
Gambling minds: what lies behind the BETS?

Mentes apostadoras: o que há atrás das BETS?

Mentes apostadoras: ¿Qué hay detrás de las BETS?

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Chief Editor responsible for the article: Leandro Fernandes Malloy-Diniz

Authors contributions according to the [Taxonomia CRediT](#): Weber CAT, Silva AG [1,12,13,14]

Disclosure of potential conflicts of interest: none

Funding: none

Approval Research Ethics Committee (REC): not applicable

Received on: 2025-01-20

Accepted on: 2025-01-21

Published on: 2025-01-24

How to cite: Weber CAT, da Silva AG. Gambling minds: what lies behind the BETS? *Debates em Psiquiatria*, Rio de Janeiro. 2025;15:1-12. <https://doi.org/10.25118/2763-9037.2025.v15.1405>

ABSTRACT:

Online sports betting, known as bets, has gained exponential popularity, posing significant public health challenges. This article explores the neurobiological, psychological, and social factors underpinning gambling behavior, emphasizing the role of dopamine, intermittent reinforcement,

and digital marketing. Gambling disorder, classified by the WHO as a mental health condition, is linked to rising cases of behavioral addiction. The discussion underscores the need for stricter regulation of betting platforms, protection of vulnerable populations, and strategies for prevention, diagnosis, and treatment, highlighting the urgency of public policies to address the social and emotional consequences of this practice.

Keywords: sports betting, gambling disorder, intermittent reinforcement, behavioral addiction, public health

RESUMO:

As apostas esportivas on-line, conhecidas como bets, têm se popularizado exponencialmente, apresentando implicações significativas para a saúde pública. Este artigo investiga os fatores neurobiológicos, psicológicos e sociais que sustentam o comportamento apostador, destacando o papel da dopamina, o reforço intermitente e o impacto do marketing digital. O transtorno do jogo, reconhecido pela OMS como transtorno mental, é associado ao aumento de casos de dependência comportamental. Discute-se a necessidade de regulamentação das plataformas de apostas, proteção de populações vulneráveis e estratégias de prevenção, diagnóstico e tratamento, enfatizando a urgência de políticas públicas para mitigar os impactos sociais e emocionais dessa prática.

Palavras-chave: apostas esportivas, transtorno do jogo, reforço intermitente, dependência comportamental, saúde pública

RESUMEN:

Las apuestas deportivas en línea, conocidas como bets, han ganado una popularidad exponencial, presentando desafíos significativos para la salud pública. Este artículo analiza los factores neurobiológicos, psicológicos y sociales que sostienen el comportamiento apostador, destacando el papel de la dopamina, el refuerzo intermitente y el impacto del marketing digital. El trastorno por juego, clasificado por la OMS como un trastorno mental, está relacionado con el aumento de casos de adicción conductual. Se discute la necesidad de regular estrictamente las plataformas de apuestas, proteger a las poblaciones vulnerables y establecer estrategias de prevención, diagnóstico y tratamiento, enfatizando la urgencia de políticas públicas para mitigar las consecuencias sociales y emocionales de esta práctica.

Palabras clave: apuestas deportivas, trastorno por juego, refuerzo intermitente, adicción conductual, salud pública

Introduction

Sports betting, translated from English as "bets," derives from the verb "to bet," which means to wager, directly reflecting the nature of the act of risking something in exchange for a possible gain. In the context of the virtual and online world, the expression specifically refers to betting on sports games, a practice that has grown exponentially in recent decades. With the evolution of technology and the advent of mobile connectivity, online sports betting has become accessible at any time and place, requiring only a smartphone and an internet connection.

However, this scenario transcends technological convenience and exposes a significant problem: the ease of unrestricted access to betting platforms. The lack of strict control over who can play, the continuous availability of the platforms, and the mass promotion of their offers make sports betting an activity that goes beyond entertainment, potentially leading to serious implications for public health. The potential impact includes issues ranging from addiction disorders to social and financial problems that affect not only the individuals directly involved but also their families and society as a whole.

The global gambling industry is expanding rapidly, with net consumer losses projected to reach nearly \$700 billion by 2028. This industry's growth is fueled by the increase in online gambling, the broad accessibility of gambling opportunities through mobile devices, greater legalization, and the introduction of commercial gambling in new areas [1].

Involvement in sports betting is sustained by a complex interaction of neurobiological, psychological, and social factors that converge to create a highly attractive and simultaneously dangerous environment. For example, the act of betting activates brain circuits associated with reward and excitement, such as the nucleus accumbens and the mesolimbic dopaminergic system. These systems release dopamine, a neurotransmitter responsible for the feeling of pleasure, creating a cycle of stimuli that can lead to the development of compulsive behaviors and gambling disorder [2].

Another key aspect is intermittent reinforcement, a psychological mechanism based on the unpredictability of winnings. This feature increases dopamine release and keeps the player engaged even after successive losses, as the brain is conditioned to seek the "next big win." This dynamic, combined with the illusory promise of easy and quick gains, contributes to the perpetuation of financial risk behaviors and fuels the desire for effortless social ascension, often exploited by the online sports gambling industry.

Moreover, the glamourization of sports betting through digital advertising and the use of influencers creates an illusion of success and status. The internet amplifies this perception, presenting betting as an accessible opportunity to achieve luxury, financial freedom, and the fulfillment of desires while obscuring the financial and emotional risks associated with compulsive behavior.

In this context, this article explores the fundamental elements that sustain gambling behavior, analyzing how neurobiological, psychological, and social factors converge to transform online sports betting into an emerging public health problem. The investigation aims not only to understand the underlying mechanisms of the phenomenon but also to highlight the implications of this practice for individuals and society.

The attraction of adrenaline and gambling disorder

Although gambling disorder is a common condition, the neurobiological and psychological mechanisms involved are not yet fully understood. Several studies suggest that dysfunctions in dopaminergic transmission may be associated with the development of pathological gambling behavior.

Sports betting stimulates a complex network of neurobiological mechanisms that increase the excitement and pleasure of the players. The act of betting activates areas of the brain, such as the limbic system, often referred to as the brain's reward system, which is responsible for processing feelings of pleasure and satisfaction. Additional regions of the brain, such as the prefrontal cortex, responsible for decision-making among other functions, are involved in gambling disorder. The release of dopamine in these neural circuits, stimulated by the unpredictability of winnings, creates a positive reinforcement cycle that can lead to behavioral addiction. This excitement, often compared to the effects of chemical substances, fuels the continuous desire to bet, even in the face of significant losses [3].

Intermittent reinforcement plays a central role in gambling, as the player never knows when they will win or lose. This uncertainty increases stimulation levels, promoting repeated behavior and making it difficult to break the gambling cycle. Furthermore, social stimulation—such as interaction with other players or celebrating victories on digital platforms—contributes to normalizing the behavior, making it harder to recognize its negative consequences.

Gambling disorder, classified by the World Health Organization (WHO) as a mental and behavioral disorder, arises in this context. According to the ICD-11,

Gambling disorder is characterized by a persistent or recurrent pattern of gambling behavior, which can be online (i.e., via the internet) or offline, manifested by: 1. Impaired control over gambling (e.g., start, frequency, intensity, duration, termination, context); 2. Increasing priority given to gambling, to the extent that gambling takes precedence over other interests in life and daily activities; and 3. Continued or escalating gambling despite the occurrence of negative consequences. The pattern of gambling behavior can be continuous or episodic and recurrent. The pattern results in significant distress or substantial impairment in personal, family, social, educational, occupational, or other important areas of functioning. Gambling behavior and other characteristics are typically evident over a period of at least 12 months to assign a diagnosis, though the necessary duration may be shortened if all diagnostic criteria are met and symptoms are severe [3].

In summary, the symptoms of gambling disorder include loss of control, persistence in gambling despite losses and negative consequences, and emotional dependence on the practice.

The prevalence of this disorder has increased with the popularization of online platforms, reinforcing the need for prevention and regulation strategies. The WHO estimates that one in every 100 individuals is affected by gambling disorder.

The illusion of easy and quick gains

The possibility of obtaining quick and significant financial gains is one of the main attractions of sports betting. However, unlike activities with fixed rewards, betting exploits the uncertainty of outcomes as a mechanism to capture the attention and motivation of players. The human brain is particularly sensitive to the expectation of a reward, especially when the

outcome is uncertain. This uncertainty generates continuous activation of the ventromedial prefrontal cortex, which regulates decision-making and risk evaluation [3].

Dysfunctional decision-making and intense desires represent fundamental aspects of all addictive behaviors. Specifically, in gambling addiction, these elements significantly contribute to defining what is known as chasing behavior [4].

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR) characterizes the act of "chasing losses" as the tendency to return to an activity, such as gambling, after incurring a financial loss, with the intent to recover the lost amount [5].

This mechanism is reinforced by the so-called "gambler's fallacy," a mistaken belief that past results influence future outcomes. For example, after a sequence of losses, the player believes they are closer to winning, increasing their likelihood of continuing to bet. This distorted perception is exploited by online platforms, which operate 24/7 and offer promotions, bonuses, and constant notifications to stimulate continued engagement.

In the long run, the illusion of easy and quick gains can lead to the development of risky financial behaviors, including severe debt and the compromise of personal assets. This dynamic reflects not only the economic impact of betting but also its emotional consequences, such as anxiety, frustration, and loss of control over repeated losses.

The desire for social ascension without effort

People with a greater susceptibility to gambling tend to show lower activation in the dorsolateral prefrontal cortex, a region associated with impulse control and rational decision-making. This functional deficit impairs risk assessment and the ability to resist immediate rewards, factors that worsen the compulsive behavior characteristic of gambling disorder [4, 5].

This dysfunction in the prefrontal cortex contributes to a greater propensity for impulsive behaviors and lower inhibitory control, making it harder to process the negative consequences of their actions. Moreover, these brain alterations are common in other addiction-related disorders, reinforcing the link between lower activation in this region and the loss of self-control [4].

Sports betting also taps into an intense psychological yearning: the desire for rapid and effortless social ascension. In a society where success is often measured by the accumulation of material goods, many individuals see betting as a legitimate way to achieve financial status and recognition without the need for hard work or long-term planning.

Additionally, marketing from betting platforms often reinforces this narrative, promoting success stories and spectacular victories. These messages create a distorted perception that gambling is a viable and even common route to wealth, ignoring the associated risks. This unrealistic expectation fuels the betting cycle, leading vulnerable individuals to invest more time and money in the attempt to "change their life".

Glamourization and the digital illusion

The digital environment amplifies the appeal of sports betting by constructing a glamorous and desirable image around the practice. Mass advertising, combined with the strategic use of digital influencers and celebrities, presents betting as a lifestyle associated with luxury, financial freedom, and success. These campaigns exploit the concept of the "other side of the screen," where the player believes that victory is within reach, requiring only a good bet.

This glamourization is sustained by carefully designed visual elements, including promotional videos of big wins, images of cash prizes, and narratives of financial triumph. However, these messages rarely highlight the associated risks, such as significant financial losses or the emotional impact of compulsive behavior.

Moreover, the anonymity and convenience of the online environment contribute to creating the illusion of control. Many players believe that, by being in the comfort of their own homes, they are less exposed to the dangers of gambling. In practice, this perception reduces risk awareness and facilitates the escalation of compulsive behavior. The psychological impact of the constant repetition of these messages, coupled with the ease of access, transforms the digital environment into a highly conducive space for the development of problematic behaviors.

Discussion

The exponential growth of online sports betting, driven by digital accessibility and mass advertising, exposes millions of individuals to the risks of problematic gambling. In light of this reality, it becomes imperative to implement regulatory measures to minimize the social and individual harms associated with this practice.

The recent expansion is most notable in low- and middle-income countries, where regulatory infrastructure is often weak. Gambling, at least in some form, is now legally permitted in over 80% of countries worldwide. Online gambling, given its borderless accessibility, is available everywhere via the internet [1].

Regulation and oversight of betting platforms is a central approach to mitigating the risks of online gambling and involves the strict regulation of betting houses. The absence of effective control allows these platforms to operate without clear restrictions, utilizing seductive advertising strategies and exploiting the psychological vulnerabilities of gamblers. It is crucial that legislation be developed to establish stringent licensing and operational criteria for these companies, including transparency in operational practices, limitations on operating hours, and restrictions on easy credit for betting.

Additionally, it is essential for the judiciary to intervene to protect vulnerable groups, such as children and adolescents, from exposure to sports betting advertisements. Glamorous and persuasive messages associated with gambling create an unrealistic perception of ease and success, negatively influencing the development of these young people. Measures such as banning advertising targeted at minors, restricting the times during which advertisements are aired, and requiring educational messages about the risks of gambling should be implemented urgently.

Regarding the risks of gambling disorder and public health, it is important to highlight that, from a public health perspective, the impact of online gambling is alarming. Gambling disorder, already recognized as a mental disorder by the WHO [2], has its prevalence amplified by the accessibility of online betting and the psychological reinforcement promoted by its characteristics, such as intermittent reinforcement and the unpredictability of winnings. Psychiatric doctors warn of a significant increase in cases of behavioral addiction related to betting, especially among young adults, a population particularly vulnerable to the allure of digital gambling.

The consequences of gambling disorder include severe financial problems, social isolation, anxiety, depression, and, in extreme cases, suicidal behavior. In light of this scenario, it is critical that public health policies be structured to prevent, diagnose, assist, and rehabilitate individuals affected by this addiction.

The Lancet Public Health Commission on Gambling has a clear position regarding the potential harms of this practice: gambling represents a public health threat, the control of which requires substantial expansion and tightening of the regulation of the gambling industry. A timely response to this growing global threat demands coordinated action at intergovernmental, national, and regional levels [[1](#)].

Without neglect, preventive and intervention measures are urgent, with a focus on preventive interventions where education on the risks of gambling must be a priority, through awareness campaigns that reach schools, universities, and digital spaces. Additionally, betting platforms should be required to display clear messages about the risks of addiction, as well as provide self-control tools such as time and money spending limits.

In a broader perspective, the main recommendations of the Lancet Public Health Commission [[1](#)] are presented in [Frame 1](#).

It is important to emphasize that early diagnosis of gambling disorder is also a crucial measure. Mental health professionals need to be trained to identify signs of compulsive behavior and provide appropriate support. Strategies such as screening in at-risk populations and integrating gambling-related issues into medical and psychiatric consultations can facilitate the recognition of the problem.

Final considerations

The neurobiological, psychological, and social factors influencing involvement with sports betting interact in a complex manner. This interaction results in widespread behavior, but also in an emerging public health problem. Neurobiological factors, such as the brain's reward system, play an important role, while psychological and social aspects, such as the pursuit of instant gratification and the social pressure environment, contribute to intensifying this behavior. Together, these dimensions make betting an attractive practice, but one that, when excessive, can lead to severe consequences for individuals' mental health and well-being.

Online sports betting has expanded globally, becoming an activity accessible to a wide range of people. This popularization brings benefits, such as the democratization of access to entertainment and the creation of new economic opportunities. However, it also exposes society to considerable risks, such as the increase in compulsive behaviors, addictions, and their implications for public health. The challenges include dealing with negative aspects, such as the normalization of addictive behavior and the difficulty of controlling the impact of betting on individuals' lives, particularly in the context of online connectivity.

Given the risks associated with sports betting, it is essential to implement a collective effort among legislators, the judiciary system, and health professionals. The regulation of betting platforms, strengthening protection for children and adolescents, and developing public policies focused on prevention and addiction treatment are essential actions to reduce the harms of this practice. These measures can help mitigate the adverse effects of sports betting, protecting the population from the dangers of this growing and often uncontrollable activity.

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Frame 1. Main recommendations for the regulation and approach to gambling

Recommendation	Description
1	Gambling is a public health problem; when defining policies, governments should prioritize health and well-being over competing economic motivations.
2	Effective regulation of gambling, including: <ul style="list-style-type: none">• Reduction of exposure and availability of gambling (prohibitions or restrictions on access, promotion, marketing, and sponsorship).• Accessible and universal support and treatment for gambling-related harms.• Desensitization of gambling through well-funded awareness campaigns.
3	Jurisdictions that permit gambling need a well-funded, independent, and capable regulator, with minimum protection measures such as: <ul style="list-style-type: none">• Protection of children and adolescents (enforcing a minimum age with mandatory identification).• Effective consumer protection measures (universal self-exclusion and user registration).• Proportional regulation according to the risk of gambling products.• Mandatory measures to limit gambling consumption (deposit and betting limits and pre-commitment systems).
4	Policies, regulations, treatments, and research should be protected from commercial influence. The transition to independently funded research and treatment, with greater public investment, is recommended.
5	UN bodies and intergovernmental organizations should incorporate a focus on gambling harm in strategies to improve health and well-being.
6	Development of an international alliance involving civil society, people with lived experience, researchers, and professional organizations for leadership, advocacy, and stakeholder engagement.
7	Establishment of a process for adopting a World Health Assembly resolution on the public health dimensions of gambling.