

# CHILDHOOD EMOTIONAL ABUSE AND PROBLEMATIC INTERNET USE: TRAIT MINDFULNESS AND DISSOCIATIVE EXPERIENCES AS MEDIATORS

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## Abstract

The escalating prevalence of internet usage has prompted a heightened curiosity in comprehending the factors contributing to problematic internet use (PIU). Specifically, the study delves into the potential link between childhood emotional abuse (CEA) and PIU based on the Compensatory Internet Use Theory (CIUT), recognizing CEA as a precursor to mental health issues, with PIU as a possible coping mechanism. Additionally, the research explores the mediating roles of trait mindfulness (TM) and dissociative experiences (DE), hypothesizing that trait mindfulness may provide adaptive coping strategies, while dissociative experiences may lead to avoidance behaviors like excessive internet use. The study enlisted 1074 Italian adolescents (537 girls) aged between 14 and 17 years ( $M = 15.65$ ,  $SD = .92$ ). Participants filled out the following self-report instruments: Childhood Emotional Abuse Subscale from the Childhood Trauma Questionnaire-Short Form (CTQ-SF), Five Facets Mindfulness Questionnaire (FFMQ), Adolescent Dissociative Experiences Scale (A-DES), Shorter Promis Questionnaire (SPQ). To mitigate the influence of background variables, a Multivariate Analysis of Covariance (MANCOVA) was conducted. Subsequently, Structural Equation Modeling (SEM) with latent variables was employed to assess the proposed mediation model. Finally, a Multiple-Group Path Analysis (MGPA) was conducted to assess the gender invariance of the hypothesized model. Gender and parental educational level were controlled for based on the findings of the MANCOVA. SEM yielded remarkable fit indices for the hypothesized model:  $\chi^2(72) = 209.92$ ;  $p < .001$ , CFI = .98, RMSEA = .04 (90% CI = .04 – .05), SRMR = .03. All direct and indirect pathways were statistically significant ( $p < .001$ ): from trait CEA to TM ( $\beta = -.35$ ), to DE ( $\beta = .52$ ), to PIU ( $\beta = .27$ ); from TM to PIU ( $\beta = -.17$ ); from DE to PIU ( $\beta = .37$ ); from trait CEA to PIU through TM ( $\beta = .06$ ), to PIU through DE ( $\beta = .19$ ). MPGA highlighted the gender invariance of the model:  $\Delta\chi^2(13) = 19.16$ ,  $p = .12$ ,  $\Delta CFI = .001$ . These findings emphasize the critical significance of recognizing and addressing the distinct and profound challenges confronted by adolescents who have endured CEA, especially those who exhibit heightened levels of dissociation and deficits in trait mindfulness. Such individuals may be at a heightened risk for engaging in maladaptive online behaviors. Consequently, the development and implementation of interventions tailored to target dissociation and enhance mindfulness skills could prove to be clinically effective in preventing and managing PIU among emotionally abused youth.

**Keywords:** *Childhood emotional abuse, trait mindfulness, dissociative experiences, problematic internet use, adolescents.*

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## 1. Introduction

In recent years, widespread internet use, particularly among youths, has created a virtual world where individuals invest time and share activities and opinions (Milyavskaya et al., 2018). However, excessive reliance on the internet for social interaction can impede the development of crucial social and emotional skills and foster a problematic internet use (PIU) (Boursier & Manna, 2019). The Compensatory Internet Use Theory (CIUT) suggests that maladaptive online activities can compensate for psychosocial problems (Kardefelt-Winther, 2014). Indeed, adverse childhood experiences, particularly emotional abuse, appears to be potential contributors to PIU (Kate et al., 2021). Trait mindfulness, the capacity to be aware of present experiences (Bajaj & Pande, 2016), emerges as another key element in mitigating the risk of PIU by promoting self-regulation and functional coping strategies (Li et al., 2017).

Furthermore, emotional abuse leaves lasting scars and is linked to dissociative experiences (Kate et al., 2021), which may be associated with unique features of the internet, such as anonymity (Canan et al., 2012). Because emotional abuse can have detrimental effects on a person's sense of self-worth and self-esteem, it is a significant risk factor for reduced mindfulness (Emirtekin et al., 2019). Finally, gender differences in PIU are conflicting, with different findings across studies (Arpaci, 2022; Durkee et al., 2012).

## 2. Objectives

The current study aimed to investigate the mediating roles of trait mindfulness and dissociative experiences in the connection between childhood emotional abuse (CEA) and problematic internet use (PIU) in adolescents. Additionally, the study sought to assess the gender invariance of the mediation model.

## 3. Methods

### 3.1. Participants

The study included 1074 Italian adolescents, evenly divided between girls and boys, aged 14 to 17 years (average age = 15.65, SD = .92), attending various high schools, including lyceums, technical colleges, and vocational colleges. The inclusion criteria specified individuals aged 14 to 17 who were fluent in Italian, engaged on the internet for at least 1 hour daily on average, and had a minimum of six months of internet usage. Participants were recruited from different cities across Italy, and parents' educational levels varied within the sample. For mothers, 28% had an elementary school diploma, 23% had a middle school diploma, 34% had a high school diploma, and 15% had a university degree. Fathers' educational levels were distributed similarly, with 29% having an elementary school diploma, 28% having a middle school diploma, 30% having a high school diploma, and 13% having a university degree.

### 3.2. Procedure

This study received approval from the Institutional Review Board of the Institute for the Study of Psychotherapy, School of Specialization in Brief Psychotherapies with a Strategic Approach, in accordance with international standards such as the Helsinki Declaration and the Italian Association of Psychology (AIP). Participants completed a mandatory online questionnaire with no missing data. Their involvement was voluntary, and no rewards or compensations were provided. Throughout the research phases, the privacy of participants was ensured. The research employed IBM SPSS for descriptive statistics, correlations, and initial analyses, and the primary analyses were carried out in Rstudio utilizing the lavaan package.

### 3.3. Measures

The study measured adolescents' CEA using the CEA subscale of the Childhood Trauma Questionnaire-Short Form (CTQ-SF, Bernstein & Fink, 1998). Participants rated the severity of CEA in childhood by responding to five items, such as "People in my family said hurtful or insulting things to me," on a 5-point Likert scale ranging from 1 (never true) to 5 (very often true). The average score across the five items was calculated, with higher scores reflecting higher levels of CEA in childhood.

Trait mindfulness was assessed using the Five Facets Mindfulness Questionnaire (FFMQ; Baer et al., 2006), which is a 39-item self-report. Participants responded to statements like "When I'm walking, I deliberately notice the sensations of my body moving" on a 5-point Likert scale, ranging from 1 (never or very rarely true) to 5 (very often or always true). Higher scores on the FFMQ indicated higher levels of trait mindfulness.

Dissociative experiences in adolescents were evaluated using the Adolescent Dissociative Experiences Scale (A-DES; Armstrong et al., 1997). The scale comprises 30 items, reflecting instances of dissociative experiences such as "I get confused about whether I have done something or only thought about doing it." Participants rated these items on an 11-point Likert scale, ranging from 0 (never) to 10 (always), with higher scores indicating elevated levels of dissociative experiences.

PIU was assessed using the Shorter Promis Questionnaire (Christo et al., 2003). The Italian version includes three additional scales for problematic video game, internet, and mobile phone use (Couyoumdjian et al., 2006). In this study, only the PIU subscale was utilized. Adolescents responded to 10 items, indicating behaviors and attitudes regarding internet use, such as "I often find myself using the

internet much more than I would like.” Responses were recorded on a 6-point Likert scale, ranging from 0 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of PIU.

## 4. Results

### 4.1. Descriptive Statistics, Correlations, and preliminary analyses

Table 1 presents descriptive statistics and correlations among all study variables.

Table 1. Descriptive Analysis and Correlations.

	M	SD	Ske	Kur	$\alpha$	1	2	3
1. Childhood Emotional Abuse	1.99	.76	.54	-.18	.81	-	-	-
2. Trait Mindfulness	2.96	.38	-.47	.78	.80	-.30**	-	-
3. Dissociative Experiences	1.92	.99	.17	.99	.91	.47**	-.38**	-
4. Problematic Internet Use	2.54	.92	-.35	.47	.81	.44**	-.36**	.53**

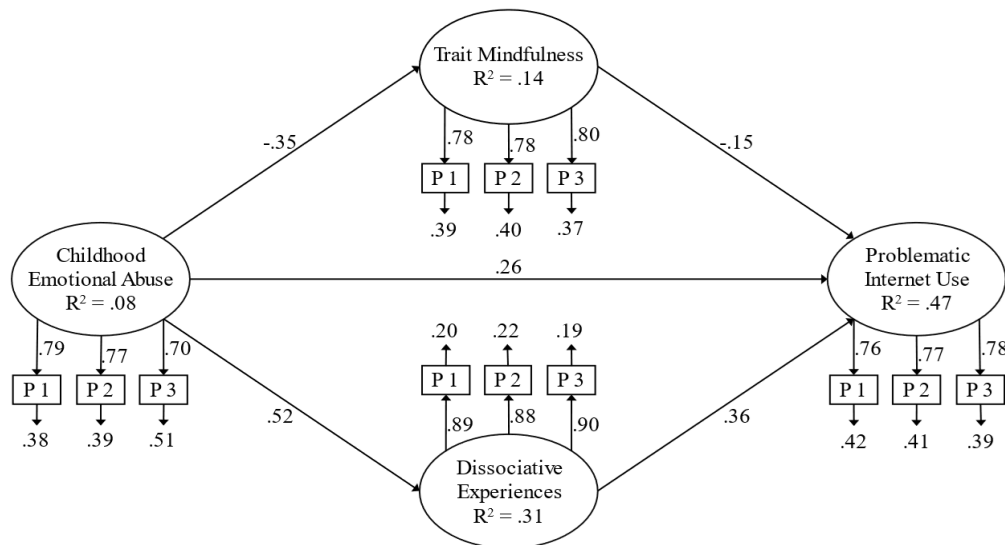
Note: \*  $p < .01$ .

Preliminary analyses were undertaken to examine the influence of gender, mothers’ educational level, and fathers’ educational level on the study variables. A multivariate analysis of covariance (MANCOVA) revealed significant multivariate effects for mothers’ educational level, as indicated by Wilks’s  $\lambda = .97$ ,  $F(4, 1067) = 8.60$ ,  $p < .001$ ,  $\eta^2 = .03$ . Subsequent univariate ANOVAs demonstrated the impact of mothers’ educational level on Childhood Emotional Abuse (CEA),  $F(1, 1070) = 18.26$ ,  $p < .001$ ,  $\eta^2 = .02$ , on trait mindfulness,  $F(1, 1070) = 8.35$ ,  $p = .004$ ,  $\eta^2 = .01$ , on dissociative experiences,  $F(1, 1070) = 29.59$ ,  $p < .001$ ,  $\eta^2 = .03$ , and on Problematic Internet Use (PIU),  $F(1, 1070) = 11.97$ ,  $p = .001$ ,  $\eta^2 = .01$ . Specifically, adolescents with mothers possessing higher education reported lower levels of CEA, dissociative experiences, and PIU, and higher levels of trait mindfulness. No multivariate effects were observed for fathers’ educational level, Wilks’s  $\lambda = .996$ ,  $F(4, 1067) = .94$ ,  $p = .44$ ,  $\eta^2 = .004$ , or gender, Wilks’s  $\lambda = .997$ ,  $F(4, 1067) = .88$ ,  $p = .48$ ,  $\eta^2 = .003$ . While only mothers’ educational level showed multivariate effects, the main analyses were adjusted for gender, mothers’ educational level, and fathers’ educational level to ensure a conservative test of hypotheses.

### 4.2. Mediation model

The proposed model was examined through Structural Equation Modeling (SEM) with latent variables (see Figure 1), and the findings revealed a good fit between the model and the data:  $\chi^2(72) = 209.92$ ;  $p < .001$ , CFI = .98, RMSEA = .04 (90% CI = .04 – .05), SRMR = .03. Importantly, significant relationships were identified across all direct and indirect paths, as outlined in Table 2.

Figure 1. Structural model of associations between Childhood Emotional Abuse, Trait Mindfulness, Dissociative Experiences, and Problematic Internet Use.



Note: only direct paths are reported for clarity purposes; correlations between background variables and paths from background variables were not presented for clarity purposes; P = parcel.

Table 2. Path Estimates, SEs and 95% CIs.

	$\beta$	$p$	SE	Lower Bound (BC) 95% CI	Upper Bound (BC) 95% CI
<b>Direct Effect</b>					
Childhood Emotional Abuse → Trait Mindfulness	-.35	< .001	.02	-.22	-.13
Childhood Emotional Abuse → Dissociative Experiences	.52	< .001	.05	.59	.79
Childhood Emotional Abuse → Problematic Internet Use	.27	< .001	.06	.23	.46
Trait Mindfulness → Problematic Internet Use	-.17	< .001	.11	-.64	-.22
Dissociative Experiences → Problematic Internet Use	.37	< .001	.04	.26	.44
<b>Indirect Effect via Trait Mindfulness</b>					
Childhood Emotional Abuse → Problematic Internet Use	.06	< .001	.02	.04	.12
<b>Indirect Effect via Dissociative Experiences</b>					
Childhood Emotional Abuse → Problematic Internet Use	.19	< .001	.04	.18	.32

Note:  $p$  = level of significance; SE = Standards Errors; BC 95% CI = Bias Corrected-Confidence Interval.

### 4.3. Moderating role of gender

A multigroup path analysis was executed on the proposed model to assess whether structural paths varied between boys and girls. The fit of a constrained model, where paths were set equal across both groups ( $\chi^2(141) = 284.33$ ,  $p < .001$ , CFI = .982), was compared with an unconstrained model allowing all paths to vary between the two groups ( $\chi^2(128) = 263.47$ ,  $p < .001$ , CFI = .983). The fit indices for the unconstrained model did not significantly differ from the constrained model, suggesting structural equivalence between the two groups ( $\Delta\chi^2(13) = 19.16$ ,  $p = .12$ ,  $\Delta\text{CFI} = .001$ ). Consequently, the associations were found to be similar for both boys and girls.

## 5. Discussion

The study explored the mediating roles of trait mindfulness and dissociative experiences in the relationship between CEA and PIU. The results are in line with the CIUT and suggests that emotionally abused adolescents may develop lower mindfulness capabilities and higher dissociative experiences, which in turn may foster PIU as a maladaptive coping mechanism. CEA can hinder the development of emotional regulation skills (Emirtekin et al., 2019). In turn, trait mindfulness, emphasizing awareness and acceptance of emotions (Bajaj & Pande, 2016), acts as a mediator by fostering healthier emotional regulation strategies, reducing the need for maladaptive coping mechanisms like PIU (Li et al., 2017). Specifically, individuals with high trait mindfulness may mitigate the negative impact of CEA by enhancing their ability to cope with emotional distress (Emirtekin et al., 2019), reducing the likelihood of resorting to problematic internet use as a coping mechanism (Raj et al., 2022). Furthermore, dissociative experiences may serve as a coping strategy to avoid confronting the emotional consequences of CEA (Kate et al., 2021). This avoidance mechanism, in turn, may lead individuals to engage in PIU as a means of escaping or distancing themselves from the emotional distress associated with past abuse (Canan et al., 2012). The internet, with its features like anonymity, may thus provide a virtual escape for individuals with dissociative experiences (Kate et al., 2021). The current study further validates the applicability of its findings to both genders, indicating that the differences in PIU observed between boys and girls in existing literature could be attributed to individual differences in CEA, trait mindfulness, and dissociative experiences (Arpaci, 2022; Durkee et al., 2012). This study has limitations. It is cross-sectional, preventing predictions about the direction of effects, necessitating confirmation through longitudinal research. Online data collection may limit generalization to those with internet access, and face-to-face methods could mitigate this bias in future studies. Additionally, reliance on self-report instruments might introduce biases, suggesting the need for multi-informant instruments in future research to enhance result accuracy.

## 6. Conclusion

This research provides practical insights into adolescents' problematic internet use (PIU), emphasizing the role of childhood emotional abuse (CEA), trait mindfulness, and dissociative experiences. The findings underscore the significance of addressing emotional awareness and acceptance, linking CEA, trait mindfulness, and dissociative experiences. Treatments targeting emotional awareness and acceptance have demonstrated positive effects on PIU and psychological well-being. Therapies focused on trait mindfulness and dissociative experiences are statistically and clinically effective, promoting overall quality of life and preventing psychopathology. Recognizing gender differences in these constructs suggests the clinical importance of tailored interventions for both boys and girls with PIU issues. Future research should explore the generalization of these interventions to diverse populations, including early adolescents and children, in order to address CEA exposure and prevent the development of PIU.

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