



The mediating role of attachment between borderline expression of emotional dependence and hostility in women with gambling disorder

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Abstract

It has been extensively documented that insecure attachment may be one of the core risk factors for the later development of Gambling Disorder (GD). Difficulties in the regulation of hostility and emotional dependence towards the partner have also been associated with GD. However, women with GD remain a population that has hardly been studied in previous scientific literature. Therefore, it is unknown how the aforementioned variables operate on them. The main objectives of this study were: (1) to study the predictive effect of emotional dependence and early maladaptive schema (EMS) of attachment on symptoms of hostility in women with GD; and (2) to explore the mediating role of the EMS of attachment between borderline expression of emotional dependence and symptoms of hostility in women with GD. The sample was composed of 53 adult women with GD diagnosis and 310 women without GD. The findings indicated that borderline expression of emotional dependence significantly predicted hostile symptomatology in women with GD. Moreover, the relationship between borderline expression and hostility was stronger if EMS of attachment was introduced as a mediating variable. Consequently, it is crucial to explore these psychological factors during assessments, and interventions targeting these aspects should be integrated into treatment protocols for women with GD.

Keywords Gambling · Women · Emotional dependence · Attachment · Borderline · Hostility

Gambling disorder (GD) is a mental health condition and is the first behavioural addiction to be recognised as an addictive disorder in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; American Psychiatric Association [APA], 2013). The literature suggests that the prevalence of GD is higher in men. However, studies also indicate that women with GD are likely to be under-diagnosed, which is largely a result of the high social

stigma experienced by women with addictive disorders (Gunn & Canada, 2015). In the last few years, there has also been an increasing emphasis on the fact that the psychosocial variables involved in GD differ between sexes and genders (Macía et al., 2023; Macía, Jauregui, Herrero Macía et al., 2023a, b). Studies have reported sex-related differences in terms of psychopathological profile, age of onset, gambling behaviour patterns, associated symptomatology and consequences, or pathogenesis of GD (Gavriel-Fried et al., 2019; Jiménez-Murcia et al., 2020; Macía et al., 2023a, b). Likewise, there is evidence indicating that women with GD may also present a more severe clinical profile when seeking psychological support (Braun et al., 2014; Granero et al., 2018). Despite this, there is limited gender-specific literature on GD. Women with GD have hardly been studied in the existing literature. Therefore, the results of studies with male gamblers have often been generalised to women with GD. Studies that explore the profile of women with GD are needed, on the one hand, to understand the risk and

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protective variables involved and, on the other hand, to allow for more tailored intervention and assessment.

Attachment theory refers to a deep and enduring emotional bond that connects an individual to another significant person over time (Bowlby, 1958). Empirical literature has widely supported that insecure attachment represents a specific vulnerability factor for GD, to the extent that some authors conceptualise addictive behaviours as an attachment disorder (Ghinassi & Casale, 2023; Macía et al., 2022; MacMillan & Sisselman-Borgia, 2018). The type and quality of attachment, as well as early experiences with attachment figures, influence the development of behavioural, social and emotional health, as well as the ability to regulate emotional states (Estévez et al., 2022).

For their part, early maladaptive schemas (EMS) emerge in childhood through early affective experiences with attachment figures. They consist of cognitive styles that modulate the perception, organisation and processing of life experiences, influencing how we behave, think, and relate to others (Young et al., 2006). Young (1999) proposes 18 schemas classified into five dimensions: (1) Disconnection/Rejection, (2) Impaired Autonomy/Performance, (3) Impaired Limits, (4) Other-Directedness, (5) Overvigilance/Inhibition. According to this author, EMS are likely to develop when core emotional childhood needs are not adequately met (e.g., secure attachment, autonomy, emotional validation, freedom to express needs and emotions, or limits) (Young, 1999; Young & Brown, 1994).

In this sense, the EMS of attachment (also known as “undeveloped self” or “enmeshment”) is grouped into the dimension called “Impaired Autonomy”. EMS of attachment/enmeshment is characterised by an emotional pattern of excessive bonding or over-involvement with one or more significant person(s) (usually parents or the partner). It entails the belief that the individual who is excessively attached to another person cannot survive without that person’s constant support (Pozza et al., 2020). EMS of attachment include feelings of fusion and/or insufficient individual identity and can often be accompanied by feelings of emptiness, confusion and lack of self-direction (Thimm, 2010). Vieira et al. (2023) stated that EMS of attachment refer to a type of family relationship in which the family members are fused and unable to define their roles and limits. Furthermore, previous literature has found EMS, including herein the attachment/enmeshment schema, to be a risk factor for the development and maintenance of addictive behaviours (Estévez & Calvete, 2007; Estévez et al., 2023; Etxaburu et al., 2023).

On the other side, emotional dependence also seems to be rooted in an insecure attachment style (Momeñe & Estévez, 2018). Emotional dependence is defined as an extreme affective need a person feels towards their partner

(Castelló, 2005; Estévez et al., 2018). Macía et al. (2023) have recently shown that emotional dependence is a relevant psychological variable for women and men with GD compared to people without GD. However, it remains an understudied variable with regard to GD. Furthermore, various authors have theorised that emotional dependence could be composed of different areas (Lemos & Lodoño, 2006). Within these areas, we find borderline expression of emotional dependence, which refers to self-harming behaviours and desires as a strategy for clinging to the partner. It mainly arises from feelings of a possible breakdown of the relationship and abandonment (González-Jiménez & Del Mar Hernández-Romera, 2014; Lemos & Lodoño, 2006).

Along with this, experiencing intense feelings of hostility and difficulty in controlling anger expression are part of the common symptomatology reported by people with emotional dependence (Gómez et al., 2021; Santamaría et al., 2015), borderline personalities (Armenti & Babcock, 2021; Messina et al., 2023), as well as individuals suffering from GD (Macía et al., 2023). In turn, Estévez et al. (2018) found positive relationships between emotional dependence and addictive behaviours, including GD, as well as with dysfunctional psychological symptoms of hostility. Moreover, Macía et al. (2023) reported that people with GD showed higher levels of hostility than people without GD, and that there were no significant differences in women and men with GD regarding hostile symptomatology.

However, even though it has been extensively documented that insecure attachment may be one of the core risk factors for the later development of GD, as well as for difficulties in the regulation of aggressive drives and emotional dependence towards the partner, to the best of our knowledge, there are no studies that explore the relationship between the aforementioned variables in women with GD. Indeed, as we have noted, there are very few studies that explore the psychological profile of women suffering from GD. In view of the above, the objectives of the present study were as follows: (I) to analyse the differences in emotional dependence, EMS of attachment/enmeshment and symptoms of hostility between women with and without GD; (II) to examine the relationship between emotional dependence and its subdimensions (i.e., Separation Anxiety, Affective Expression of the partner, Plan Modification, Fear of Loneliness, Borderline Expression, and Attention-Seeking), EMS of attachment/enmeshment and symptoms of hostility in the group of women with GD; (III) to study the predictive effect of borderline expression of emotional dependence and the EMS of attachment/enmeshment on symptoms of hostility in women with GD; and (IV) to explore the mediating role of EMS of attachment between the subdimension of borderline expression of emotional dependence and symptoms of hostility in women with GD.

Hypothesis

Based on the objectives stated above, the following hypotheses have been established: (I) Women with GD are expected to score higher than women from the general population on the study variables (i.e., emotional dependence, EMS of attachment and hostile symptomatology); (II) It is hypothesised that the aforementioned variables will be positively and significantly correlated in women with GD; (III) Emotional dependence and EMS of attachment/enmeshment will predict hostile symptomatology in women with GD; and (IV) EMS of attachment (or enmeshment) will mediate the relationship between emotional dependence and symptoms of hostility in women with GD.

Method

Participants

The sample comprised 53 women with GD diagnosis and 310 women from the general population (non-GD group). Sociodemographic characteristics are described in Table 1. Participants' mean age ranged from 18 to 79 years ($M=30.31$, $SD=14.11$). We used convenience sampling to collect the sample. All participants were over 18 years old. Exclusion criterion for women from the general population (non-GD group) was to score as a problem gambler in the SOGS questionnaire (Lesieur & Blume, 1987). According to this tool, scores between 0 and 1 indicate no gambling

Table 1 Sociodemographic Analysis of Women with Gambling Disorder and from the General Population

Sociodemographic variables		Clinical sample	General sample
		($n=53$)	($n=310$)
		n / %	n / %
Education Level	Primary school	20/31.7	1/0.3
	Secondary school	6/9.5	2/0.6
	High school	6/9.5	55/16.1
	Professional training	19/30.2	30/8.8
	University degree	10/15.9	250/73.3
	Other	2/3.2	0/0
Employment	Paid work	28/44.4	78/22.9
	Unemployed	15/23.8	9/2.6
	Retired	10/15.8	3/0.9
	Student	1/1.6	167/49
	Working and studying	1/1.6	74/21.7
	Other	8/12.8	7/2.1
Civil status	Single	26/41.3	164/48.1
	Married, living with partner	20/31.7	37/10.8
	Separated, divorced	11/17.5	11/3.2
	Widowed	4/6.3	3/0.9
	Other	2/3.2	123/37

risk, scores between 2 and 3 indicate gambling risk, and scores of 4 or more indicate potential gambler. Therefore, to belong to the non-GD group, participants had to score between 0 and 1.

Instruments

Gambling Disorder

The South Oaks Gambling Screen has been used [SOGS; Lesieur and Blume (1987), adapted to Spanish by Echeburúa et al. (1994)] is a screening tool designed to identify GD. The questionnaire consists of 20 items to be answered dichotomously (yes or no). Scores above 4 suggest the highly likely presence of GD. Regarding its reliability, the SOGS has optimum internal consistency, with a Cronbach alpha of 0.94. In the present study, Cronbach's alpha for the SOGS was 0.63. In this study, the SOGS was a screening tool to exclude people in the general population who might be at risk of GD or present GD.

Emotional dependence

We used the “*Cuestionario de Dependencia Emocional*” (CDE [Emotional Dependence Questionnaire]; Lemos & Lodoño, 2006). It consists of 23 items. Each item is scored on a 6-point Likert response format ranging from 0 (*completely false*) to 5 (*it describes me perfectly*). The CDE assesses emotional dependence as a global construct through the sum of its items. It is composed of six subscales: (1) Separation Anxiety, (2) Affective Expression by the partner, (3) Plan modification, (4) Fear of Loneliness, (5) Borderline Expression, and (6) Attention-Seeking. The original scale showed structural validity for both sexes and the presence or absence of a partner. The scale had good psychometric properties, with a Cronbach's alpha for the total original scale of 0.93. In the present study, Cronbach's alpha was 0.93.

Early maladaptive Attachment schema

The *Schema Questionnaire - Short Form* (SQ-SF; Young & Brown, 1994) in its Spanish version (Calvete et al., 2005) was used to measure the early maladaptive *Attachment* schema. The SQ-SF evaluates EMS proposed by Young through 60 items that assess 18 dysfunctional schemas divided into five main domains: (1) Disconnection and rejection (emotional deprivation, abandonment, abuse/distrust, social isolation, imperfection); (2) Impaired autonomy (failure, dependence/incompetence, vulnerability to danger, attachment/enmeshment/undeveloped-self); (3) Orientation to others (subjugation, self-sacrifice, recognition-seeking); (4) Impaired limits (grandiosity, insufficient self-control);

and (5) Excessive vigilance and inhibition (emotional inhibition, unattainable goals, negativity and self-punitiveness). In the present study, we used the EMS of *Attachment* (also known as enmeshment or undeveloped self), which is clustered in the domain of Impaired autonomy. It refers to feelings of fusion with regard to the attachment figure and/or insufficient individual identity. Individuals with this schema do not have a stable sense of who they are. Rather, they could feel like they are not whole without the “enmeshed/attachment figure”. The SQ-SF has a Likert-format scale with six response options ranging from 1 (*Completely false*) to 6 (*It describes me perfectly*). Schema scores are typically calculated by summing the responses of multiple items associated with each Early Maladaptive Schema (EMS) and then computing an average score per schema. Concerning internal consistency, the instrument showed a good index for the overall scale (over 0.74 for all subscales), and in the present study, Cronbach’s alpha was 0.86 for all subscales and 0.80 for the *Attachment* schema scale.

Symptoms of Hostility

The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1977), adapted to Spanish by González de Rivera et al. (1989), was used for assessing hostility levels in participants. The SCL-90-R is a self-administered questionnaire that assesses 90 psychological symptoms. It is classified into nine dimensions related to psychopathological symptoms and three global distress indices. In this study, the dimension of hostility was assessed, composed of 6 items that refer to thoughts, feelings and behaviours concerning aggression, rage, resentment or anger. The level of distress caused by each symptom is assessed on a 5-point Likert scale ranging from 0 (*no symptom-related distress*) to 4 (*maximum distress*). Internal consistency is very good for the overall scale, and higher than 0.70 for all subscales. In the current study, Cronbach’s alpha was 0.88 for the dimension of Hostility.

Procedure

This study used a cross-sectional research design. A total of 53 participants with GD were recruited through GD treatment associations of Spain. Participants completed the questionnaires both online ($n=24$) and offline ($n=29$) (i.e., pencil and paper). Herrero-Fernández (2015) pointed out that the application method of questionnaires (pencil and paper vs. online) does not affect the results obtained. The online questionnaire could be accessed via the link to the questionnaire or a QR code.

The non-clinical sample (i.e., group without GD) was recruited from the general population using non-probabilistic

sampling. All participants from the non-clinical sample completed the questionnaires online. The questionnaire was diffused on social networks (e.g., WhatsApp, Instagram, e-mail, Facebook, LinkedIn, university bulletin boards, journals for the diffusion of divulgative scientific articles, journals, and websites with divulgation purposes, such as the official college of psychologists). The inclusion criterion in the non-clinical sample was not having GD, indicated by no risk in the SOGS (for more information see participants section) (Lesieur & Blume, 1987).

In all cases and questionnaire formats, participants had to provide informed consent to access the questionnaire. They also had to be over 18 years old. Before completing the questionnaires, participants received general information about the main objectives of the research study and data management. Information about anonymity, confidentiality and voluntary participation was also provided. It was made clear that there were no right or wrong answers, and they could contact the main researcher by e-mail if they needed further information about the study. Finally, we note that participants did not receive any compensation for participating.

The research obtained the ethics committee’s approval from the Institutional Review Board of the first author’s university. This study followed the principles of the Declaration of Helsinki.

Statistical analysis

Firstly, descriptive analysis and mean differences through Student’s t were calculated for variables of interest in females from the clinical and the general population (i.e., GD group vs. non-GD). Secondly, bivariate correlations were conducted to explore the relationship between emotional dependence and its subdimensions, EMS of attachment and symptoms of hostility in women with GD. Thirdly, multiple regression analyses were carried out to explore the predictive effect of the emotional dependence subdimensions and the EMS of attachment on symptoms of hostility (as an outcome variable) in women with GD. These analyses were conducted through the “Intro” method.

Fourthly, in light of the differential results obtained in the regression analyses, a mediation analysis was conducted to explore whether, on the one hand, in the case of females with GD, the EMS of attachment (as a mediator – M) mediated the relationship between the subdimension of borderline expression of emotional dependence (as an independent variable – IV) and symptoms of hostility (as a dependent variable – DV). All these statistical analyses were performed through the SPSS programme (Statistical Package for the Social Sciences, 2013). The PROCESS programme of SPSS by Hayes and Preacher (2013) was used

Table 2 Mean differences between women from the clinical and the general sample in the early maladaptive attachment Schema, emotional dependence and hostility

	Clinical sample (n=53)	General sample (n=310)	t	d
Emotional Dependence (ED) Total	M (SD) 61.83 (23.14)	M (SD) 46.92 (15.67)	5.917**	0.88
ED - Separation Anxiety	18.69 (8.84)	14.73 (6.09)	4.088**	0.61
ED-Affective Expression by the partner	13.45 (5.39)	11.03 (4.57)	3.091**	0.52
ED- Plan modification	10.07 (4.83)	6.44 (2.76)	7.804**	0.99
ED- Fear of Loneliness	8.92 (4.43)	6.28 (3.37)	5.033**	0.74
ED- Borderline Expression	5.74 (2.93)	4.11 (1.35)	6.567**	0.97
ED- Attention-Seeking	4.94 (2.83)	4.51 (2.10)	1.326	0.19
Attachment	11.38 (6.58)	9.83 (4.51)	2.142*	0.32
Hostility	9.16 (4.82)	5.13 (5.01)	-2.052*	0.81

Note. t=Student’s t; ED=Emotional Dependence. *p≤.05. **p≤.001.

for the mediation analysis. To be more specific, we used 10.000 bootstrap samples, which is above the standard recommended by Hayes (2013) in his methodology to obtain more robust confidence intervals. This procedure helps to improve the accuracy of the estimates of the indirect effects and provides more reliable confidence intervals without assuming a normal distribution of the data.

Results

Descriptive analysis and mean differences

Firstly, descriptive analysis and mean differences were calculated between women from the general and the clinical

sample, that is, women with GD (see Table 2). Differences in the early maladaptive attachment schema, emotional dependence and hostility were calculated. Results showed that women from both populations differed significantly in almost all the analysed variables, except for the emotional dependence subdimension of attention-seeking, which did not show significant differences. In all cases, women with GD showed significantly higher scores in the analysed variables (i.e., emotional dependence and its subdimensions, EMS of attachment, symptoms of hostility), in contrast with women from the general population (i.e., without GD).

Bivariate correlation analysis

Bivariate correlations were calculated between variables of emotional dependence and its subdimensions, early maladaptive attachment schema and symptoms of hostility in women with GD (see Table 3). Significant and positive correlations were found for total emotional dependence (r=.33, p≤.001) and for the subdimensions of emotional dependence: separation anxiety (r=.30, p≤.05), fear of loneliness (r=.31, p≤.05), borderline expression (r=.48, p≤.001), and attention-seeking (r=.28, p≤.001). A significant and positive correlation was also found between the early maladaptive attachment schema (r=.43, p≤.001) and hostility symptoms. In addition, the EMS of attachment/enmeshment and the borderline expression subdimension of emotional dependence were significantly correlated (r=.38, p≤.001).

Multiple regression analysis

Thirdly, multiple regression analysis was conducted to explore the predictive effect of the subdimensions of emotional dependence and the EMS of attachment on symptoms of hostility as an outcome variable (Table 4). Different analyses were conducted to explore which predictive variables explained hostility symptoms in women with GD. The regression model was statistically significant (R²=0.323, ΔR²=0.215, F=2.993, p=.012). As can be observed, the

Table 3 Bivariate correlation analysis of emotional dependence and its subdimensions, early maladaptive attachment schema and hostility in women with gambling disorder

	1	2	3	4	5	6	7	8	9
1 Emotional Dependence (ED) Total	-								
2 ED- Separation Anxiety	0.92**	-							
3 ED-Affective Expression by the partner	0.83**	0.71**	-						
4 ED-Plan modification	0.59**	0.39**	0.34*	-					
5 ED-Fear of Loneliness	0.76**	0.63**	0.56**	0.28*	-				
6 ED- Borderline Expression	0.79**	0.70**	0.56**	0.37**	0.61**	-			
7 ED-Attention-Seeking	0.75**	0.64**	0.60**	0.38**	0.49**	0.56**	-		
8 Attachment	0.20	0.19	0.05	0.01	0.16	0.38**	0.25	-	
9 Hostility	0.33**	0.30*	0.25	0.04	0.31*	0.48**	0.28*	0.43**	-

Note. ED=Emotional Dependence; ED. *p≤.05. **p≤.001

Table 4 Multiple regression analysis of the dimensions of emotional dependence and early maladaptive attachment schema as predictors of hostility in women with gambling disorder

Predictor variable	B	β	t	p	Criterion variable
Attachment	0.21	0.28	1.983	0.050	Hostility
ED-Separation Anxiety	-0.05	-0.09	-0.432	0.668	Hostility
ED-Affective Expression of the partner	0.10	0.11	0.562	0.577	Hostility
ED-Plan modification	-0.14	-0.14	-0.974	0.335	Hostility
ED-Fear of Loneliness	0.04	0.04	0.211	0.834	Hostility
ED-Borderline Expression	0.67	0.40	1.973	0.050	Hostility
ED-Attention-Seeking	0.03	0.02	0.088	0.930	Hostility

$R=.568$,
 $R^2=0.323$,
 $\Delta R^2=0.215$,
 $F=2.993$,
 $p=.012$

Note. β =beta coefficient; β =beta standardised coefficient; t =t-Student; p =level of significance; ΔR^2 =increase of explained variance; R^2 =coefficient of determination; F =F of Snedecor; ED=Emotional Dependence

EMS of attachment and the subdimension of Borderline Expression of emotional dependence were the only predictive variables that showed statistically significant effects in female gamblers, indicating that the relationships with hostility go beyond mere correlations ($\beta=0.28$, $p \leq .05$ and $\beta=0.40$, $p \leq .05$, respectively).

Mediation analysis

Based on the results obtained through the regression analyses (see Table 4), a mediational analysis was conducted to determine whether, in women with GD, the EMS of attachment mediated the relationship between the subdimension of borderline expression of emotional dependence and symptoms of hostility. Results confirmed that attachment schema mediated the relationship between the predictor

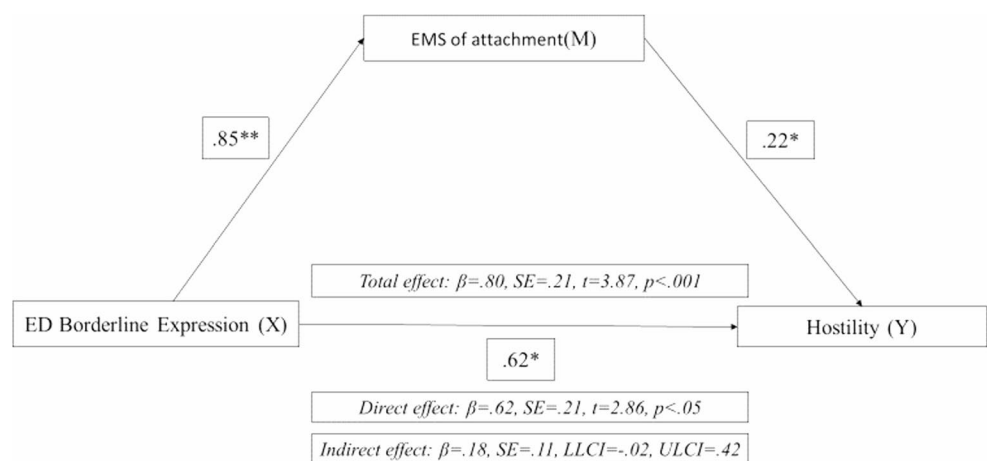
variable (borderline expression of emotional dependence) and symptoms of hostility (see Fig. 1).

Discussion

The psychological profile of women suffering from GD remains an enigma in the existing literature. Therefore, we know very little about the predictor variables for hostile symptomatology among the group of female gamblers. On this basis, the present study aimed to explore the mediating role of EMS of attachment (also known as “enmeshment schema” or “undeveloped self”) in the relationship between borderline expression of emotional dependence and symptoms of hostility among women with GD. Three main results stand out: (1) women with GD scored significantly higher than women without GD in EMS of attachment, symptoms of hostility, and total emotional dependence and its subdimensions (i.e., separation anxiety, affective expression by the partner, plan modification, fear of loneliness, and borderline expression), except for the subdimension of attention-seeking; (2) EMS of attachment and the subdimension of borderline expression of emotional dependence were the only predictor variables that showed statistically significant effects in female gamblers’ hostile symptomatology; and (3) EMS of attachment mediate the relationship between borderline expression of emotional dependence and symptoms of hostility among women with GD. To the best of our knowledge, this is the first study exploring the aforementioned variables regarding symptoms of hostility in a sample of female gamblers.

The findings of this study can be interpreted in the light of psychological theories that attempt to explain how the psychism is constructed up to adulthood. Generally, the crisis of adolescence leads to separation from the parents. This period of life is associated with high levels of aggressiveness and conflicts, as well as with the search for one’s own identity and the appropriation of desires different from

Fig. 1 Mediation model of the early maladaptive attachment schema between borderline expression on hostility in women with gambling disorder



those of primary attachment figures (Junyent, 2014; Ter-rone et al., 2021). Aggressiveness, therefore, is an innate and adaptive emotional response that promotes separation from attachment figures (usually parents) during the course of adolescence to adulthood stage. But what happens when attachment figures are excessively invasive, and an adequate separation from them did not occur? Where is all that aggressive instinct deposited or released?

In keeping with this theoretical perspective, the findings of this study indicate that, on the one hand, EMS of attachment (enmeshment/undeveloped self) and borderline expression of emotional dependence are significant predictors of hostility in women with GD. Consistent with previous research, Impaired Autonomy, the dimension in which the EMS of attachment/enmeshment is inscribed, is strongly associated with behavioural addictions (Sakulsriprasert et al., 2023). Moreover, individuals with high scores in this dimension have shown difficulties in setting both personal and interpersonal boundaries, as well as difficulties in emotion regulation and impulse control (Vieira et al., 2023). Consistent with these findings, Macía et al. (2023) also observed that emotional dependence towards the partner constituted a significant predictor of GD for female gamblers.

On the other hand, the results of the present study did not only reveal that borderline expression of emotional dependence significantly predicted hostile symptomatology, but also that this relationship was even stronger if EMS of attachment was introduced as a mediating variable in the model. A plausible explanation could be that people who are prone to use borderline expression in reaction to feelings of abandonment or possible separation from the partner (either real loss or subjective sense of loss) are more likely to develop dysfunctional psychological symptomatology, including hostility. Additionally, it is likely that this feeling—real or subjective—of losing one's partner activates the EMS of attachment. It is important to note that the EMS of attachment refers to a fusional bond with significant attachment figures and is related to failures in the constitution of one's own individuality, separate from that significant other. In this sense, as the results of this study indicate, when this schema is activated, the relationship between borderline expression and hostile symptomatology becomes stronger. As mentioned above, borderline expression of emotional dependence is related to self-harming behaviours and desires as a strategy for clinging to the partner. On this basis, we may wonder whether problematic gambling behaviour is a way of self-destruction and harming oneself in the face of the impossibility of coping with the loss or separation from someone who is considered significant. This, in turn, would also help to explain the high scores in hostile symptomatology in these women. Consequently, it is crucial to explore these psychological factors during assessment, and

interventions targeting these aspects should be integrated into treatment protocols for women with GD.

In parallel, the fact that borderline expression of emotional dependence and EMS of attachment were shown to be predictors of hostility, but that other sub-dimensions of emotional dependence were not related to hostility in female gamblers, could indicate that the other dimensions of emotional dependence are related to other types of psychological symptomatology different from hostility (e.g. depression, stress, hopelessness, etc.). In this sense, future studies could explore whether emotional dependence (as a total scale) or its sub-dimensions could be used to predict different types of dysfunctional psychological symptomatology in women with gambling disorder, and thus optimise the design of interventions for women.

In line with the findings of this study, a recent systematic review conducted by Ghinassi and Casale (2023) explored the relationship between attachment and GD. The review showed that the attachment dimension of anger distress was indirectly associated with GD through emotion-focused coping and sensation-seeking. They further pointed out that individuals with insecure attachment defensively divert attention from their emotional distress, coping with it through acting out, that is, by gambling (De Santis et al., 2021; Ghinassi & Casale, 2023).

However, previous literature explores women and men with GD as a homogeneous group without considering possible differences in the psychological profile of the two sexes. The current study's findings provide some deeper insight into how psychological variables are related in women with GD.

Limitations

This study has some limitations. Firstly, its cross-sectional nature does not allow us to establish causal relationships. In the future, it would be advisable to carry out longitudinal studies in samples of female gamblers. Secondly, the sample was recruited through associations for the rehabilitation of GD. Therefore, its clinical profile might differ from that of other clinical samples (e.g., untreated individuals, public hospitals, private therapeutic centres, etc.) and ages (i.e., young women with GD). Moreover, the data obtained were self-reported, so they may be subject to different assessment biases, such as social desirability or recall bias. To continue, in the case of the online questionnaires, no control or supervision was exercised in the questionnaire administration, so this could also have led to biases. Lastly, in future studies, it would be advisable to examine in more detail the type of attachment and the specific attachment figure that produces emotional distress (e.g. father, mother, partner, children, friends, etc.).

Conclusion and clinical recommendations

To sum up, the current study has found that EMS of attachment mediated the relationship between the borderline expression of emotional dependence and symptoms of hostility in women with GD. Accordingly, promoting anger regulation in borderline and emotionally dependent personalities should be considered a critical treatment goal for women with GD, particularly if both psychological factors (i.e., hostility and emotional dependence) are present simultaneously. Furthermore, given that secure attachment is presented as a protective factor against gambling behaviour, a stable therapeutic relationship based on security and emotional validation should be established.

Moreover, based on the findings of this study, when we observe hostile behaviours in women with GD, it would be interesting to explore how they manage their anger and whether it is a possible trigger for gambling. Another possible aspect to explore when hostile symptomatology is observed could be the process of separation-individuation from significant attachment figures (partner and/or parents, particularly). In this sense, it would be worthwhile to work on limits, autonomy and empowerment in women with GD.

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Data availability The datasets generated and/or analysed during the current study are not publicly available due to confidentiality.

Declarations

Ethics approval The Institutional Review Board of the University of Deusto approved the study (ETK-17/20-21). This study followed the principles of the Declaration of Helsinki.

Informed consent Informed consent was obtained from all individual participants included in the study.

Conflict of interest All authors declare no conflicts of interest or financial interest.

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