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Articles

**Unemployment and gambling: exploring differences in attachment, affect dysregulation, dissociation, and impulse dyscontrol and gambling-related cognitive distortions**

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**Abstract**

*Introduction:* Gambling has become a widespread phenomenon in Italy, with significant public health implications. Research highlights its severe consequences, including financial strain, social disruption, health complications, and an increased risk of suicide, with ramifications extending to the wider economy. Drawing on well-established theoretical models commonly applied to gambling in the scientific literature (*i.e.*, the Comprehensive Model of Addiction and the Gambling Space Model), the present research examines the relationships between adult attachment styles, dissociation, affect dysregulation, impulse dyscontrol, and gambling-related cognitive distortions. It also explores how these factors differ based on gamblers' employment status, providing a nuanced insight into the psychological mechanisms underlying gambling disorder. It is expected to find higher levels of the aforementioned psychological risk factors in unemployed gamblers.

*Method:* 230 participants ( $M_{age} = 35.06$  years,  $SD = 14.777$ ), divided into two subgroups: employed gamblers ( $n = 118$ ) and unemployed gamblers ( $n = 112$ ), were involved in the research and completed an online survey including validated self-report measures. Correlational and between-group analyses were conducted to highlight differences between factors and subgroups taken into consideration.

*Results:* Results indicate that affect dysregulation, dissociation, and impulse dyscontrol are strongly associated with gambling-related cognitive distortions, with attachment style also influencing this relationship. Unemployed gamblers exhibit higher rates of insecure attachment and are more susceptible to cognitive distortions and the key risk factors analysed in this study.

*Conclusions:* Findings support the hypothesis that affect dysregulation and attachment insecurity, particularly among unemployed individuals, increase vulnerability to gambling-related cognitive distortions. These results highlight the interplay between psychological vulnerabilities and social conditions in the onset and progression of pathological gambling. Although the cross-sectional design of the studies invites cautious interpretation and encourages further confirmatory research, these findings may have useful practical implications. Clinical interventions should address both emotional and cognitive vulnerabilities and consider occupational instability as a significant risk factor in pathological gambling.

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## 1. Introduction

Gambling has become an increasingly prevalent phenomenon in Italy and worldwide (ADM, 2023), with a 2.43% global prevalence of at-risk gambling and a 1.29% prevalence of problematic gambling among adults (Gabellini et al., 2023). While for some individuals it remains a form of casual entertainment, for others it can develop into a serious disorder (Khanthavit, 2021). Known as gambling disorder, this condition is recognized as a behavioural addiction, characterised by persistent and recurrent problematic gambling behaviour that leads to significant distress or impairment (APA, 2022).

While the growing body of literature underscores the public health relevance of gambling disorder, conducting psychological research in this domain (particularly in real-world or medical settings) remains highly challenging due to methodological, ethical, and contextual complexities (Kazdin, 2021; Schwartz et al., 2004). Despite these challenges, in recent years there has been growing scientific interest in problematic gambling (Abbott, 2020) as it constitutes a pressing public health issue (Potenza et al., 2019). Some studies have shown how problem gambling can lead to many negative outcomes (Muggleton et al., 2021) from a financial (Rizeanu, 2015), social (Shaw et al., 2007), and health (Griffiths & Calado, 2022) perspective as well as an increased risk of suicide (Karlsson & Håkansson, 2018; Marionneau & Nikkinen, 2022), and it affects not only individuals but also the broader economy (Walker & Sobel, 2016).

Some authors conceptualize addictive gambling behaviour as an attempt to externalise the regulation of dysregulated internal states (Rogier & Velotti, 2018). According to the Comprehensive Model of Addiction (CMA; Gori et al., 2022, 2023a) this process is implemented in response to a traumatic emotional experience and is influenced by personal characteristics such as attachment styles (Scherrer et al., 2007), affect dysregulation (Marchetti et al., 2019; Rogier et al., 2021), dissociation (McCormick et al., 2012) and impulse dyscontrol (Craparo et al., 2015; Ioannidis et al., 2019).

The Gambling Space Model (GSM) was recently introduced as a framework to address heterogeneity and complexity in gambling disorder (Navas et al., 2020). Following the GSM,

gambling addiction is conceptualized as primarily influenced by instrumental and Pavlovian conditioning mechanism but, in addition, psychobiological factors, cognitive distortions and affect-driven processes contribute significantly to the susceptibility and progression of the disorder (Jara-Rizzo et al., 2019; Navas et al., 2020). The CMA and the GSM constitute two useful theoretical frameworks providing valuable insights into the conceptualization of gambling addiction, emphasizing the underlying factors involved in its etiology and persistence.

### **1.1 Attachment Styles in Gamblers**

Attachment theory (Bartholomew & Horowitz, 1991), which explores how early relationships shape emotional and behavioural development, plays a crucial role in understanding gambling disorder (Padykula & Conklin, 2010). Attachment influences the development of self-regulatory capacities, which are essential for emotional stability (Schore & Schore, 2008). For this reason, attachment style has a relationship not only with the probability of onset of gambling disorder but also with the severity of symptoms and the risk of suicide (Iliceto et al., 2020).

Research shows that secure attachment, characterised by stable and supportive early relationships, fosters the development of healthy emotional regulation skills (Eilert & Buchheim, 2023; Pascuzzo et al., 2015). Conversely, insecure attachment styles, such as anxious, avoidant, or disorganised, are often linked to deficits in emotional regulation (Beebe & Lachmann, 2002). These deficits can lead to maladaptive coping strategies, such as gambling, as individuals attempt to manage unresolved emotional stress (Gori et al., 2022).

Furthermore, it has been observed that in a population of gamblers, people with secure attachment are equally distributed between employed and unemployed, while the unemployed are much more numerous than the employed among those with various insecure attachment styles (Topino et al., 2023).

### **1.2 The Role of Risk Factors in Gambling Disorder**

Understanding the factors that contributes to the emergence of gambling disorder is crucial for designing focused and effective prevention strategies, as well as targeted treatment options. The development of gambling disorder is understood to arise from a multifaceted interplay of influences classifying it as a bio-psycho-social condition (Mari et al., 2024). Research identified being male, being younger in age, having a lower level of education, belonging to an ethnic minority group, facing unemployment (Syvertsen et al., 2024), experiencing significant life stressors as well as struggling with mental health challenges as key risk factors (Calado & Griffiths, 2016; Suomi et al., 2024). Literature highlights that a prior history of psychopathological disorders, such as substance abuse, mood disturbances, depression, anxiety and personality disorders, places individuals at an increased risk for developing gambling disorder (Brunborg et al., 2016; Buth et al., 2017; Hodgins et al., 2005; Mari et al., 2024; Shaffer & Martin, 2011; Welte et al., 2004).

### 1.3 Affect Dysregulation

Affect regulation difficulties represent a transdiagnostic construct across multiple psychopathological conditions, spanning from eating disorders and mood disorders, such as depression and anxiety, to substance use disorders (Sloan et al., 2017) and behavioral addictions (González-Roz et al., 2024), including gambling (Lee et al., 2024; Marchica et al., 2020). Affect dysregulation regards difficulty in identifying, differentiate, communicate and modulate emotions (Helion et al., 2019; Tessier et al., 2024). Difficulties in emotion regulation have been consistently associated to the engagement in maladaptive and high-risk behaviours as means of avoiding distressing emotions (Spada et al., 2015; Tessier et al., 2024). Such regulatory deficits are recognized as significant predictors of both the development and persistence of gambling disorders (Jara-Rizzo et al., 2019; Jauregui et al., 2016; Lee et al., 2024; Marchica et al., 2020;). The use of maladaptive coping strategies such as rumination, suppression or avoidance of emotional states, has been linked to a broad range of psychopathology (Aldao et al., 2010; Sloan et al., 2017). Research specifically examining emotion regulation in gambling disorder highlights notable deficits. Individuals with gambling problems are less likely to employ affective regulation strategies, exhibit reduced emotional clarity and awareness, and face greater challenges in recognizing, adapting to, and tolerating negative emotions compared to non-gamblers (Jara-Rizzo et al., 2019; Lee et al., 2024; Orlowski et al., 2019; Rogier & Velotti, 2018; Tessier et al., 2024).

### 1.4 Impulse Dyscontrol

Impulsivity constitutes a complex and multifaceted construct characterized by rapid actions taken without fully considering potential consequences (Mallorquí-Bagué et al., 2019). Impulse dyscontrol is closely tied to deficits across various cognitive domains, with research on addictive behaviours, including gambling disorders and substance use disorders, revealing impairments in inhibitory control, difficulties in sustaining goal directed actions, and challenges in anticipating long-term consequences (Ioannidis et al., 2019; Mallorquí-Bagué et al., 2019; van Holst et al., 2010;). Cyders and colleagues (2007) identified impulsivity components in: lack of planning ahead (difficulties anticipating future outcomes), lack of perseverance (inability to sustain focus), sensation seeking, negative urgency (impulsive actions under distress), and positive urgency (rash behaviour during unusual positive mood). Gambling disorder is often associated with certain personality traits, notably high levels of neuroticism and emotional instability (Brunborg et al., 2016; Mari et al., 2024). Impulsivity and difficulties in regulating emotions, working in synchrony with these personality traits, amplify susceptibility by promoting circumstances that foster gambling tendencies (Brunborg et al., 2016; Sancho et al., 2019). Research emphasizes the link between affective impulsivity or negative urgency (Muela et al., 2023), and the severity of gambling disorder (Billieux et al., 2012; Kocsel et al., 2024; Mallorquí-Bagué et al., 2019).

### **1.5 Dissociation**

In the fifth edition of the Diagnostic and Statistical Manual for Mental Disorders (DSM-5), dissociation refers to a disruption in the integration of mental activities including “consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior” (APA, 2013). It has been suggested that dissociation exists on a continuum, ranging from everyday experiences of absorption (e.g., daydreaming) to pathological forms (Schluter & Hodgins, 2019). Gambling can lead to dissociative states characterized by deep immersion, a sense of unreality, narrowed focus, and track of time loss (Korvuo et al., 2023; Rogier et al., 2021). This trance-like state, often termed as dissociative gambling (Korvuo et al., 2023), involves reduced critical thinking and diminished awareness of money’s value (Oakes et al., 2012). According to the Comprehensive Model of Addiction (Gori et al., 2022, 2023a), dissociation is a maladaptive strategy to escape distressing internal states, and it has been identified as a key factor in the development and maintenance of several behavioral addictions, including gambling addiction (Rogier et al., 2021). In fact, people with gambling disorder often show high levels of dissociation (McCormick et al., 2012; Topino et al., 2021), and higher levels of dissociation seems to be associated with more severe gambling behaviours (Imperatori et al., 2017). In gambling disorder, dissociation appears to be a modulatory mechanism of internal dysregulated affects that result in problematic behaviours (Rogier et al., 2021). In addition, research indicates that dissociative experiences can trigger impulsivity, which further exacerbates problematic gambling tendencies (Craparo et al., 2015).

### **1.6 Cognitive Distortions and Gambling Disorder**

Cognitive distortions also play a pivotal role in the development and persistence of gambling disorder (Iliceto et al., 2015). Cognitive distortions refer to irrational beliefs and faulty perceptions about gambling, including an overestimation of control and the misinterpretation of outcomes (Raylu & Oei, 2004). Impairments in reasoning and decision-making can lead to distorted beliefs, such as overestimating personal control over gambling outcomes or falling prey to the gambler’s fallacy, where individuals misjudge the likelihood of success in games of chance (Ciccarelli et al., 2017; Fortune & Goodie, 2012; Raylu & Oei, 2004). These erroneous beliefs perpetuate gambling behavior, encourage continued participation despite recurring losses, and diminish awareness of potential risks, fostering an overly optimistic outlook that sustains the addictive cycle (Bickl et al., 2024). These cognitive distortions play a role in the formation of specific strategies, beliefs and behaviours aimed at gaining control over gambling outcomes as well (Ciccarelli et al., 2017; Delfabbro, 2004). The GSM highlights four dimensions that differentiate gamblers, including motivated cognitive elaboration and self-deception, which play a critical role in maintaining gambling behavior (Navas et al., 2020). This dimension encompasses cognitive biases that gamblers use to justify or minimize the impact of gambling-

related consequences, reinforcing their motives to continue gambling (Jara-Rizzo et al., 2019). Tools like the Gambling-Related Cognitions Scale (GRCS; Raylu & Oei, 2004) assess such distortions across five domains: inability to stop, gambling expectations, illusion of control, predictive control and interpretative biases. These biases support covert emotional regulation strategies, aligning with GSM's emphasis on emotional dysregulation and self-deception, illustrating how cognitive distortions perpetuate gambling behavior (Braunstein et al., 2017; Jara-Rizzo et al., 2019). Gamblers may adopt particular attitudes believing they can enhance the chances of winning by influencing results, including maintaining composure, acting cautious or projecting confidence regardless of the winning or losing situation they are in (Bickl et al., 2024; Bouju et al., 2014). In some instances, superstitious behaviours emerge, providing an instrumental role for the gambler (Joukhador et al., 2004). In this case, gamblers develop a firm belief in a nonexistent cause-effect link between unrelated events, using lucky charms or rituals in order to influence game outcomes perpetrating a misguided sense of control (Bickl et al., 2024; Joukhador et al., 2004). Research has shown that both superstitious beliefs and the gambler's fallacy, as examples of cognitive distortions, increase vulnerability to the development of gambling behaviours (Donati et al., 2013, 2018). Cognitive distortions hold a debated role in influencing gambling behaviour, with differing interpretations shaping intervention strategies in order to focus either on modifying the behaviours themselves or on correcting the underlying misconceptions about gambling (Esparza-Reig et al., 2023; Yakovenko et al., 2016). One perspective suggests that the extent of gambling problems and the motivations driving individuals to gamble shape these distorted thoughts (Mathieu et al., 2018), while another view posits that these cognitive errors act as precursors, influencing future gambling tendencies (Yakovenko et al., 2016). Addressing and eliminating these cognitive distortions has been shown to act as a protective factor against the development of gambling pathology (Donati et al., 2022)

### **1.7 A Complex Relationship Between Gambling and Unemployment**

Employment is a widely recognized social determinant influencing both physical and mental health, significantly shaping individuals' well-being. Research has consistently linked employment status to the likelihood of engaging in addictive behaviours, including substance abuse and gambling disorder (Latvala et al., 2021; Syvertsen et al., 2024). Unemployment or job instability can increase financial and emotional constraint, which may drive individuals toward gambling as a perceived solution to economic difficulties or as coping mechanism (Latvala et al., 2021; Syvertsen et al., 2024). Conversely, individuals with a stable employment status may also be at risk if the workplace they're in is perceived as stressful or if the accessibility of a disposable income contributes to gambling behaviour as a form of recreation or as an escaping mechanism (Langham et al., 2016; Muggleton et al., 2021; Syvertsen et al., 2024).

In scientific literature, there has been a long debate on the causal relationship between unemployment and gambling disorder; some authors argue that it is the propensity to gamble that causes a high risk of unemployment (Hofmarcher et al., 2020), while others find an effect of unemployment on the emergence of gambling behaviours (Muggleton et al., 2021), it has also been found that as the period of unemployment increases, the probability of developing gambling disorder increases in parallel (Syvertsen et al., 2024), and that the condition of unemployment facilitates the early onset of the gambling disorder (Spångberg & Svensson, 2020).

This second hypothesis is supported by the thesis that unemployed people not only have more free time to spend gambling but are also often associated with poor mental health (Albers & Hübl, 1997), therefore subject to greater cognitive distortions (Donati et al., 2018), they are more likely to perceive gambling as the possibility of big winnings (Kim et al., 2019).

Finally, it has been suggested that the relationship between gambling disorder and unemployment could be bidirectional (Hodgins et al., 2011). This link has been explored through granger causality, finding that unemployment has an effect in causing gambling, but this in turn has a second order causality on unemployment, also highlighting the need to consider individual variables in this relationship (Khanthavit, 2021).

### **1.8 The present research**

Building upon the theoretical frameworks (CMA; Gori et al., 2022, 2023a; GSM; Navas et al., 2020) and existing literature, the present study aims to investigate the interplay between adult attachment styles (Iliceto et al., 2020), dissociation (Rogier et al., 2021), affect dysregulation (Mari et al., 2024), impulse dyscontrol (Brunborg et al., 2016; Sancho et al., 2019), and gambling-related cognitive distortions (Iliceto et al., 2015; Jara-Rizzo et al., 2019). Specifically, this research explores both general associations between the aforementioned psychological dimensions and differences that may emerge based on employment status among gamblers (Khanthavit, 2021; Syvertsen et al., 2024).

First, consistent with the reference theoretical model and previous literature, we expect to find robust correlations between the dimensions of attachment styles, affect dysregulation, dissociation and impulse dyscontrol and cognitive distortions related to gambling also in its sub-dimensions (H1).

We also expect that unemployed gamblers present generally more insecure attachment styles (H2) and significantly higher scores of cognitive distortions related to gambling and in their subdimensions (H3); as well as higher scores of affect dysregulation, dissociation and impulse dyscontrol (H4).

By addressing these hypotheses, the study seeks to provide deeper insights into the social and psychological mechanism underlying gambling behaviour, particularly focusing on the role that employment status plays among gamblers. The findings are expected to contribute to a more nuanced understanding of gambling addiction and inform the development of future more tailored interventions for specific subgroups of gamblers.

## 2. Materials and Methods

### 2.1 Method

#### 2.1.1 Participants, Procedure and Ethics

The present research adopted a cross-sectional design and involved a sample of 230 participants ( $M_{age} = 35.06$  years,  $SD = 14.777$ ), divided into two subgroups: employed individuals ( $n = 118$ ) and unemployed individuals ( $n = 112$ ). The analyses focused exclusively on gamblers (both employed and unemployed), excluding non-gamblers from all statistical evaluations. As shown in table 1, two different subgroups can be identified, with different gender distributions: gambler employed ( $n = 118$ ), gambler unemployed ( $n = 112$ ). Among employed gamblers, 37% were male and 14.3% were female, while among unemployed gamblers, 27% were male and 21.7% were female.

**Table 1.**

*Demographic characteristics of the sample (N = 230)*

Characteristics	M ± SD	n	%
<b>Age (years)</b>	35.06 ± 14.777		
<b>Gender</b>			
		Females	83 36.1
		Males	147 63.9
<b>Employment Status</b>			
		Employed	118 51.3
		Unemployed	112 48.7
<b>Gender Distribution by Group</b>			
		Male Gambler Employed	85 37.0
		Female Gambler Employed	33 14.3
		Male Gambler Unemployed	62 27.0
		Female Gambler Unemployed	50 21.7

For the unemployed sample, the inclusion criteria were: a) Having gambled at least once in the last 12 months; 2) Not having a job at the time of completing the questionnaire. Participants in this group were recruited through the online distribution of an anonymous link to the questionnaire, hosted on Google Forms.

The link was shared via social media and other online platforms to reach potential participants. Participants in the employed group were recruited from various organizations and businesses located in the municipality of Florence, Italy. Before starting, each respondent was informed about the general aim of the study. Participation was voluntary, informed consent was obtained from all individual participants included in the study and respondents were assured of their privacy and anonymity throughout the process. Standardized written instructions were provided at the beginning of the survey, briefly explaining how to respond to the self-report measures.

All data were collected in compliance with the European Union's General Data Protection Regulation (GDPR), ensuring adherence to current privacy standards.

## **2.2 Measures**

### **2.2.1 The Seven Domains Addiction Scale (7DAS)**

Affect dysregulation, dissociation and impulse dyscontrol were assessed through dedicated subscales of the Seven Domains Addiction Scale (7DAS), a self-report component of the Addictive Behaviour Questionnaire (ABQ; Caretti et al., 2018). The 7DAS investigates broader areas of psychological and behavioural functioning implied in the onset and maintenance of addictive behaviours, such as separation anxiety, childhood traumatic experiences, compulsiveness and obsessive thoughts, as well as the three dimensions explored in this study. The subdimensions are assessed using a five-point Likert Scale ranging from 0 (“*Never*”) to 4 (“*Always*”). In this study, three subscales of the original Italian version was employed, demonstrating excellent internal consistency in the present sample (Affect Dysregulation,  $\alpha = .98$ ; Dissociation,  $\alpha = .93$ ; Impulse Dyscontrol,  $\alpha = .92$ )

### **2.2.2 The Gambling Related Cognitions Scale (GRCS-I)**

The Italian adaptation (Iliceto et al., 2015) of the Gambling-Related Cognitions Scale (GRCS; Raylu & Oei, 2004), has been used to assess gambling related cognitive distortions. The GRCS-I is a 23-item self-report questionnaire that investigates five gambling-related dysfunctional cognitions (inability to stop, expectancies, predictive control, illusion of control, and interpretative bias) through a seven-point Likert Scale ranging from 1 (“*Strongly disagree*”) to 7 (“*Strongly agree*”). The GRCS-I showed good psychometric properties, demonstrating good internal consistency in the present sample (Total Score,  $\alpha = .97$ ; Gambling Expectancies,  $\alpha =$

.82; Illusion of Control,  $\alpha = .91$ ; Predictive Control,  $\alpha = .90$ ; Inability to Stop,  $\alpha = .87$ ; Interpretative Bias  $\alpha = .84$ ).

### 2.2.3 The Relationship Questionnaire (RQ)

The assessment of Adult Attachment was conducted using the Relationship Questionnaire (RQ) developed by Bartholomew and Horowitz (1991), with the Italian adaptation provided by Carli (1995). This self-report instrument comprises four items each providing a description of an attachment style. Every item is rated on a seven-point Likert Scale ranging from 1 (“*It does not describe at all*”) to 7 (“*It very much describes me*”). The RQ categorizes attachment into four distinct styles: Secure, Dismissing, Preoccupied and Fearful. Since every attachment style is assessed through a single item, the alpha coefficient cannot be calculated. The RQ demonstrated strong test-retest reliability (Ligiéro & Gelso, 2002) and robust psychometric properties across various cultural context (Schmitt et al., 2004). For the purposes of this study, the Italian version of the questionnaire was used.

### 2.3 Data Analysis

Data was analyzed using IBM SPSS Statistics (v. 21.0; IBM, New York, USA). The significance level was set at  $p < .05$  for all statistical tests. First, descriptive statistics (means, standard deviations, and percentages) were calculated to describe the demographic characteristics of the sample. To examine relationships among attachment styles, affect dysregulation, dissociation, impulse dyscontrol, and cognitive distortions related to gambling (and their subdimensions) among gamblers, Pearson's  $r$  correlations were performed. To assess group differences, independent samples t-tests were conducted using employment status (employed vs unemployed) as the independent variable, and attachment styles, affect dysregulation, dissociation, impulse dyscontrol, and gambling-related cognitive distortions as the dependent variables. Before performing these analyses, a post-hoc power analysis was conducted using G\*Power 3.1 to verify whether the available sample size was sufficient to detect medium-sized effects (Cohen's  $d = 0.5$ ) with a significance level of .05 (two-tailed), using .80 as the conventional threshold for acceptable statistical power (Cohen, 1988; Faul et al., 2007). No covariates were included in the analyses.

### 3. Results

Descriptive statistics of the study variables are shown in Table 1.

Correlation analyses (see Table 2) explored the relationships between attachment styles, affect dysregulation, dissociation, impulse dyscontrol, and gambling-related cognitive distortions among gamblers.

**Table 2.***Correlation matrix*

	Gambling related cognitive distortions	Expectancies	Illusion of control	Predictive control	Inability to stop	Interpretati ve bias
Secure Attachment	.147	.112	.075	.140	.143	.146
Fearful Attachment	<b>.261**</b>	<b>.230**</b>	<b>.186**</b>	<b>.248**</b>	<b>.244**</b>	<b>.297**</b>
Preoccupied Attachment	<b>.265**</b>	<b>.211**</b>	<b>.238**</b>	<b>.252**</b>	<b>.268**</b>	<b>.248**</b>
Dismissing Attachment	<b>.168*</b>	.104	<b>.148*</b>	<b>.148*</b>	<b>.180**</b>	<b>.196**</b>
Affect Dysregulation	<b>.419**</b>	<b>.339**</b>	<b>.293**</b>	<b>.429**</b>	<b>.471**</b>	<b>.382**</b>
Dissociation	<b>.588**</b>	<b>.439**</b>	<b>.446**</b>	<b>.584**</b>	<b>.666**</b>	<b>.554**</b>
Impulse Dyscontrol	<b>.430**</b>	<b>.331**</b>	<b>.315**</b>	<b>.441**</b>	<b>.493**</b>	<b>.382**</b>

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

Fearful attachment was positively correlated with total gambling related cognitive distortions ( $r = .261, p < 0.01$ ), as well as specific subdimensions. A significant and positive association was also shown between preoccupied attachment and gambling related cognitive distortions, both concerning the total score ( $r = .265, p < 0.01$ ), and its subdimensions. Dismissing attachment showed a weaker but still significant association with the total score gambling related cognitive distortions ( $r = .168, p < 0.05$ ) and its subdimensions, apart from gambling Expectancies. Secure attachment was not significantly correlated with any gambling related cognitive distortions.

Affect dysregulation was strongly correlated with the total score of gambling cognitive distortions ( $r = .419, p < 0.01$ ) and its subdimensions, especially with the inability to stop ( $r = .471, p < 0.01$ ). Dissociation demonstrated the strongest association overall with the total score of gambling cognitive distortions ( $r = .588, p < 0.01$ ), with significant correlations across all subdimensions, including inability to stop ( $r = .666, p < 0.01$ ) and predictive control ( $r = .584, p < 0.01$ ). Impulse dyscontrol was significantly correlated as well, with the total score ( $r = .430, p < .01$ ) and subdimensions.

To further explore group differences, independent samples t-tests were conducted to compare employed and unemployed gamblers on attachment styles, affect dysregulation, dissociation, impulse dyscontrol, and gambling related cognitive distortions (including subdimensions). A post-hoc power analysis was conducted using G\*Power 3.1 to evaluate the adequacy of the sample size for the independent samples t-tests performed in the study.

With 118 employed and 112 unemployed gamblers (total N = 230), the analysis showed that the study had 96.5% power to detect medium-sized effects (Cohen’s d = 0.5) with  $\alpha = 0.05$ . Results (see Table 3) highlighted how unemployed gamblers scored significantly higher than employed gambler on fearful attachment ( $t(211.47) = -3.849, p < 0.001$ ), preoccupied attachment ( $t(211.03) = -4.233, p < 0.001$ ), and dismissing attachment ( $t(228) = -5.282, p < 0.001$ ), while no significant differences were found regarding secure attachment ( $t(228) = -.356, p = 0.722$ ).

**Table 3.**

*Differences in attachment patterns*

	Employed Gamblers (n = 118)		Unemployed Gamblers (n = 112)		<i>t</i>	<i>df</i>	<i>p</i>
	M	SD	M	SD			
Secure attachment	3.25	2.038	3.34	1.943	-0.356	228	.722
Fearful Attachment	2.17	1.510	3.04	1.905	-3.849	211.47	< .001
Preoccupied Attachment	1.80	1.393	2.69	1.766	-4.233	211.03	< .001
Dismissing Attachment	2.48	1.728	3.79	2.032	-5.282	228	< .001

Unemployed gamblers showed (see Table 4) significantly higher scores on affect dysregulation ( $t(183.69) = -4.017, p < 0.001$ ), dissociation ( $t(136.71) = -4.301, p < 0.001$ ), and impulse dyscontrol ( $t(193.36) = -3.824, p < 0.001$ ). Regarding cognitive distortions (see Table 5), unemployed gamblers scored significantly higher on GRCS-Total ( $t(228) = -4.392, p < 0.001$ ), as well as on all subdimensions.

**Table 4.**

*Differences in Affect Dysregulation Dissociation and Impulse Dyscontrol*

	Employed Gamblers (n = 118)		Unemployed Gamblers (n = 112)		<i>t</i>	<i>df</i>	<i>p</i>
	M	SD	M	SD			
Affect Dysregulation	4.6356	4.64402	7.9554	7.48378	-4.017	183.69	< .001
Dissociation	1.4322	2.27389	4.2143	6.47717	-4.301	136.71	< .001
Impulse Dyscontrol	4.4322	4.70221	7.4464	6.97077	-3.824	193.36	< .001

**Table 5.***Differences in levels of gambling related cognitive distortions*

	Employed Gamblers (n = 118)		Unemployed Gamblers (n = 112)		<i>t</i>	<i>df</i>	<i>p</i>
	M	SD	M	SD			
Total Score	29.8644	11.46896	42.1964	31.19362	-4.392	228	<.001
Gambling Expectancies	6.0678	2.88150	8.2232	5.73233	-3.574	161.79	<.001
Illusion of Control	4.6102	2.45658	7.3571	6.45128	-4.225	141.12	<.001
Predictive Control	7.9746	3.81733	11.4107	9.08176	-3.705	147.41	<.001
Inability to Stop	6.0678	2.47286	7.4643	6.25138	-2.206	143.41	.029
Interpretative Bias	5.1441	2.66434	7.7411	5.69455	-4.392	155.54	<.001

#### 4. Discussion

In recent years, gambling has become an increasingly pervasive phenomenon, evolving alongside technological advancements and affecting a growing number of individuals worldwide (Riley et al., 2021). As such, the psychological mechanisms underlying pathological gambling, including attachment styles, affect dysregulation, dissociation, and impulse dyscontrol, have gained significant attention from the scientific community. Within this context, the present research aimed to explore the associations between adult attachment styles, affect dysregulation, dissociation, and impulse control difficulties in relation to gambling related cognitive distortions. Additionally, differences based on employment status were examined, considering unemployed individuals as a potentially vulnerable subgroup. The present study revealed significant associations between insecure attachment styles, particularly fearful and preoccupied, and gambling-related cognitive distortions. Unemployed Gambler exhibited higher levels of these distortions, as well as greater difficulties with affect regulation, dissociation, and impulse control, compared to their employed counterparts. These findings suggest that emotional and relational vulnerabilities may interact with socioeconomic stressors, such as unemployment, in increasing the risk of problematic gambling behaviours.

##### *H1: Insecure attachment and gambling-related cognitive distortions*

First, our findings confirmed robust association between insecure attachment styles and gambling related cognitive distortions (H1 was confirmed). Specifically, fearful and preoccupied attachment styles were positively associated with higher levels of total gambling cognitive distortions and subdimensions such as illusion of control and predictive control, aligning with

prior research emphasizing the maladaptive role of insecure attachment and distorted cognitions in addictive behaviours (Calado et al., 2017). Specifically, fearful attachment may heighten the need for control and predictive certainty, fostering susceptibility to distorted beliefs as a means of regaining perceived control or emotional relief (Di Trani et al., 2017). These results are in line with the CMA (Gori et al., 2022, 2023a) and align with the view that insecure attachment promotes difficulties in emotional regulation strategies and dependency on external mechanisms, such as gambling, in order to cope with internal distress (Calado et al., 2017; Gori et al., 2023b).

#### *H2: Attachment and unemployment in gamblers*

Consistent with our hypothesis, unemployed gamblers exhibited significantly more insecure attachment patterns, particularly fearful and preoccupied, compared to employed gamblers (H2 was confirmed). This suggests that unemployment may exacerbate interpersonal vulnerabilities, potentially heightening reliance on maladaptive coping strategies (Latvala et al., 2021; Syvertsen et al., 2024).

#### *H3: Unemployment and gambling-related cognitive distortions*

Furthermore, unemployed gamblers scored significantly higher on gambling related cognitive distortions across all subdimensions (H3 was confirmed). These findings highlight the role of unemployment as a risk factor potentially leading to pathological gambling. Unemployment may increase reliance on cognitive distortions, such as illusion of control, predictive control and inability to stop, as a coping mechanism, particularly in the context of financial and emotional distress (Jara-Rizzo et al., 2019; Muggleton et al., 2021; Neophytou et al., 2023). The financial constraints and emotional instability associated with unemployment likely compound feelings of insecurity and limited access to adaptive coping mechanisms, further heightening susceptibility to problematic gambling behaviours. This is consistent with prior evidence suggesting that environmental stressors can intensify the psychological factors underpinning maladaptive gambling behaviours (Syvertsen et al., 2024). One possible alternative explanation could be that individuals with higher levels of cognitive distortions or affect dysregulation may also experience greater functional impairments, such as job loss or difficulties maintaining employment, suggesting a bidirectional relationship between gambling-related vulnerabilities and employment status.

#### *H4: Unemployment, affect dysregulation, impulse dyscontrol, and dissociation in gamblers*

Finally, the results indicated that unemployed gamblers also scored significantly higher on measures of affect dysregulation, dissociation, and impulse dyscontrol (H4 was confirmed). These findings reinforce the idea that unemployment may compound emotional and cognitive

vulnerabilities, creating a fertile ground for gambling related cognitive distortions. Unemployed individuals might be particularly prone to impulsive and emotionally charged behaviours, using gambling as a means to manage negative emotional states (Neophytou et al., 2023). Consistent with theoretical frameworks, dissociation and affect dysregulation emerged as pivotal mechanism underlying gambling behaviours (CMA; Gori et al., 2022, 2023a). These emotional regulation deficits are likely intertwined, with dissociation serving as a strategy to escape or manage overwhelming internal states (Gori & Topino, 2024). However, this reliance on dissociation as a coping mechanism can reinforce the cycle of addiction, perpetuating gambling behaviours as a maladaptive strategy for affect regulation. These findings highlight the importance of understanding gambling addiction as a multifaceted phenomenon influenced by interpersonal, emotional, social, and cognitive factors.

### **5. Limitations and Future Directions**

Despite the robust evidence, the study has several limitations. The first is that the representation of pathological gamblers within the analysed sample is poor. This factor could influence the generalizability of the results, limiting their scope to contexts similar to those of the sample itself. For future research, it is recommended to implement targeted recruitment, aimed at including a more significant number of individuals diagnosed with pathological gambling. Moreover, the current research focused exclusively on an adult population. As such, the findings should be interpreted with caution when considering other age groups. Future research could explore whether similar psychological patterns and vulnerabilities emerge in adolescents, a group that is receiving growing attention in the field of gambling studies. In fact, recent meta-analytic findings estimate the prevalence of at-risk gambling among adolescents to be as high as 27.8% in Europe and North America (Tran et al., 2024). A third limitation is given by the exclusive use of self-report tools. These tools, while useful, may be subject to distortions due to subjectivity and participant memory. To address this limitation, future research could integrate self-report instruments with objective measures, such as questionnaires completed by external informants or direct observations of participants' behaviour in gambling contexts. Finally, the cross-sectional design of the study does not allow tracking changes in gambling behaviours over time. To deepen our understanding of the phenomenon, future research should adopt a longitudinal approach. Considering these limitations, the results of this study, while offering interesting insights, must be interpreted with caution.

Nonetheless, while previous research has often examined factors such as affect dysregulation, impulse dyscontrol, dissociation, or cognitive distortions in isolation, this study underscores the interplay between these factors. Additionally, the distinct vulnerabilities observed among

unemployed gamblers represent a significant extension of prior research, addressing a subgroup often underexplored in gambling addiction studies.

## **6. Practical implications**

Although the cross-sectional nature of the present study precludes any causal inference, the findings offer relevant insights that may inform clinical practice, prevention strategies, and psychological assessment in the context of gambling disorder.

Clinically, the results underscore the importance of assessing emotional regulation difficulties, dissociative tendencies, and insecure attachment patterns in individuals presenting with gambling-related problems. These dimensions appear to contribute meaningfully to the psychological profile of gamblers, particularly among those experiencing unemployment. Interventions aimed at improving affect regulation and promoting secure attachment representations could be considered as part of a broader therapeutic approach. For instance, psychotherapeutic techniques targeting emotional awareness and modulation (such as emotion-focused therapy, dialectical behavior therapy, or mentalization-based interventions) may be particularly beneficial in reducing reliance on gambling as a means of coping with internal distress.

Moreover, the strong association between cognitive distortions and other psychological variables suggests that cognitive-behavioral and psychoeducational interventions may play a key role in addressing dysfunctional beliefs about gambling, such as the illusion of control or predictive certainty. Integrating modules specifically targeting these cognitive distortions into standard treatment protocols could improve treatment responsiveness and help prevent relapse. From a prevention and screening perspective, the findings suggest the value of implementing brief psychological assessments in settings where individuals at risk of gambling problems are likely to be encountered, such as employment services, social care, or community mental health centers. Particular attention should be given to unemployed individuals, who emerged as a subgroup with heightened psychological vulnerability. In this sense, the study supports the need for interdisciplinary collaboration between clinical psychologists, social workers, and public health professionals in designing interventions that address both individual-level factors and broader contextual risk conditions, such as economic stress and social exclusion.

Overall, these results contribute to a more nuanced understanding of gambling behavior and support the development of integrated, person-centered approaches that combine emotional, cognitive, relational, and contextual dimensions in both assessment and intervention planning.

## **7. Conclusions**

Our study aimed to investigate how unemployment interacted with the variables that according to the literature most predispose to the development of pathological gambling (Gori et al., 2022, 2023a; Topino et al., 2023). Results showed that risk factors such as affective dysregulation, dissociation, and impulse dyscontrol are closely linked to the presence of cognitive distortions, while attachment style also plays a role in this process. Furthermore, from the comparison between groups it emerges that unemployed gamblers more often show traits of insecure attachment and are significantly more exposed both to cognitive distortions linked to gambling and also to the main risk factors. We cannot exclude that the differences observed are due to a feedback effect of these variables on unemployment through gambling as the literature shows that the relationship exists in both directions (Khanthavit, 2021). These results add evidence to support the role of employment as a factor within the Comprehensive Model of Addiction (Gori et al., 2022, 2023a) and the Gambling Space Model (Navas et al., 2020), from an application point of view they provide evidence to support occupational interventions in prevention and rehabilitation to pathological gambling (Hodgins et al., 2011).

### **Ethical approval**

The study was approved by the Ethics Committee of Integrated Psychodynamic Psychotherapy Institute (IPPI; approval number: 013/2023).

### **Informed Consent Statement**

Informed consent was obtained from all subjects involved in the study.

### **Data Availability Statement**

The data presented in this study are available on request from the corresponding author.

### **Conflict of Interest Statement**

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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**Authors' Contribution**

Conceptualization: Giuseppe Iraci-Sareri and Alessio Gori; Methodology: Alessio Gori and Eleonora Topino; Formal analysis: Alessio Gori and Eleonora Topino; Writing - original draft preparation: Diego Fabiani and Nicole Pallaoro; Writing - review and editing: Diego Fabiani, Nicole Pallaoro, Eleonora Topino, Giuseppe Iraci-Sareri, and Alessio Gori; Supervision: Giuseppe Iraci-Sareri and Alessio Gori. All authors have read and agreed to the published version of the manuscript.

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