The Association among Childhood Trauma, Pathological Dissociation and Gambling Severity in Casino Gamblers

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The aim of the present study was to explore the role of pathological dissociation in mediating the association between childhood trauma (CT) and gambling severity. One hundred seventy-one (134 men and 37 women) gamblers recruited in gambling environments (i.e., two Italian casinos) have been enrolled in the study. Psychopathological assessments included the Childhood Trauma Questionnaire (CTQ), the Dissociative Experiences Scale-Taxon (DES-T), the South Oaks Gambling Screen (SOGS), the CAGE and the Hospital Anxiety and Depression Scale. A mediational model, analyzing the direct and indirect effects of CTQ on SOGS through the mediating role of DES-T, showed that the relation between CTQ and SOGS was fully mediated by DES-T scores ($b = 0.07; se = 0.15; p < 0.001$). This finding raises the possibility that CT explains gambling severity through the presence of pathological dissociative symptoms and dissociative pathogenetic processes. Copyright © 2015 John Wiley & Sons, Ltd.

Key Practitioner Message:
- Gambling severity is associated with both childhood trauma and pathological dissociation in casino gamblers.
- A mediational model shows that the effect of childhood trauma on gambling severity is entirely mediated by pathological dissociation.
- From a clinical point of view, our results highlight the importance of assessing, and possibly treating, dissociative symptoms in individuals with gambling disorder.

Keywords: Childhood Trauma, Pathological Dissociation, Gambling Severity, Mediational Model

INTRODUCTION

A personal history of childhood abuse or neglect is considered a major risk factor for several psychiatric disorders (Edwards, Holden, Felitti, & Anda, 2003; Green et al., 2010). A recent large epidemiological study on 5692 psychiatric patients showed that approximately 44% of mental disorders with onset in childhood and adolescence and approximately 30% of those with onset in adulthood are associated with childhood adversities such as maltreatment, neglect, physical and sexual abuse, life-threatening illness, parental death, mental illness and other parental severe maladjustment (Green et al., 2010).

Childhood trauma (CT) is closely related to mental dissociation. The term dissociation in psychopathology is used to identify the ‘disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior’ (American Psychiatric Association, 2013, p. 291) and, according to the 5th edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-5)(American Psychiatric Association, 2013, p. 291), ‘dissociative symptoms can potentially disrupt every area of psychological functioning’. Therefore, the term dissociation identifies a category of mental disorders, a class of symptoms and a psychogenic process in which the integration of mental activities is temporally disrupted (Farina & Liotti, 2013).

The relationship between CT and dissociation has been suggested by epidemiological and clinical studies associating these two phenomena for over a century (Farina & Liotti, 2013). Moreover, it is hypothesized that dissociative reactions are among the major pathogenic mechanisms induced by CT (Carlson, Yates, & Sroufe, 2009; Farina &
We hypothesized that more severe CT is associated with increased severity of gambling and that this association is partially mediated by pathological dissociation.

MATERIALS AND METHODS

Participants

The study involved the administration of self-report questionnaires to gamblers recruited in gambling environments (i.e., the entry of two Italian casinos); 310 subjects were asked to participate in the research study and 139 (44.84%) refused to participate. The final sample consisted of 171 (134 men and 37 women) gamblers. The mean age of the final sample was 34.08 ± 11.39 years (range: 18–67); other characteristics of the sample are given in Table 1. Participants have been assessed between September 2014 and April 2015 at the entry of casinos. Exclusion criteria were (i) denial of informed consent, (ii) age of 17 or lower, and (iii) presence of any condition affecting the ability to complete the assessment (including illiteracy). Subjects voluntarily and anonymously participated in the study after providing written informed consent; they did not

Table 1. Descriptive statistics of all casino gamblers (N = 171)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Count / M</th>
<th>%</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td>37</td>
<td>21.6</td>
<td></td>
</tr>
<tr>
<td>Age—M (SD)</td>
<td>34.08</td>
<td>(11.39)</td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td>164</td>
<td>95.9</td>
<td></td>
</tr>
<tr>
<td>Job status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>112</td>
<td>65.5</td>
<td></td>
</tr>
<tr>
<td>School attainment ≤13 years</td>
<td>30</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>Tobacco use in the last 6 months</td>
<td>105</td>
<td>61.4</td>
<td></td>
</tr>
<tr>
<td>Illegal drugs use in the last 6 months</td>
<td>32</td>
<td>18.7</td>
<td></td>
</tr>
<tr>
<td>On-line gambling</td>
<td>99</td>
<td>57.9</td>
<td></td>
</tr>
<tr>
<td>Casino frequency ≥5 times at weak</td>
<td>43</td>
<td>25.1</td>
<td></td>
</tr>
<tr>
<td>Present or past problem with gambling†</td>
<td>64</td>
<td>37.4</td>
<td></td>
</tr>
<tr>
<td>SOGS—M (SD)</td>
<td>5.37</td>
<td>(4.36)</td>
<td></td>
</tr>
<tr>
<td>Normal gamblers (SOGS ≤2)</td>
<td>59</td>
<td>34.5</td>
<td></td>
</tr>
<tr>
<td>Problematic gamblers (SOGS = 3 or 4)</td>
<td>22</td>
<td>12.9</td>
<td></td>
</tr>
<tr>
<td>Pathological gamblers (SOGS ≥5)</td>
<td>90</td>
<td>52.6</td>
<td></td>
</tr>
<tr>
<td>HADS-A—M (SD)</td>
<td>7.32</td>
<td>4.02</td>
<td></td>
</tr>
<tr>
<td>HADS-D—M (SD)</td>
<td>6.47</td>
<td>3.85</td>
<td></td>
</tr>
<tr>
<td>DES-T—M (SD)</td>
<td>8.27</td>
<td>(10.17)</td>
<td></td>
</tr>
<tr>
<td>CAGE ≥2</td>
<td>20</td>
<td>11.7</td>
<td></td>
</tr>
<tr>
<td>CAGE—M (SD)</td>
<td>0.45</td>
<td>(0.89)</td>
<td></td>
</tr>
<tr>
<td>CTQ—M (SD)</td>
<td>40.45</td>
<td>(15.19)</td>
<td></td>
</tr>
<tr>
<td>Emotional abuse—M (SD)</td>
<td>7.23</td>
<td>(3.19)</td>
<td></td>
</tr>
<tr>
<td>Physical abuse—M (SD)</td>
<td>6.67</td>
<td>(3.16)</td>
<td></td>
</tr>
<tr>
<td>Physical neglect—M (SD)</td>
<td>8.32</td>
<td>(4.07)</td>
<td></td>
</tr>
<tr>
<td>Emotional neglect—M (SD)</td>
<td>11.74</td>
<td>(5.50)</td>
<td></td>
</tr>
<tr>
<td>Sexual abuse—M (SD)</td>
<td>6.49</td>
<td>(3.15)</td>
<td></td>
</tr>
</tbody>
</table>

SOGS = South Oaks Gambling Screen. CTQ = Childhood Trauma Questionnaire. DES-T = Dissociative Experiences Scale-Taxon. HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale. HADS-D = Hospital Anxiety and Depression Scale-Depression subscale. †SOGS item no. 6.
receive payment or other compensation. The study protocol was approved by the local research ethics review board.

**Measures**

All participants were administered the Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003), the Dissociative Experiences Scale-Taxon (DES-T) (Wall, Putnam, & Carlson, 1996), the South Oaks Gambling Screen (Lesieur & Blume, 1987) (SOGS), the CAGE (Ewing, 1984), the Hospital Anxiety and Depression Scale (HADS) and a checklist assessing socio-demographic (i.e., sex, age, marital status, job and educational attainment) and clinical (i.e., tobacco use in the last 6 months, tobacco-related disturbances, use of recreational drugs in the last 6 months) variables. The questionnaires were individually delivered to each participant and completed in the presence of a researcher (i.e., a psychologist with expertise in GD) who helped to fulfill the questionnaires if requested. The questionnaires were delivered at the casinos’ entry before the start of gambling sessions. All participants completed the assessments in approximately 25–30 min.

The CTQ is a 28-item self-report measure used to assess the severity of different types of childhood trauma, with items rated on a 5-point Likert scale (from 1 = never to 5 = very often): emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect (Bernstein et al., 2003). The total CTQ score takes into account the severity of multiple forms of abuse and neglect (Grassi-Oliveira et al., 2014). Good psychometric properties were reported in the original study validation (Bernstein et al., 2003) as well as in several different settings and cultures (Dovran et al., 2013; Karos, Niederstrasser, Abidi, Bernstein, & Bader, 2014; Kim, Bae, Han, Oh, & Macdonald, 2013; Klinitzke, Romppel, Hauser, Brahler, & Glaesmer, 2012; Sarchiapone et al., 2009). We translated the Italian version of the CTQ. One of the authors of the present study (M. P.) translated the original version of the scale from English to Italian and a second author (M. I.) blindly back-translated the scale from Italian to English. The back-translated version was then submitted to a native English speaker, who found no discrepancies with the original version of the questionnaire. In the present sample, the Cronbach’s α of the CTQ total score was 0.86.

The DES (Bernstein & Putnam, 1986) is a 28-item self-report measure widely used to investigate the frequency of dissociative experiences. To answer DES questions, subjects were asked to circle the percentage of time (ranging from 0% to 100%) in which they had the experience described (e.g., ‘Some people have the experience of driving a car and suddenly realizing that they don’t remember what has happened during all or part of the trip’). A subset of eight items of the DES, the so-called DES-Taxon (DES-T), is considered especially sensitive to identify pathological dissociation (Waller et al., 1996). The DES-T total score is calculated by averaging the 3, 5, 7, 8, 12, 13, 22 and 27 DES items (e.g., ‘Felt body was not one’s own’, ‘Felt other people and objects were not real’). In this study, we used the Italian version of the DES (Mazzotti & Cirrincione, 2001). In the present sample study, the internal consistency of the DES-T was 0.86.

The SOGS is a self-report questionnaire widely used internationally to assess the presence and the severity of pathological gambling (Lesieur & Blume, 1987). It is composed of 37 items exploring gambling activity and associated behaviours lifetime. The scale involves 20 scoring items, all equally weighted, requiring a dichotomous (yes = 1; no = 0) answer, with a final score ranging from 0 to 20. According to the original validation study (Lesieur & Blume, 1987), individuals with a score <3 are considered ‘normal’ gamblers (NGs), individuals with a score of 3 or 4 are considered ‘problematic gamblers’ (ProbGs) and individuals with a score >4 are considered probable ‘pathological gamblers’ (PathGs). Although the scale is based on the criteria of the Diagnostic and Statistical Manual of Mental Disorders third edition (DSM-III) (American Psychiatric Association, 1980), several studies (Cox, Enns, & Michaud, 2004; Stinchfield, 2002) have documented significant correlations between the SOGS and the symptoms reported in the DSM IV-TR (American Psychiatric Association, 2000). Good psychometric properties were reported in the original validation study (Lesieur & Blume, 1987) as well as in other successive studies (for a review, see Battersby, Thomas, Tolchard, & Esterman, 2002). In the present study, we used the Italian version of the SOGS (Barbaranelli, Vecchione, Fida, & Podio-Guidugli, 2013), and the Cronbach’s α in our sample was 0.87.

The CAGE is a brief instrument widely used to screen alcohol use (Ewing, 1984; Mayfield, McLeod, & Hall, 1974). The acronym reflects the four dichotomous (yes = 1; no = 0) items of the screening test: (i) Have you ever felt that you ought to Cut down on your drinking? (ii) Have people Annoyed you by criticizing your drinking? (iii) Have you ever felt bad or Guilty about your drinking? (iv) Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover? The total score ranges from 0 to 4. The recommended cutoff for CAGE to screen alcohol abuse or dependence is ≥2 (Dhalla & Kopec, 2007). Previous researches demonstrated that the CAGE has good psychometric properties (i.e., high test–retest reliability and adequate correlations with other screening instruments) (Dhalla & Kopec, 2007). In the present study, we used the Italian version of the CAGE (Agabio, Marras, Gessa, & Carpiniello, 2007), and the Cronbach’s α in our sample was 0.74.

The HADS is a 14-item self-report measure widely used to assess symptoms of anxiety and depression in different
clinical populations (Bjelland, Dahl, Haug, & Neckelmann, 2002). The anxiety and depression subscales consist of seven items each, which are rated on a four-point scale (0–3), with total scores ranging from 0 to 21 for each subscale. The HADS was originally developed to screen for depression and anxiety in a hospital setting, but it was later validated for use in the general population (Bjelland et al., 2002). Furthermore, the HADS showed (Olsson, Mykleltun, & Dahl, 2005) to have good internal consistency for both the anxiety (0.89) and depression (0.86) subscales. In the present study, we used the Italian version of this scale (Iani, Lauriola, & Costantini, 2014), and Cronbach’s \( \alpha \) in our sample was 0.76 and 0.70 for the anxiety and depression subscales (respectively).

**Statistical Analyses**

All analyses were performed with the statistical package for the social sciences (SPSS) version 19.0 (IBM, Armonk, NY, USA). Relationships between variables were computed through Pearson’s indices of associations (\( r \)). ANOVA for continuous variables and chi-square for dichotomous variables were used to examine inter-group differences among NGs, ProbGs and PathGs. Tamhane post hoc tests were used where relevant. Significance threshold was arbitrarily chosen at 0.05.

To determine whether the relationship between CT and gambling severity was partially mediated by pathological dissociation, we used the Preacher and Hayes’ strategy (2008), which assesses ‘how, or by what means, an independent variable (X) affects a dependent variable (Y) through one or more potential intervening variables, or mediators (M)’ (Preacher & Hayes, 2008, p. 879).

In the mediational models the relations between variables are considered to be causal. As mediational processes imply causality and usually develop over time (i.e. longitudinally) (Pompili et al., 2015), several researchers have questioned the use of mediational models in cross-sectional data. However, it has been suggested that even the use of prospective studies does not necessarily prove causality (Hayes, 2013). Furthermore, according to Salthouse (2011), mediation strategies can also be viewed as a type of variance partitioning, similar to other methods (e.g., partial correlation), and they can be useful also when investigating whether the relation between two variables is reduced when a mediating variable is considered.

In the present study, we tested a model in which gambling severity (SOGS total score) was the dependent variable, CT severity (CTQ total score) was the independent variable, and pathological dissociation (DES-T total score) was examined as a potential mediator. In a second extended model, we additionally included alcohol misuse, depression, anxiety symptoms, gender and age as covariates, which are known to be related with gambling severity (Lorains, Cowlishaw, & Thomas, 2011; Petry & Steinberg, 2005; Salonen, Alho, & Castren, 2015). Although the SOGS is widely used to screen gambling severity, this scale can overestimate the number of pathological gamblers in the general population (Stinchfield, 2002). Therefore, in order to avoid this potential bias, the SOGS total score (rather than SOGS cut-off) was used in the mediational model.

**RESULTS**

No subject was excluded for the presence of a severe mental disorder at the moment of the assessment or for mistakes in fulfilling the questionnaires. Ninety individuals (52.6%) met the criteria for ProbGs (SOGS ≥5), and 22 individuals (12.9%) met the criteria for ProbGs (SOGS = 3 or 4) (Lesieur & Blume, 1987). Other characteristics of the sample are reported in Table 1.

**Between-groups Differences**

Between-group differences are reported in Table 2. The three groups (NGs, ProbGs and PathGs) did not significantly differ in gender, educational level, job status, tobacco and recreational drugs use in the last 6 months. No significant between-group differences were observed in CTQ mean scores. Significant inter-group differences were found in age (\( F_{2,168} = 7.31, p < 0.001 \)), nationality (chi-square\( _2 = 6.57, p = 0.04 \)), casino frequency (chi-square\( _2 = 16.17, p < 0.001 \)), present or past problem with gambling (chi-square\( _2 = 92.05, p < 0.001 \)) and on-line gambling (chi-square\( _2 = 7.73, p = 0.02 \)). Significant inter-group differences were also found in HADS-A, HADS-D, DES-T and CAGE. Tamhane post hoc tests showed that, compared with NGs participants, PathGs subjects reported higher HADS-A and HADS-D mean scores (both \( p < 0.001 \)) and lower mean age (\( p = 0.01 \)). Post hoc tests also showed that, compared with NGs subjects, ProbGs and PathGs individuals had significantly higher DES-T mean scores (\( p = 0.02 \) and \( p < 0.001 \) for ProbGs and PathGs, respectively). Finally, compared with NGs and ProbGs subjects, PathGs individuals reported higher CAGE mean scores (\( p = 0.01 \) and \( p < 0.001 \) for ProbGs and NGs, respectively).

**Associations among Childhood Trauma, Dissociation and Gambling**

Correlations between variables are reported in Table 3. CTQ severity was positively and moderately associated with SOGS (\( r = 0.21; p < 0.05 \)), DES-T (\( r = 0.49; p < 0.01 \)), CAGE (\( r = 0.30; p < 0.01 \)), HADS-A (\( r = 0.35; p < 0.01 \)) and HADS-D (\( r = 0.44; p < 0.01 \)) scores. Gambling severity
The main objective of the present study was to assess the association between CT and gambling severity considering the severity of pathological dissociation as a mediator. Consistent with previous findings (Hodgins et al., 2010; Jacobs, 1988; Kausch et al., 2006; Kofoed et al., 2012; Petry et al., 1997, 1998), our results showed that gambling CT being associated with more severe gambling psychopathology (Figure 1). Moreover, the relationship between CT and SOGS was entirely mediated by pathological dissociation, such that higher levels of CT were associated with higher DES-T scores, which in turn were associated with higher SOGS scores ($b = 0.07$; $se = 0.15$; $p < 0.001$). Entering CAGE, HADS-A, HADS-D, age and gender as covariates did not significantly change the results. These variables had no effects on the SOGS (CAGE: $b = 0.63$; $se = 0.37$; $p = 0.09$; HADS-A: $b = 0.16$; $se = 0.10$; $p = 0.12$; HADS-D: $b = -0.03$; $se = 0.12$; $p = 0.79$; Age: $b = -0.03$; $se = 0.03$; $p = 0.23$; Gender: $b = 0.40$; $se = 0.72$; $p = 0.57$).

DISCUSSION

The main objective of the present study was to assess the association between CT and gambling severity considering the severity of pathological dissociation as a 'mediator'. Consistent with previous findings (Hodgins et al., 2010; Jacobs, 1988; Kausch et al., 2006; Kofoed et al., 1997; Ledgerwood & Petry, 2006; McCormick et al., 2012; Petry & Steinberg, 2005), our results showed that gambling was also positively associated with DES-T ($r = 0.48$; $p < 0.01$), CAGE ($r = 0.31$; $p < 0.01$), HADS-A ($r = 0.33$; $p < 0.01$) and HADS-D ($r = 0.30$; $p < 0.01$).

The mediation models explained 23% of the variability of the data ($F = 26.28$; $p < 0.001$). Preacher and Hayes’ strategy (2008) indicated that the total effect of CTQ on SOGS was significant ($B = 0.05$; $se = 0.02$; $p = 0.04$), with more severe...
severity was positively associated with both CT and pathological dissociation. Furthermore, as hypothesized *a priori*, our mediation model indicated that more severe CT was associated with more severe gambling severity and that this relationship was entirely mediated by the presence of pathological dissociation.

The present findings are consistent with both retrospective and prospective studies suggesting that dissociation (i) is one of the consequences of CT (Sar, 2011, 2014) and (ii) is linked to higher frequency of childhood abuse and/or neglect across all psychiatric disorders (Bersani *et al.*, 2014; Liotti & Farina, 2011). Our findings are also consistent with the idea that gambling behaviour might be considered as a dissociative-like phenomenon aimed at escaping from negative and stressful mental states (Jacobs, 1988; McCormick *et al.*, 2012). Therefore, it is possible to hypothesize that dissociation in gamblers is a way to cope with negative mental states linked to CT. Our study differs from, and adds to, these previous findings by investigating for the first time the relationship between CT and gambling severity considering the severity of pathological dissociation as a mediator. CT may explain gambling severity through the presence of pathological dissociative symptoms which reveal a possible dis-integrative pathogenetic mechanism. According to a developmental psychopathological model of dissociation (Farina & Liotti, 2013; Farina *et al.*, 2014), traumatic experiences in childhood, together with other pathogenetic mechanisms such as stress hormones hampering neurogenesis, synaptic plasticity and myelination (Braun & Bock, 2011; De Bellis, 2010; Labonte *et al.*, 2012), can lead to a loss of integration between different mental functions. Consistently, a growing number of studies examining the neurobiological underpinnings of CT have reported alterations of the physiological integration between different areas of the cerebral cortex and between cortical and sub-cortical structures (Farina *et al.*, 2014; Hopper *et al.*, 2002; Meares, 2012; Meares, Melkonian, Gordon, & Williams, 2005; Meares, Schore, & Melkonian, 2011; Nijenhuis & den Boer, 2009; Schmahl, Lanius, Pain, & Vermetten, 2010; Schore, 2009; Simeon, 2009; Teicher *et al.*, 2010). Therefore, it is possible to hypothesize that gambling behaviour is not only a defensive strategy to cope with negative mental states related to CT but also one of the multiple and complex outcomes of mental/cerebral dis-integration induced by CT. As stated by the DSM-5 and by robust scientific literature, dissociation is a disturbance of normal integration of higher mental functions including consciousness, memory and self-identity but also executive functions and affective/behavioural regulation (American Psychiatric Association, 2013; Biondi, Bersani, & Valentini, 2014; Liotti & Farina, 2011; Meares, 2012; Sar, 2014). Consistently, empirical data demonstrated that CT can lead to disturbances in affective, behavioural and sensory-motor control as well as to alterations in memory and consciousness (Herman, 1992; Sar, 2011; Schore, 2009; van der Kolk *et al.*, 1996).

Therefore, as suggested by our results, it is possible that gambling severity is related to a top-down control deficit, which is well established to be impaired in GD (Limbrick-Oldfield, van Holst, & Clark, 2013; Miedl *et al.*, 2015), related to a dissociative pathogenetic mechanism following the CT. Although these ideas are purely hypothetical, they might be useful in guiding future research.

In our study, while CT was significantly correlated with gambling severity (although with a relatively small r value), we found no differences in CT across NGs, ProbGs and PathGs individuals. It is therefore possible that, in certain subgroups of PathGs and ProbGs, CT is not a major etiological factor. It is possible that in these cases dissociative experiences play a role in gambling behaviour independently from CT and that they are related to different pathogenic mechanisms. For example, it has been proposed (Diskin & Hodgins, 1999) that
dissociative experiences may be related to the high level of arousal elicited by gambling behaviour, resulting in several physiological and neurochemical changes, which contribute to the dissociative-like state (e.g., narrowed attention, absorption experiences). Furthermore, certain gamblers, such as video lottery (VLT) gamblers, could be more vulnerable to develop dissociative symptoms; Kofoed et al. (1997), in fact, showed that, gamblers engaged in both video lottery and other forms of gambling reported higher dissociative symptoms compared with control groups. It has been hypothesized (Diskin & Hods, 1999) that VLT gamblers were more likely to state that they lost all track of time while gambling, blocking out all other sights, sounds and interactions and consequently experiencing higher dissociative experiences.

Although the present findings are promising, some issues limiting their generalizability are worth noting, including (i) a small sample size; (ii) the use of self-report measures, which are known to be potentially affected by social desirability (Arnold & Feldman, 1981); (iii) although the SOGS is widely used to screen gambling severity, it can overestimate the number of PathGs in the general population (Stinchfield, 2002); (iv) subjects were assessed before starting a game session; therefore, it is possible that gambling craving at the moment of the assessment affected our results; (v) although gambling severity was the dependent variable and CT was the independent variable in our model, it is important to note that the statistical design we used is correlational in nature, which precludes a definitive causal interpretation of the association between these variables. Further studies with larger samples and longitudinal designs should be implemented.

In conclusion, our results (i) suggest that CT may explain gambling severity through pathological dissociation and (ii) raise the possibility of a potential pathogenetic mechanism of gambling based on the loss of integration between higher and lower mental functions. From a clinical point of view, our results highlight the importance of assessing, and possibly treating, dissociative symptoms in individuals with GD in order to potentially achieve better treatment outcomes (Liotti & Farina, 2011; Spitzer, Barlow, Freyberger, & Grabe, 2007).

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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Childhood Trauma, Dissociation and Gambling Severity


