	-0.016	0.945

Source: Own elaboration. Factor Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser standardization. The rotation converged in 5 iterations.

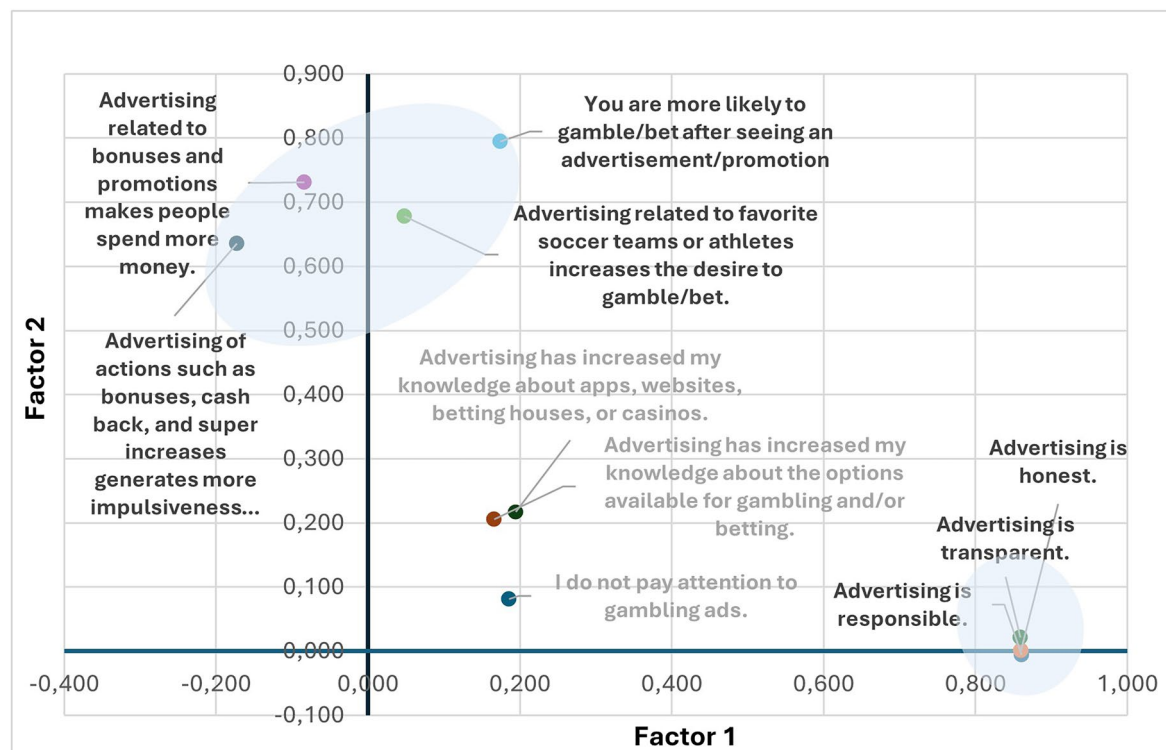


Figure 3. Visual representation of Factors 1 and 2.
Source: Own elaboration.

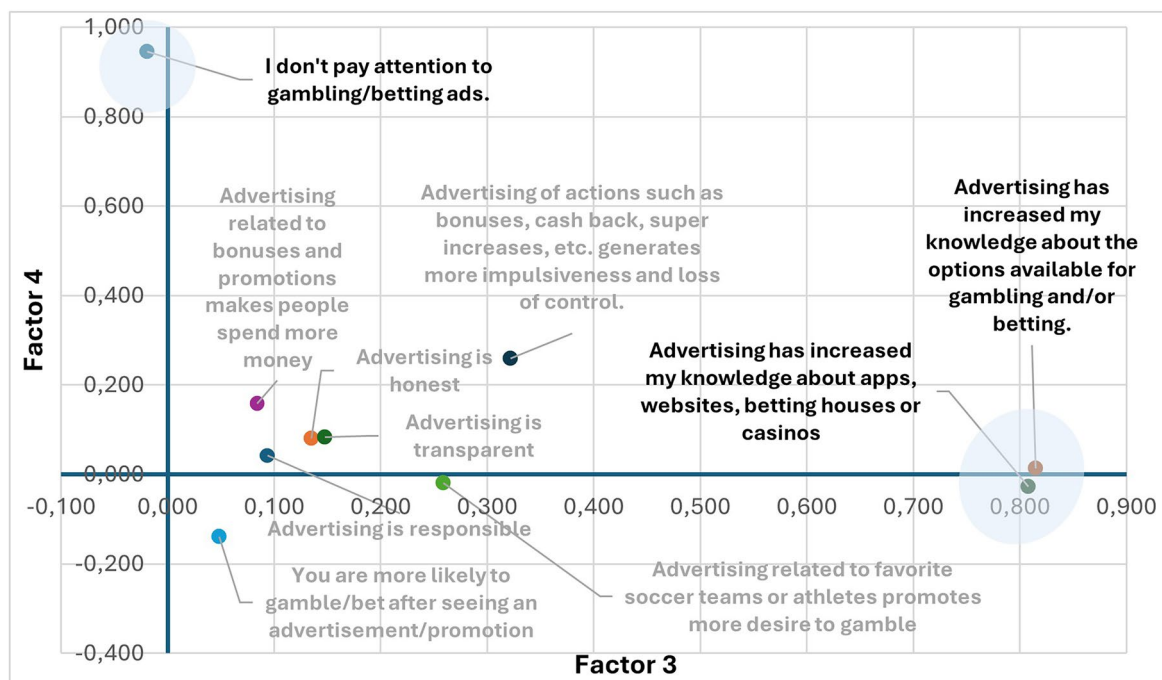


Figure 4. Visual representation of Factors 3 and 4.
Source: Own elaboration.

Factor 3 (Table 1; Figure 4), called 'knowledge', which explains 15.44% of the total variance, is defined by the attitudes and perceptions of gamblers in relation to the informative capacity of gambling advertising about the different gambling options, channels and platforms available. This factor reflects awareness of the existence and accessibility of gambling opportunities, rather than perceived competence or skill in gambling activities. In this regard, gambling advertising may influence individuals' perceptions and behaviour by providing information about the range of gambling opportunities available.

Finally, Factor 4 (Table 1; Figure 4), called 'conscience', which explains 10.22% of the total variance, is correlated only with the item 'I do not pay attention to gambling advertisements', which refers to the perceptions among young people of the impact of such advertising, showing an attitude of rejection or indifference and thus protecting themselves from its negative effects. Nevertheless, this result should be interpreted with caution, as alternative explanations may exist. For example, more intensive gamblers may report a greater perceived influence of advertising precisely because they are more attentive to gambling-related messages.

Conversely, significant differences are observed, but only by gender and not by age, for Factor 2 ($F=4.327$, $p=0.038$). Women present a greater value for this factor, showing the significant relationship between the perception of the use of persuasive, promotional, and sports advertising stimuli and the lack of self-control.

Explanatory and predictive model of the probability of perceiving gambling advertising as driving gambling intention

To quantify and measure the effect that the factors identified in the previous section have on the probability of perceiving gambling advertising as encouraging gambling, an explanatory–predictive model is proposed using the binary logistic regression technique (the Wald method).

For this purpose, and as noted in the methodology section, the dependent variable, which measures the degree to which gambling advertising is perceived as encouraging gambling is dichotomized. Thus, category 1 includes the perception that this type of advertising encourages little or no gambling (16% of those investigated), and category 2 includes the perception that such advertising encourages a little or a lot of gambling (84% of those investigated).

Table 2. Logistic regression model on the probability of gambling advertising being perceived as encouraging gambling.

Variables in the equation	B	Standard error	Wald	df	Sig.	Exp. (B)
Factor 1	0.851	0.104	67.279	1	0.000**	2.342
Factor 2	0.413	0.092	20.295	1	0.000**	1.512
Factor 3	0.265	0.087	9.376	1	0.002*	1.304
Constant	1.944	0.111	305.213	1	0.000**	6.989

*Significant at 5%.

**Significant at 1%.

Source: Own elaboration.

Table 3. Classification models.

Models	Total number of correctly classified cases	They perceive the influence of advertising as being correctly classified	They do not perceive the influence of advertising as being correctly classified	False positives	False-negatives
Original model	84.4%	99.3%	8%	0.85%	14.74%
Show training ^{to}	66.6%	68.9%	64.4%	15.50%	17.82%
Checkout sample ^a	68.9%	76.8%	60.9%	11.72%	19.31%

^aThe cutoff value is 0.4500.

Source: Own elaboration.

The proposed model (Table 2, which includes only the variables included in the final model) indicates that the probability of perceiving gambling advertising as encouraging gambling increases (multiplies by 2.3 times) when the gamblers believe in the ethics of the advertising activities of said operators, when they recognize the lack of self-control and the impulsiveness generated by advertising content of a promotional and sports nature (1.5 times more likely), and when they agree that such advertising increases their knowledge about the different gambling options and channels (30% more likely). The goodness of fit of the model is verified using the Hosmer and Lemeshow test (chi-square = 3.836; $p=0.872$), and the percentage of cases that the model is able to predict correctly (84.4%) and the area under the receiver operating characteristic (ROC) curve (0.747) are obtained.

Although the original model shows high-level global precision in the classification of cases, a better classification is observed among those who perceive the gambling advertising analysed as promoting gambling intention (99.3%) than among those who do not perceive this influence. To avoid biases due to the initial distribution of the dependent variable, the sample is balanced at 50% between categories and divided into two subsamples—training (70%) and testing (30%). The validation of the balanced model improved the precision in both groups, with an overall precision of approximately 7 out of 10 young people (Table 3).

Conclusions, recommendations and limitations

The results of the present study confirm the general perception among young Spanish gamblers (without evidence of significant differences according to their gender) that gambling advertising influences their gambling behaviour, thus prompting them to gamble.

In this context, relevant differences by age are identified; younger gamblers (18–22 years old) perceive, to a lesser extent than do older gamblers, that gambling advertising strongly drives their gambling intention. This lower perceived influence should not be interpreted as reduced vulnerability, but rather as a possible reflection of lower awareness of advertising effects, limited gambling experience, or weaker recognition of persuasive strategies. In this sense, younger gamblers may underestimate the impact of gambling advertising despite being particularly susceptible to emotional and persuasive stimuli, which is consistent with previous research that has documented how adolescents and young adults have a lower level of development of inhibitory control and executive functions, which are key factors in risk management (Steinberg, 2007). From a preventive perspective, these findings underline the importance of early and age-tailored media literacy interventions aimed at strengthening critical awareness of gambling advertising strategies.

Conversely, four latent factors or dimensions are identified through PCA (Principal Component Analysis) in the attitudes and perceptions of young gamblers towards gambling advertising: (1) credibility, (2) lack of self-control and persuasive stimuli, (3) knowledge and (4) conscience.

Two of these factors, 'knowledge' and 'conscience', coincide with the findings of previous studies (Gervilla-García et al., 2021; Gervilla-García et al., 2021; Hanss et al., 2015; Livingstone & Smith, 2014). The first of these factors, 'knowledge', points to the existence of favourable attitudes towards gambling advertising, while its role in increasing knowledge about different gambling channels and modalities is recognized, which can make young people favour a greater frequency and intensity of participation and, consequently, increase their risk of developing problem behaviours. In contrast, the second factor, 'conscience', can be understood as a protection mechanism against advertising influence, as it is linked to an attitude of mistrust or rejection (Kaakinen et al., 2020) or to a critical attitude with less emotional involvement (Livingstone & Helsper, 2006).

The identification of the two remaining latent factors, 'credibility' and 'lack of self-control and persuasive stimuli', constitutes one of the main contributions of this work, as they are not explicitly addressed in previous literature. The 'credibility' factor highlights how young gamblers perceive gambling advertising messages as being honest, transparent, and responsible, which can contribute to a distorted perception of security. This unjustified credibility can deactivate the alert mechanisms of individuals and generate a false sense of control against the risk associated with gambling, increasing their vulnerability to advertising messages. This result extends the existing findings on how advertising can influence the normalization of gambling among young people and provides a new perspective on the role gambled by beliefs about the ethics of operators in the acceptance of these messages, in line with the warnings of recent studies such as those of Rossi and Nairn (2022) and Pitt et al. (2023).

The factor 'lack of self-control and persuasive stimuli' shows how content linked to promotions, rewards, or sports elements is associated with impulsive reactions, weakening the self-regulation capacity of individuals and promoting compulsive gambling patterns (Hing et al., 2019; Vieira et al., 2023). This result is consistent with the literature on the influence of marketing in high-immediacy environments, such as that of live betting (Challet-Bouju et al., 2020; Guillou-Landréat et al., 2021). In addition, the differences observed by gender in this factor suggest the greater vulnerability of male gamblers, who are more confident and less aware of the possible risk derived from these advertising strategies in the communications of gambling operators than are their female counterparts. This greater vulnerability among men could be accentuated by their greater exposure to gambling advertising and their degree of participation in gambling activities, as recent studies have indicated (Pérez-Gonzaga et al., 2024).

Another important contribution of this work is that related to the proposed logistic regression model, which determines that three of the identified factors ('credibility', 'lack of control and persuasive stimuli', and 'knowledge') significantly increase the probability of a young person perceiving gambling advertising as encouraging him or her to gamble. This model allows us not only to explain and predict the perceptions of young gamblers regarding the influence of advertising on their gambling behaviour but also to identify and prioritise particularly vulnerable segments to design more effective intervention campaigns.

It can therefore be concluded that the use of Principal Component Analysis, as an unsupervised technique that does not rely on predefined criteria (Malhotra, 2008), is particularly useful for identifying underlying patterns in complex, multidimensional contexts, such as young gamblers' latent attitudes and perceptions towards gambling advertising, which may not be readily captured through more traditional approaches. In parallel, logistic regression analysis makes it possible to assess the relative importance and explanatory capacity of these latent dimensions in relation to young people's reported gambling-related perceptions and intentions, thereby informing and helping to prioritise recommendations in the areas of media literacy and the regulation of gambling operators' advertising. These aspects are especially relevant in the current post-COVID-19 context, in which young people's digital habits have intensified (INE, 2025), potentially increasing their exposure to online gambling environments and associated risks.

Expanding on this latter point, the empirical evidence collected here allows for recommendations to be made both in terms of media literacy and the regulation of advertising by gambling operators. First, it is essential to promote critical training that deactivates the effects of emotional appeals and promotional messages within gambling advertising. The incorporation of specific digital literacy programmes that teach the recognition of commercial persuasion techniques has been shown to be effective in generating more sceptical and resistant attitudes (Kaakinen et al., 2020; Pedrouzo et al., 2025). Second, it is essential to review and reinforce the regulations in force in Spain, not only in relation to time slots or broadcast channels (with special attention to online channels) but also in terms of the content of the

gambling advertising messages themselves. The use of messages and content that are not based on a truthful and verifiable basis should be limited, as should the use of sports references or elements related to youth entertainment in the gambling context.

These results open new lines of interest for future research. Thus, longitudinal studies that allow us to analyse the evolution of the attitudes and perceptions studied in this work over time and explore the effects of different types of messages, channels, or advertising formats should be conducted. Similarly, it would be valuable to develop qualitative research that delves into the subjective mechanisms of the interpretation of advertising, especially in relation to perceived ethical discourse. Furthermore, it would be interesting to extend this study to the population of gamblers with gambling addiction problems, as this segment is particularly vulnerable. This type of study would contribute to strengthening the design of specific interventions based on empirical evidence.

Among the limitations of this study are those inherent to survey-based research. In particular, self-report measures may be subject to social desirability bias, which can lead to the underreporting of socially sensitive behaviours or the provision of socially acceptable responses. Nevertheless, given that the data were collected through an online self-administered survey (CAWI), the absence of an interviewer may partially reduce this type of bias. In addition, the potential presence of recall bias should be considered. Other biases, such as self-selection bias, cannot be entirely ruled out. However, given that the object of study is online gambling and the analysed population consists of young people who are regular Internet users, the impact of this bias may be attenuated, as Internet access among young people in Spain is practically universal (98%) (INE, 2025), which significantly reduces barriers to participation.

Note

1. The information was collected through a structured questionnaire sent out by “Grupo Análisis e Investigación” through an external online panel called CINT (<https://es.cint.com/>).

Author contributions

CRedit: **Mónica Díaz-Bustamante Ventisca**: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Supervision, Visualization, Writing – original draft, Writing – review & editing; **María José Narros González**: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – original draft, Writing – review & editing; **Gema Martínez Navarro**: Conceptualization, Investigation, Writing – original draft, Writing – review & editing.

Ethics statement

Legal requirements regarding the protection of personal data and the explicit informed consent of participants were ensured by Grupo Análisis e Investigación (which conducted the fieldwork) and by CINT (the panel provider from which participants were selected).

Thus, the study was conducted in accordance with the Declaration of Helsinki, the ICC/ESOMAR International Code for Social and Market Research in Spain (<https://iccwbo.org/publication/codigo-internacional-iccesomar-para-la-practica-de-la-investigacion-social-y-de-mercados/>), ISO 20252, ISO 27001, Certificate A50/000005, Certificate 21655-ISO-001, and the *Sistema IA de Calidad de Captaciones* (SACC – Collection Quality System). These certifications and standards ensured that the research was carried out in full compliance with all quality guarantees and ethical standards required for social research involving human participants.

Disclosure statement

No potential competing interest was reported by the authors.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, [MDBV], upon reasonable request.

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