Journal Website

Article history:
Received 13 November 2024
Revised 04 March 2025
Accepted 12 March 2025
Published 30 March 2025

Iranian Journal of Neurodevelopmental Disorders

Volume 4, Issue 1, pp 160-172

Journal of Neurodevelopmental Disorder

E-ISSN: 2980-9681

The Effect of Childhood Trauma on Borderline Personality Features: The Mediating Role of Dissociation and the Moderating Role of Metacognitive Beliefs

Parisa. Abbaszadeh[1*], Majid. Mahmoud Alilou[2], Touraj. Hashemi Nosratabad[3]

[1] M.A. in Clinical Psychology, Department of Psychology, Faculty of Education and Psychology, University of Tabriz, Tabriz, Iran
[2] Clinical Psychology, Department of Psychology, Faculty of Education and Psychology, University of Tabriz, Tabriz, Iran
[3] Educational Psychology, Department of Psychology, Faculty of Education and Psychology, University of Tabriz, Tabriz, Iran

*** Corresponding author email address**: Parisaabbaszadeh61@yahoo.com

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Abbaszadeh, P., Mahmoud Alilou, M., & Hashemi Nosratabad, T. (2025). The Effect of Childhood Trauma on Borderline Personality Features: The Mediating Role of Dissociation and the Moderating Role of Metacognitive Beliefs. *Iranian Journal of Neurodevelopmental Disorders, 4*(1), 160-172.
https://doi.org/10.61838/kman.jndd.4.1.18

A B S T R A C T

Purpose: The present study aimed to investigate the effect of childhood trauma on borderline personality features, with a particular focus on examining the mediating role of dissociation and the moderating role of metacognitive beliefs among adults in Tehran.
Methods and Materials: This study employed a cross-sectional correlational design using structural equation modeling. The statistical population consisted of adults residing in Tehran during the 2025–2026 academic year, from whom 420 participants were selected through multistage cluster sampling. Data were collected using the Childhood Trauma Questionnaire (CTQ), Borderline Personality Features Scale (BPFS), Dissociative Experiences Scale-II (DES-II), and Metacognitions Questionnaire-30 (MCQ-30). Data analysis was conducted using SPSS-27 and AMOS-24. Pearson correlation analysis was used to examine associations among variables, while structural equation modeling was employed to test the hypothesized moderated mediation model.
Findings: The results revealed significant positive associations among childhood trauma, dissociation, metacognitive beliefs, and borderline personality features. Childhood trauma significantly predicted dissociation ($\beta = .63$, $p < .001$) and borderline personality features ($\beta = .38$, $p < .001$). Dissociation significantly predicted borderline personality features ($\beta = .49$, $p < .001$) and partially mediated the relationship between childhood trauma and borderline personality features. Bootstrap analysis confirmed the significance of the indirect effect ($\beta = .31$, 95% CI [.24, .40]). Metacognitive beliefs significantly predicted borderline personality features ($\beta = .29$, $p < .001$) and moderated the relationship between childhood trauma and borderline personality features ($\beta = .18$, $p < .001$), indicating that higher maladaptive metacognitive beliefs strengthened the impact of childhood trauma on borderline pathology.
Conclusion: The findings suggest that childhood trauma exerts both direct and indirect effects on borderline personality features. Dissociation functions as a key psychological mechanism through which traumatic childhood experiences contribute to borderline pathology, while maladaptive metacognitive beliefs intensify this relationship.
Keywords: *Childhood Trauma; Borderline Personality Features; Dissociation; Metacognitive Beliefs.*

1. Introduction

Borderline Personality Disorder (BPD) is a severe and complex psychiatric condition characterized by pervasive instability in emotional regulation, self-image, interpersonal relationships, and behavioral control. Individuals with borderline personality features often experience intense emotional fluctuations, chronic feelings of emptiness, identity disturbances, impulsivity, self-destructive behaviors, and unstable interpersonal relationships that significantly impair psychosocial functioning and quality of life. Contemporary research increasingly conceptualizes borderline pathology not merely as a discrete diagnostic category but as a multidimensional phenomenon emerging from the interaction of developmental, psychological, neurobiological, and interpersonal factors (Faggioli et al., 2024; Krüger, 2024). Recent investigations have further emphasized disturbances in self-experience, identity integration, bodily awareness, and emotional processing as central mechanisms underlying borderline personality features (Löffler et al., 2025; Voelter et al., 2025).

Among the numerous risk factors associated with borderline pathology, childhood trauma has consistently emerged as one of the strongest and most robust predictors. Adverse childhood experiences, including emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect, have been linked to the development of maladaptive personality traits, affective dysregulation, interpersonal dysfunction, and psychopathological vulnerability across the lifespan. Developmental trauma has been shown to exert profound effects on emotional development, attachment security, cognitive functioning, and personality organization, thereby increasing susceptibility to a broad range of psychiatric disorders and personality disturbances (Cruz et al., 2022). Evidence suggests that individuals exposed to traumatic childhood environments are significantly more likely to exhibit borderline personality features later in life, highlighting the developmental origins of this condition (Jiang, 2024).

The relationship between childhood trauma and borderline personality pathology has received substantial empirical support across diverse populations and methodological approaches. Studies have demonstrated that early adverse experiences interfere with the formation of coherent self-representations and secure attachment relationships, contributing to difficulties in emotional regulation and interpersonal functioning. Childhood maltreatment has also been associated with deficits in mentalization, self-reflection, and identity integration, all of which are considered central features of borderline personality organization (Gorgellino et al., 2025; Uzar et al., 2023). Furthermore, trauma-related disruptions in developmental processes often contribute to enduring psychological vulnerabilities that persist into adulthood and shape personality development (Farina et al., 2025).

One mechanism that may explain how childhood trauma contributes to borderline personality features is dissociation. Dissociation refers to disruptions in the normal integration of consciousness, memory, identity, perception, emotion, and bodily experience. Dissociative processes can range from relatively mild experiences of absorption and detachment to severe disruptions involving depersonalization, derealization, amnesia, and identity fragmentation. Contemporary theoretical models increasingly regard dissociation as a central consequence of traumatic experiences, particularly when trauma occurs during sensitive developmental periods (Bachrach & Huntjens, 2025; Lynn et al., 2022). Dissociation may serve as an adaptive coping strategy in the context of overwhelming stress, yet prolonged reliance on dissociative mechanisms can interfere with emotional processing, identity development, and interpersonal functioning.

Research has repeatedly documented elevated levels of dissociative experiences among individuals with borderline personality disorder and related personality pathology. Dissociative symptoms have been associated with greater emotional instability, self-harm behaviors, identity disturbance, interpersonal dysfunction, and poorer treatment outcomes among individuals with borderline features. Theoretical perspectives suggest that trauma-induced dissociative processes may contribute to fragmentation of the self, disruptions in autobiographical memory, and difficulties maintaining coherent personal narratives, all of which are characteristic of borderline personality pathology (Farina et al., 2023; Huntjens et al., 2023). Recent studies have also highlighted the importance of understanding dissociation as a multidimensional construct involving traumatic disintegration, detachment, and alterations in self-experience (Farina & Imperatori, 2023).

The significance of dissociation becomes particularly apparent when considering contemporary models of self and identity in borderline pathology. Identity instability and temporal fragmentation have been identified as defining characteristics of borderline personality disorder, reflecting difficulties in integrating past, present, and future self-

E-ISSN: 2980-9681

representations into a coherent sense of identity (Faggioli et al., 2024). Similarly, research examining body-self integration has demonstrated that dissociative processes contribute to feelings of disconnection between bodily experiences and self-awareness, thereby exacerbating borderline symptomatology (Löffler et al., 2025). These findings suggest that dissociation may represent a crucial mechanism linking early traumatic experiences to later personality dysfunction.

In addition to dissociation, increasing attention has been directed toward the role of metacognition in the development and maintenance of psychological disorders. Metacognition refers to the capacity to reflect upon, monitor, understand, and regulate one's own mental states and the mental states of others. This ability plays a fundamental role in emotional regulation, social functioning, self-awareness, and adaptive decision-making. Deficits in metacognitive functioning have been implicated in numerous psychiatric conditions, including personality disorders, psychotic disorders, trauma-related disorders, and mood disorders (Martiadis et al., 2023; Sharma et al., 2022). More recently, metacognition has been conceptualized as a transdiagnostic factor influencing psychological adjustment and recovery across diagnostic categories (Wiesepape et al., 2024).

Several studies have identified significant metacognitive impairments among individuals with borderline personality pathology. Difficulties understanding one's own mental states, interpreting interpersonal experiences, and regulating emotional responses may contribute to the instability and relational dysfunction characteristic of borderline features. Research examining metacognition within borderline personality organization has shown that maladaptive metacognitive processes are associated with heightened emotional reactivity, defensive functioning, and interpersonal difficulties (Jańczak et al., 2023). Similarly, investigations into personality disorders have highlighted the role of alexithymia, impaired self-reflection, and deficits in emotional awareness as important correlates of personality dysfunction (Chaim et al., 2024).

Metacognitive beliefs may be particularly relevant in trauma-related psychopathology. Individuals exposed to childhood trauma often develop dysfunctional beliefs regarding the controllability, danger, and meaning of internal experiences. Such beliefs can influence emotional regulation strategies, cognitive processing, and psychological adaptation. Previous research has demonstrated that maladaptive metacognitive beliefs mediate or moderate relationships among trauma exposure, emotional dysregulation, dissociation, and psychological symptoms (Gray et al., 2024; Rogier et al., 2022). Furthermore, trauma survivors frequently experience disruptions in self-understanding and narrative coherence, which may be exacerbated by dysfunctional metacognitive processes (Wiesepape et al., 2025).

The importance of metacognition has also been highlighted within emerging psychotherapeutic approaches. Metacognitive interventions have demonstrated promising outcomes in reducing symptoms and improving functioning among individuals with personality disorders and complex trauma histories. Metacognitive Interpersonal Therapy, for example, has been associated with significant improvements in symptom severity, interpersonal functioning, and psychological adaptation among individuals with borderline personality disorder (Aloi et al., 2025). Similarly, evidence suggests that strengthening metacognitive capacities within therapeutic relationships may facilitate psychological integration and recovery from trauma-related difficulties (Farina & Imperatori, 2023). The growing emphasis on metacognition underscores its potential role not only as a predictor of psychopathology but also as a protective factor influencing resilience and treatment response.

Beyond dissociation and metacognition, recent literature has increasingly focused on related constructs such as mentalization, attachment functioning, interoception, self-awareness, and narrative identity. Trauma has been associated with impairments in mentalization capacities, reducing individuals' ability to understand and interpret both their own mental states and those of others (Gorgellino et al., 2025). Similar patterns have been observed among adolescents with borderline personality disorder, who often exhibit difficulties in mentalizing interpersonal experiences (Uzar et al., 2023). Trauma-related disruptions have also been linked to attachment insecurity and executive functioning deficits, suggesting that developmental adversity exerts broad effects on cognitive and emotional development (Gleysse et al., 2023).

Furthermore, emerging evidence indicates that trauma-related pathology may involve alterations in bodily awareness and interoceptive processing. Studies examining borderline personality disorder have reported impairments in interoception, self-awareness, and bodily integration that contribute to emotional instability and identity disturbances (Voelter et al., 2025). Research exploring dissociative self-experiences similarly highlights the importance of bodily disconnection and altered self-perception in understanding personality pathology (Löffler et al., 2025). These findings

E-ISSN: 2980-9681

suggest that traumatic experiences may influence multiple levels of psychological functioning, ultimately contributing to the emergence of borderline personality features.

Neurobiological and psychophysiological findings further support the significance of trauma-related mechanisms in borderline personality pathology. Recent evidence has demonstrated alterations in oxytocin regulation among individuals with borderline personality disorder, with psychotherapeutic interventions contributing to normalization of these biological processes (Bocchio-Chiavetto et al., 2025). Similarly, investigations examining complex trauma and related disorders have emphasized the interplay between neurobiological dysregulation, emotional processing, dissociation, and self-functioning (Frost et al., 2025; Mavroudis et al., 2025). Such findings reinforce the notion that borderline personality features emerge from multifaceted interactions among developmental, cognitive, emotional, interpersonal, and biological factors.

Although previous studies have independently examined childhood trauma, dissociation, and metacognition in relation to borderline personality pathology, relatively few investigations have explored these variables within a comprehensive moderated mediation framework. Existing evidence suggests that childhood trauma contributes to dissociative experiences, dissociation predicts borderline symptoms, and metacognitive processes influence psychological adaptation. However, the extent to which dissociation mediates the relationship between childhood trauma and borderline personality features while metacognitive beliefs simultaneously moderate this relationship remains insufficiently understood. Addressing this gap may provide a more integrated understanding of the psychological mechanisms through which traumatic childhood experiences influence personality pathology and may inform the development of more targeted intervention strategies (Benfante et al., 2023; Charles, 2025; Yakeley, 2021; Zhang et al., 2023).

Therefore, the present study aimed to investigate the effect of childhood trauma on borderline personality features, examining the mediating role of dissociation and the moderating role of metacognitive beliefs among adults in Tehran.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a cross-sectional correlational design using structural equation modeling (SEM) to investigate the direct effect of childhood trauma on borderline personality features, the mediating role of dissociation, and the moderating role of metacognitive beliefs among adults residing in Tehran, Iran. The target population consisted of adults aged 18 to 45 years who were living in different districts of Tehran during the 2025–2026 academic year. A total of 420 participants were selected through multistage cluster sampling from community centers, universities, workplaces, and public facilities across various districts of Tehran. The sample size was determined based on recommendations for structural equation modeling, which suggest a minimum of 10 to 15 participants per estimated parameter and a sample size exceeding 400 for complex moderated mediation models. Inclusion criteria included being between 18 and 45 years of age, having at least a high school education, willingness to participate in the study, and the ability to complete self-report questionnaires independently. Individuals with severe cognitive impairment, active psychotic disorders, or incomplete questionnaire responses exceeding 10% of the total items were excluded from the final analysis. Prior to participation, all respondents received information regarding the objectives of the study, confidentiality of their responses, and their right to withdraw from the research at any time without penalty. Written informed consent was obtained from all participants. Ethical principles concerning anonymity, confidentiality, voluntary participation, and data protection were strictly observed throughout the research process.

2.2. Measures

Childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ), originally developed by Bernstein and colleagues in 2003. The CTQ is one of the most widely used retrospective self-report instruments for measuring experiences of childhood maltreatment and adversity. The questionnaire consists of 28 items rated on a five-point Likert scale ranging from 1 (Never True) to 5 (Very Often True). The instrument evaluates five dimensions of childhood trauma, including emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. Higher scores indicate greater exposure to traumatic experiences during childhood and adolescence. Previous international and Iranian studies have demonstrated satisfactory psychometric properties for the CTQ, including strong internal consistency, construct validity, convergent validity, and test–retest reliability.

E-ISSN: 2980-9681

Cronbach's alpha coefficients reported for the subscales and total scale generally exceed 0.80, supporting its suitability for research examining the long-term psychological consequences of childhood adversity.

Borderline personality features were measured using the Borderline Personality Features Scale (BPFS), developed by Crick, Murray-Close, and Woods in 2005. The BPFS is a self-report instrument designed to assess core characteristics associated with borderline personality pathology in both clinical and nonclinical populations. The scale contains 24 items scored on a five-point Likert continuum ranging from 1 (Not at All True) to 5 (Always True). The instrument measures four primary domains of borderline personality features, including affective instability, identity problems, negative interpersonal relationships, and self-harm tendencies. Higher scores reflect greater severity of borderline personality characteristics. Numerous studies have supported the scale's factorial structure, criterion validity, and discriminant validity. The BPFS has demonstrated excellent internal consistency, with Cronbach's alpha coefficients typically ranging from 0.85 to 0.92. Previous research conducted in Iran has also confirmed the reliability and validity of the Persian version of the instrument, making it appropriate for assessing borderline personality features in Iranian samples.

Dissociation was assessed using the Dissociative Experiences Scale-II (DES-II), originally developed by Carlson and Putnam in 1993. The DES-II is a widely recognized self-report measure designed to evaluate the frequency of dissociative experiences in everyday life. The instrument consists of 28 items representing various forms of dissociation, including absorption, depersonalization, derealization, amnesia, and identity disturbances. Participants indicate the percentage of time they experience each phenomenon on a scale ranging from 0% to 100%. The final score is calculated by averaging responses across all items, with higher scores indicating greater dissociative symptomatology. The DES-II has been extensively used in trauma-related research and has demonstrated strong psychometric properties across different cultural contexts. Studies have consistently reported satisfactory internal consistency coefficients above 0.90 and acceptable levels of convergent and discriminant validity. The Persian version of the scale has also shown favorable reliability and validity indicators in clinical and nonclinical Iranian populations.

Metacognitive beliefs were measured using the Metacognitions Questionnaire-30 (MCQ-30), developed by Wells and Cartwright-Hatton in 2004. The MCQ-30 is a shortened version of the original Metacognitions Questionnaire and is designed to assess individual beliefs about thinking processes and cognitive regulation. The questionnaire contains 30 items rated on a four-point Likert scale ranging from 1 (Do Not Agree) to 4 (Agree Very Much). The instrument evaluates five dimensions of metacognitive beliefs, including positive beliefs about worry, negative beliefs concerning uncontrollability and danger, cognitive confidence, beliefs regarding the need to control thoughts, and cognitive self-consciousness. Higher scores indicate stronger maladaptive metacognitive beliefs. Extensive research has supported the factorial validity and reliability of the MCQ-30 across diverse populations. Cronbach's alpha coefficients for the total scale generally range from 0.85 to 0.93, while subscale reliabilities have also been reported as satisfactory. Previous validation studies conducted among Iranian populations have confirmed the scale's psychometric adequacy and cultural applicability.

2.3. Data Analysis

Data analysis was performed using SPSS version 27 and AMOS version 24. Initially, descriptive statistics, including means, standard deviations, skewness, and kurtosis indices, were calculated to summarize participant characteristics and study variables. Pearson correlation coefficients were computed to examine the bivariate relationships among childhood trauma, dissociation, metacognitive beliefs, and borderline personality features. Prior to conducting structural equation modeling, assumptions related to normality, multicollinearity, outliers, and homoscedasticity were assessed and verified. Structural equation modeling was subsequently employed to evaluate the hypothesized relationships among variables and to test the overall fit of the moderated mediation model. The mediating role of dissociation in the relationship between childhood trauma and borderline personality features was examined using bootstrap procedures with 5,000 resamples and 95% bias-corrected confidence intervals. The moderating role of metacognitive beliefs was tested by creating interaction terms and incorporating them into the structural model. Model fit was evaluated using multiple goodness-of-fit indices, including the chi-square to degrees of freedom ratio (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Incremental Fit Index (IFI), Goodness-of-Fit Index (GFI), and Root Mean Square Error of Approximation (RMSEA). Statistical significance was determined at the 0.05 level for all analyses. The final model was interpreted

E-ISSN: 2980-9681

based on both statistical significance and practical significance indicators, including standardized path coefficients and explained variance estimates.

3. Findings and Results

A total of 420 participants completed the study questionnaires and were included in the final analysis. Of the participants, 238 (56.7%) were female and 182 (43.3%) were male. The mean age of the sample was 29.84 years (SD = 7.21), ranging from 18 to 45 years. Regarding educational attainment, 104 participants (24.8%) held a high school diploma, 138 (32.9%) had an associate or bachelor's degree, 132 (31.4%) had a master's degree, and 46 (11.0%) possessed a doctoral degree. Furthermore, 257 participants (61.2%) were employed, 97 (23.1%) were students, and 66 (15.7%) were unemployed at the time of data collection. The demographic distribution indicated that the sample represented a broad range of educational and occupational backgrounds, thereby enhancing the generalizability of the findings within the adult population of Tehran.

Table 1

Descriptive Statistics and Correlations among Study Variables (N = 420)

Variable	Mean	SD	1	2	3	4
1. Childhood Trauma	45.82	14.67	—			
2. Dissociation	24.93	13.41	.61**	—		
3. Metacognitive Beliefs	66.27	14.85	.47**	.54**	—	
4. Borderline Personality Features	69.14	16.72	.68**	.72**	.58**	—

As shown in Table 1, all study variables demonstrated acceptable variability and approximately normal distributions. The mean score for childhood trauma was 45.82 (SD = 14.67), while the mean score for dissociation was 24.93 (SD = 13.41). Participants obtained a mean score of 66.27 (SD = 14.85) on metacognitive beliefs and 69.14 (SD = 16.72) on borderline personality features. Pearson correlation analyses revealed significant positive relationships among all variables. Childhood trauma exhibited a strong positive correlation with borderline personality features ($r = .68$, $p < .01$), indicating that higher levels of traumatic childhood experiences were associated with greater borderline symptomatology. Childhood trauma was also significantly associated with dissociation ($r = .61$, $p < .01$) and maladaptive metacognitive beliefs ($r = .47$, $p < .01$). Dissociation demonstrated the strongest association with borderline personality features ($r = .72$, $p < .01$), suggesting that dissociative experiences are closely related to borderline personality pathology. Metacognitive beliefs were positively correlated with both dissociation ($r = .54$, $p < .01$) and borderline personality features ($r = .58$, $p < .01$). These findings provided preliminary support for the hypothesized mediation and moderation relationships and justified proceeding with structural equation modeling analyses.

Table 2

Assessment of Normality and Multicollinearity Assumptions

Variable	Skewness	Kurtosis	Tolerance	VIF
Childhood Trauma	0.61	-0.48	0.67	1.49
Dissociation	0.74	-0.36	0.58	1.72
Metacognitive Beliefs	0.53	-0.29	0.69	1.45
Borderline Personality Features	0.66	-0.42	0.55	1.81

The results presented in Table 2 indicate that all variables met the assumptions required for multivariate analyses. Skewness values ranged from 0.53 to 0.74, while kurtosis values ranged from −0.48 to −0.29, remaining well within the acceptable range of ±2. These findings suggest that the distribution of scores did not significantly deviate from normality. Furthermore, tolerance values exceeded the recommended threshold of 0.10 and variance inflation factor (VIF) values ranged between 1.45 and 1.81, substantially below the critical value of 10. Consequently, no evidence of multicollinearity was observed among the predictor variables. The satisfactory fulfillment of these assumptions supported the appropriateness of conducting structural equation modeling and moderated mediation analyses.

E-ISSN: 2980-9681

Figure 1

Structural Model Examining the Effect of Childhood Trauma on Borderline Personality Features through Dissociation and the Moderating Role of Metacognitive Beliefs

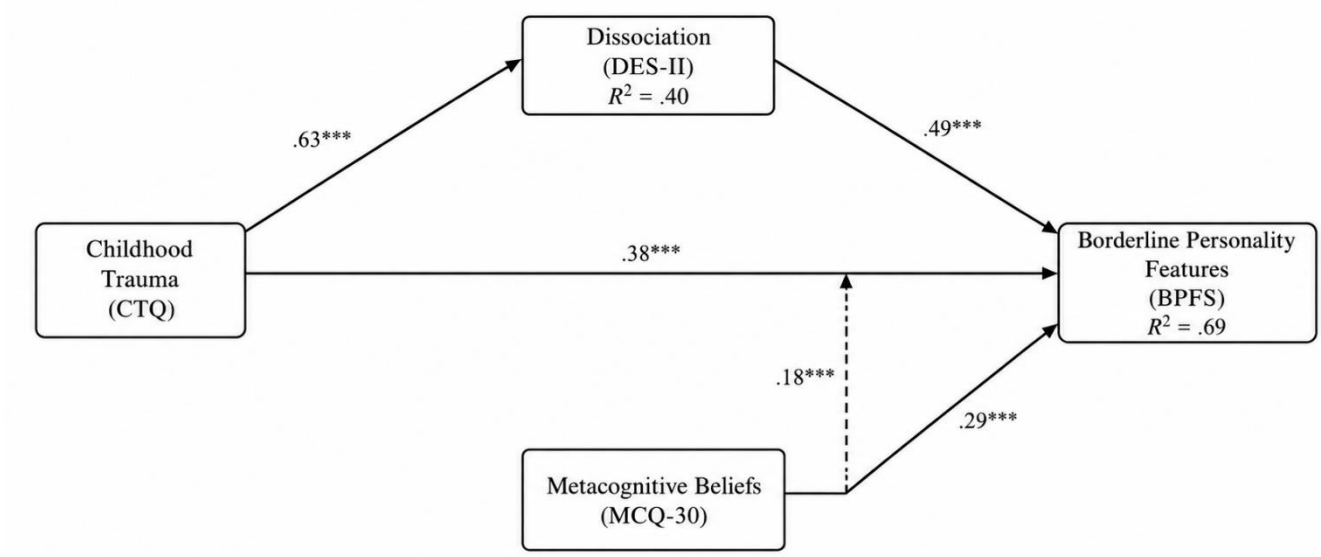

Table 3

Standardized Direct, Indirect, and Total Effects in the Structural Model

Path	β	SE	CR	p
Childhood Trauma → Dissociation	.63	.05	12.84	< .001
Dissociation → Borderline Personality Features	.49	.06	8.17	< .001
Childhood Trauma → Borderline Personality Features	.38	.05	7.42	< .001
Metacognitive Beliefs → Borderline Personality Features	.29	.05	5.88	< .001
Trauma × Metacognitive Beliefs → Borderline Features	.18	.04	4.32	< .001

The structural model produced statistically significant path coefficients across all hypothesized relationships. Childhood trauma significantly predicted dissociation (β = .63, p < .001), indicating that individuals reporting greater exposure to childhood traumatic experiences were more likely to experience dissociative symptoms. Dissociation, in turn, significantly predicted borderline personality features (β = .49, p < .001), suggesting that dissociative experiences play a substantial role in the development and maintenance of borderline pathology. Childhood trauma also maintained a significant direct effect on borderline personality features (β = .38, p < .001), even after accounting for the mediating effect of dissociation, indicating partial mediation. Metacognitive beliefs demonstrated a significant positive effect on borderline personality features (β = .29, p < .001). Moreover, the interaction between childhood trauma and metacognitive beliefs was statistically significant (β = .18, p < .001), confirming the hypothesized moderating effect. These findings indicate that maladaptive metacognitive beliefs intensify the association between childhood trauma and borderline personality pathology. The structural model explained 40% of the variance in dissociation and 69% of the variance in borderline personality features, reflecting substantial explanatory power.

Table 4

Bootstrap Analysis of the Indirect Effect of Childhood Trauma on Borderline Personality Features through Dissociation

Indirect Effect	β	Boot SE	95% CI Lower	95% CI Upper
Childhood Trauma → Dissociation → Borderline Personality Features	.31	.04	.24	.40

E-ISSN: 2980-9681

Bootstrap analyses using 5,000 resamples were conducted to evaluate the significance of the indirect pathway from childhood trauma to borderline personality features through dissociation. As shown in Table 4, the indirect effect was statistically significant (β = .31, SE = .04), and the 95% bias-corrected confidence interval did not include zero (CI = .24 to .40). These results provide strong empirical support for the mediating role of dissociation. Specifically, individuals who reported higher levels of childhood trauma tended to experience increased dissociative symptoms, which subsequently contributed to greater borderline personality features. The significant indirect effect, combined with the remaining significant direct effect of childhood trauma on borderline personality features, indicates a pattern of partial mediation. Therefore, dissociation represents an important psychological mechanism through which adverse childhood experiences contribute to the emergence and severity of borderline personality pathology.

The overall model demonstrated excellent fit to the data. Fit indices indicated that the proposed moderated mediation model adequately represented the observed relationships among the variables ($\chi^2/df = 2.41$, CFI = .96, TLI = .95, IFI = .96, GFI = .94, RMSEA = .058). All indices met or exceeded recommended criteria for acceptable model fit, supporting the adequacy of the theoretical model. Collectively, the findings confirmed that childhood trauma exerted both direct and indirect effects on borderline personality features, with dissociation serving as a significant mediator and metacognitive beliefs functioning as a significant moderator. These results support the proposed conceptual framework and highlight the complex interplay among traumatic experiences, dissociative processes, and metacognitive beliefs in explaining borderline personality pathology.

4. Discussion and Conclusion

The present study investigated the effect of childhood trauma on borderline personality features, examining the mediating role of dissociation and the moderating role of metacognitive beliefs among adults in Tehran. The findings revealed that childhood trauma was significantly and positively associated with borderline personality features. Furthermore, childhood trauma significantly predicted dissociative experiences, dissociation significantly predicted borderline personality features, and dissociation partially mediated the relationship between childhood trauma and borderline personality pathology. The results also demonstrated that metacognitive beliefs significantly moderated the association between childhood trauma and borderline personality features, indicating that maladaptive metacognitive beliefs intensified the impact of traumatic childhood experiences on the development of borderline pathology. Overall, the proposed moderated mediation model demonstrated satisfactory fit and explained a substantial proportion of variance in borderline personality features.

One of the most important findings of the present study was the significant direct effect of childhood trauma on borderline personality features. This finding is consistent with a substantial body of literature suggesting that adverse childhood experiences represent one of the strongest developmental risk factors for borderline personality pathology. Childhood trauma often disrupts emotional development, attachment formation, and identity integration, thereby creating long-lasting vulnerabilities that increase susceptibility to personality dysfunction in adulthood. Exposure to emotional abuse, neglect, rejection, and inconsistent caregiving environments may interfere with the development of stable self-representations and adaptive emotion regulation capacities. Consequently, individuals exposed to traumatic childhood experiences frequently develop difficulties managing emotions, maintaining stable interpersonal relationships, and establishing coherent identities, all of which are central characteristics of borderline personality pathology (Cruz et al., 2022; Jiang, 2024).

The current findings align closely with previous research demonstrating strong associations between childhood maltreatment and borderline personality disorder. Jiang reported that childhood trauma significantly predicted borderline personality symptoms through maladaptive psychological processes, highlighting the enduring influence of early adversity on personality development (Jiang, 2024). Similarly, developmental trauma frameworks emphasize that chronic exposure to interpersonal trauma during childhood can profoundly alter psychological development, leading to increased emotional dysregulation, identity disturbance, and interpersonal dysfunction later in life (Cruz et al., 2022). The present findings extend this literature by demonstrating that the influence of childhood trauma remains significant even when additional psychological mechanisms are considered simultaneously.

The observed relationship between childhood trauma and borderline personality features can also be understood within

E-ISSN: 2980-9681

attachment and mentalization perspectives. Trauma occurring within caregiving relationships may compromise the development of secure attachment and reduce the individual's capacity to understand and regulate internal emotional states. Impaired mentalization has repeatedly been linked to borderline personality pathology and is often observed among individuals with histories of childhood adversity. Systematic reviews indicate that trauma-related disruptions in mentalization contribute to difficulties interpreting social experiences and managing interpersonal relationships, which are defining characteristics of borderline pathology (Gorgellino et al., 2025). Similar findings have been reported among adolescents with borderline personality disorder, who frequently exhibit impairments in mentalizing capacities and self-reflective functioning (Uzar et al., 2023).

Another major finding was that dissociation significantly mediated the relationship between childhood trauma and borderline personality features. This result suggests that traumatic childhood experiences may contribute to borderline pathology partly through their impact on dissociative processes. Individuals who experience overwhelming or chronic trauma during childhood often develop dissociative coping mechanisms that help them psychologically distance themselves from distressing experiences. Although such mechanisms may initially serve protective functions, persistent dissociation can interfere with emotional processing, autobiographical memory integration, and identity development. Over time, these disruptions may increase vulnerability to borderline personality features.

This finding is highly consistent with contemporary trauma models of dissociation. Lynn and colleagues proposed that dissociation represents a multifaceted psychological phenomenon involving disruptions in memory, identity, consciousness, and emotional processing that frequently emerge following traumatic experiences (Lynn et al., 2022). Similarly, Farina and Imperatori argued that traumatic disintegration and dissociation constitute central pathogenic processes linking attachment trauma with later psychopathology (Farina et al., 2023). The significant mediating role identified in the present study provides empirical support for these theoretical perspectives by demonstrating that dissociation serves as an important psychological mechanism connecting childhood trauma with borderline personality pathology.

The findings are also consistent with research highlighting identity fragmentation as a core feature of both dissociation and borderline personality disorder. Faggioli and colleagues reported that individuals with borderline personality disorder frequently experience disruptions in identity continuity and temporal integration, leading to unstable self-concepts and fragmented autobiographical narratives (Faggioli et al., 2024). Dissociation may contribute directly to these experiences by disrupting the integration of memories, emotions, and self-representations. Consequently, individuals who rely heavily on dissociative coping strategies may struggle to develop a coherent sense of self, thereby increasing their vulnerability to borderline personality features.

Additional support for the mediating role of dissociation comes from research examining dissociation-related beliefs and cognitive processes. Huntjens and colleagues demonstrated that dysfunctional beliefs about memory, identity, and dissociative experiences contribute to psychological distress and psychopathology among trauma-exposed individuals (Huntjens et al., 2023). Likewise, studies of dissociative disorders emphasize the central role of trauma-induced fragmentation in shaping emotional and interpersonal functioning (Bachrach & Huntjens, 2025). The current findings reinforce these conclusions by highlighting dissociation as a critical mechanism through which childhood trauma exerts long-term effects on personality development.

The present study further revealed that metacognitive beliefs significantly moderated the relationship between childhood trauma and borderline personality features. Specifically, individuals with stronger maladaptive metacognitive beliefs demonstrated a stronger association between childhood trauma and borderline pathology. This finding suggests that the way individuals think about and interpret their own thoughts, emotions, and internal experiences may influence the extent to which traumatic childhood experiences translate into personality dysfunction.

This result is consistent with metacognitive theory, which proposes that dysfunctional beliefs regarding the uncontrollability, danger, and significance of internal experiences contribute to psychological distress and maladaptive coping strategies (Sharma et al., 2022). Individuals who hold negative metacognitive beliefs may perceive their emotional experiences as threatening or uncontrollable, thereby increasing emotional dysregulation and vulnerability to psychopathology. Following childhood trauma, such beliefs may intensify the psychological

E-ISSN: 2980-9681

consequences of adverse experiences, amplifying the risk of developing borderline personality features.

The moderating role of metacognitive beliefs is supported by previous research demonstrating that metacognition influences the relationship between traumatic experiences and psychological symptoms. Rogier and colleagues found that emotional metacognitive beliefs mediated relationships among trauma-related factors, emotional dysregulation, and psychopathology, emphasizing the importance of metacognitive processes in trauma adaptation (Rogier et al., 2022). Similarly, Gray and colleagues reported that metacognitive factors significantly contributed to the relationship between childhood abuse and maladaptive personality traits (Gray et al., 2024). The current findings extend this literature by demonstrating that metacognitive beliefs not only influence psychological functioning directly but also alter the strength of the relationship between childhood trauma and borderline personality features.

The observed moderating effect may also be interpreted through broader metacognitive frameworks emphasizing self-reflection and self-regulation. Research suggests that effective metacognitive functioning facilitates adaptive emotional processing, coherent self-understanding, and psychological resilience. Conversely, impaired metacognition may contribute to maladaptive interpretations of emotional experiences, interpersonal difficulties, and identity instability (Wiesepape et al., 2024). In trauma survivors, dysfunctional metacognitive beliefs may reinforce negative self-perceptions and perpetuate maladaptive coping strategies, thereby increasing vulnerability to borderline pathology.

The significance of metacognition in borderline personality disorder is increasingly recognized within contemporary psychotherapy research. Jańczak and colleagues reported that metacognitive deficits are closely associated with defensive functioning and emotional responses in borderline personality organization (Jańczak et al., 2023). Likewise, Charles emphasized the importance of metacognitive processes in understanding personality pathology and psychological adaptation (Charles, 2025). The findings of the present study provide further evidence supporting these perspectives and suggest that metacognitive beliefs represent a meaningful target for intervention among trauma-exposed individuals with borderline features.

The current findings may also be interpreted in relation to emerging treatment research. Metacognitive Interpersonal Therapy has demonstrated effectiveness in improving symptoms and functioning among individuals with borderline personality disorder (Aloi et al., 2025). Similarly, studies indicate that strengthening metacognitive capacities within therapeutic relationships can enhance psychological integration and improve overall functioning (Farina & Imperatori, 2023). Recent work on trauma-related disorders further highlights the value of interventions that promote coherent self-narratives, emotional awareness, and metacognitive reflection (Wiesepape et al., 2025). These findings collectively suggest that improving metacognitive functioning may reduce the impact of childhood trauma and dissociation on borderline personality pathology.

The present findings additionally align with recent research examining emotional awareness, mentalization, and self-experience in personality disorders. Alexithymia, impaired emotional awareness, and difficulties understanding internal states have consistently been associated with personality dysfunction and trauma-related psychopathology (Chaim et al., 2024). Furthermore, studies examining interoceptive functioning and body-self integration indicate that disturbances in self-awareness may contribute to emotional instability and identity confusion among individuals with borderline personality disorder (Löffler et al., 2025; Voelter et al., 2025). The current results complement these perspectives by highlighting how trauma-related dissociation and maladaptive metacognitive beliefs jointly contribute to disruptions in self-functioning.

Taken together, the findings support an integrative developmental model of borderline personality pathology. Childhood trauma appears to create vulnerability through multiple pathways, including emotional dysregulation, impaired attachment, dissociative coping, identity fragmentation, and maladaptive metacognitive beliefs. Dissociation serves as a key mechanism translating traumatic experiences into personality dysfunction, while metacognitive beliefs influence the severity of this relationship. These interconnected processes contribute to the emergence and maintenance of borderline personality features and underscore the importance of comprehensive assessment and intervention approaches addressing both trauma-related and metacognitive factors (Benfante et al., 2023; Bocchio-Chiavetto et al., 2025; Farina et al., 2025; Mavroudis et al., 2025; Wiesepape et al., 2025; Yakeley, 2021; Zhang et al., 2023).

Several limitations should be considered when interpreting the findings of the present study. First, the cross-sectional design precludes causal conclusions regarding the relationships among childhood trauma, dissociation,

E-ISSN: 2980-9681

metacognitive beliefs, and borderline personality features. Second, all variables were measured using self-report instruments, which may be influenced by response biases, social desirability effects, and retrospective inaccuracies in recalling childhood experiences. Third, the sample was limited to adults residing in Tehran, which may restrict the generalizability of the findings to other cultural contexts, age groups, or clinical populations. Finally, although the proposed model explained a substantial proportion of variance in borderline personality features, other potentially important variables such as attachment styles, emotional regulation strategies, resilience, and social support were not included in the analysis.

Future studies should employ longitudinal designs to better clarify the causal and developmental pathways linking childhood trauma to borderline personality pathology. Researchers may also investigate additional mediating mechanisms such as emotional dysregulation, experiential avoidance, mentalization deficits, identity disturbance, and attachment insecurity. Examining these relationships within clinical samples diagnosed with borderline personality disorder would provide further insight into the applicability of the model in therapeutic settings. Future investigations may also benefit from incorporating biological, neurocognitive, and behavioral measures alongside self-report assessments to obtain a more comprehensive understanding of trauma-related processes. Cross-cultural studies comparing different populations would further enhance understanding of the universality and contextual variability of these relationships.

The findings highlight the importance of routinely assessing childhood trauma histories among individuals presenting with borderline personality features. Mental health professionals should pay particular attention to dissociative symptoms, as these experiences may represent a critical pathway through which trauma contributes to personality dysfunction. Clinical interventions designed to reduce dissociation and promote psychological integration may be especially beneficial for trauma-exposed individuals. Additionally, therapeutic approaches that strengthen metacognitive functioning, improve emotional awareness, and enhance self-reflective capacities may help reduce vulnerability to borderline pathology. Integrating trauma-informed care, metacognitive interventions, and strategies targeting identity coherence and emotional regulation may provide a comprehensive framework for prevention and treatment efforts aimed at reducing the long-term psychological consequences of childhood trauma.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

References

Aloi, M., Semerari, A., Amadei, G., Bucci, I., Colle, L., Nicolò, G., Riccardi, I., Segura-García, C., & Carcione, A. (2025). Exploring the Impact of Metacognitive Interpersonal Therapy on Borderline Personality Disorder: A Retrospective Observational Study Using a Latent Transition Analysis of Symptoms and Functional Changes Over 12 Months. *Psychotherapy and psychosomatics*, *94*(3), 194-206. https://doi.org/10.1159/000545385

Bachrach, N., & Huntjens, R. J. C. (2025). Recent Evidence-Based Developments in the Treatment of DID. *Frontiers in Psychiatry*, *16*. https://doi.org/10.3389/fpsyt.2025.1650164

Benfante, A., Cisarò, F., Ribaldone, D. G., Castelli, L., Sandroni, N., & Romeo, A. (2023). Inflammatory Bowel Disease and Irritable Bowel Syndrome: What Differences in Mentalization Abilities? A Scoping Review. *International journal of environmental research and public health*, *20*(23), 7125. https://doi.org/10.3390/ijerph20237125

Bocchio-Chiavetto, L., Tardito, D., Galbiati, C., Ferrari, C., Lanfredi, M., Pedrini, L., Carcione, A., Riccardi, I., Nicolò, G., & Rossi, R. (2025). Reduction of Oxytocin Plasma Levels

E-ISSN: 2980-9681

in Borderline Personality Disorder and Normalization Induced by Psychotherapies. *Psychological medicine*, *55*. https://doi.org/10.1017/s003329172500042x

Chaim, C. H., Almeida, T. M., Albertin, P. d. V., Santana, G. L., Siu, E. R., & Andrade, L. H. (2024). The Implication of Alexithymia in Personality Disorders: A Systematic Review. *BMC psychiatry*, *24*(1). https://doi.org/10.1186/s12888-024-06083-6

Charles, M. (2025). Depression, Personality Disorders, and Metacognition: Intersections Between Psychoanalysis, Research, and the Clinic. *Psychoanalytic Psychology*, *42*(1), 27-34. https://doi.org/10.1037/pap0000516

Cruz, D., Lichten, M., Berg, K., & George, P. S. (2022). Developmental Trauma: Conceptual Framework, Associated Risks and Comorbidities, and Evaluation and Treatment. *Frontiers in Psychiatry*, *13*. https://doi.org/10.3389/fpsyt.2022.800687

Faggioli, I., Esposito, C. M., & Stanghellini, G. (2024). Identity and Temporal Fragmentation in Borderline Personality Disorder: A Systematic Review. *Brain Sciences*, *14*(12), 1221. https://doi.org/10.3390/brainsci14121221

Farina, B., Dimaggio, G., & Mosquera, D. (2025). Common Elements and Differences Among Treatment Approaches to Complex Post-Traumatic Stress Disorder: A Commentary on Five Case Studies. *Journal of Clinical Psychology*, *81*(5), 379-386. https://doi.org/10.1002/jclp.23773

Farina, B., & Imperatori, C. (2023). Are Traumatic Disintegration, Detachment, and Dissociation Separate Pathogenic Processes Related to Attachment Trauma? A Working Hypothesis for Clinicians and Researchers. *Psychopathology*, *57*(3), 236-247. https://doi.org/10.1159/000535191

Farina, B., Liotti, M., Imperatori, C., Tombolini, L., Gasperini, E., Mallozzi, P., Russo, M., Malucelli, G. S., & Monticelli, F. (2023). Cooperation Within the Therapeutic Relationship Improves Metacognitive Functioning: Preliminary Findings. *Research in Psychotherapy Psychopathology Process and Outcome*, *26*(3). https://doi.org/10.4081/ripppo.2023.712

Frost, G., Strodl, E., & Akósílè, W. (2025). Meta-Emotion Therapy for Complex Trauma and Binge Eating: A Case Study. *Psychological Trauma Theory Research Practice and Policy*, *17*(4), 904-911. https://doi.org/10.1037/tra0001675

Gleysse, G. M. d. P., Moreira, J. d. O., & Santos, A. J. (2023). Complex Post-Traumatic Stress Disorder (CPTSD), Executive Function and Attachment. *Revista Latinoamericana de Psicopatologia Fundamental*, *26*. https://doi.org/10.1590/1415-4714.e220529

Gorgellino, M., Kumar, G., Parkar, Y., Catalán, A., Fares-Otero, N. E., Debbané, M., Armando, M., & Alameda, L. (2025). The Shadow of Trauma: Impaired Mentalization in Clinical Populations – A Systematic Review. *Psychological medicine*, *55*. https://doi.org/10.1017/s0033291725100822

Gray, E., Sweller, N., & Boag, S. (2024). Child Abuse and Neglect and Obsessive–Compulsive Personality Traits: Effects of Attachment, Intolerance of Uncertainty, and Metacognition. *Journal of Child & Adolescent Trauma*, *17*(4), 1189-1209. https://doi.org/10.1007/s40653-024-00644-3

Huntjens, R. J. C., Dorahy, M. J., Read, D., Middleton, W., & Minnen, A. v. (2023). The Dissociation-Related Beliefs About Memory Questionnaire (DBMQ): Development and Psychometric Properties. *Psychological Trauma Theory Research Practice and Policy*, *15*(1), 173-180. https://doi.org/10.1037/tra0000686

Jańczak, M. O., Soroko, E., & Górska, D. (2023). Metacognition and Defensive Activity in Response to Relational–emotional Stimuli in Borderline Personality Organization. *Journal of Psychotherapy Integration*, *33*(1), 86-101. https://doi.org/10.1037/int0000286

Jiang, B. (2024). Prediction of Borderline Personality Disorder Based on Childhood Trauma With the Mediating Role of Experiential Avoidance. *Frontiers in Psychiatry*, *15*. https://doi.org/10.3389/fpsyt.2024.1382012

Krüger, R. T. (2024). Personality Disorders, Narcissism and Borderline-Organization. 111-179. https://doi.org/10.1007/978-981-99-7508-2_4

Löffler, A., Kleinböhl, D., Gescher, D. M., Panizza, A., & Bekrater-Bodmann, R. (2025). Exteroception and the Perceived (Dis)connection of the Body and the Self: Implications for the Understanding of Dissociative Self-Experiences in Borderline Personality Disorder. *Personality Disorders Theory Research and Treatment*, *16*(2), 160-172. https://doi.org/10.1037/per0000670

Lynn, S. J., Polizzi, C. P., Merckelbach, H., Chiu, C. D., Maxwell, R., Heugten, D. v., & Lilienfeld, S. O. (2022). Dissociation and Dissociative Disorders Reconsidered: Beyond Sociocognitive and Trauma Models Toward a Transtheoretical Framework. *Annual Review of Clinical Psychology*, *18*(1), 259-289. https://doi.org/10.1146/annurev-clinpsy-081219-102424

Martiadis, V., Raffone, F., Pessina, E., & Scognamiglio, P. (2023). The Double-Strand Bond Between Metacognition and Schizophrenia: Actual Impact and Future Directions. *Mental Wellness*, *1*. https://doi.org/10.4081/mw.2023.6

Mavroudis, I., Franekova, K., Petridis, F., Ciobîcă, A., Gabriel, D., Anton, E., Ilea, C., Papagiannopoulos, S., & Kazis, D. (2025). Comorbidities Across Functional Neurological Disorder Subtypes: A Comprehensive Narrative Synthesis. *Life*, *15*(8), 1322. https://doi.org/10.3390/life15081322

Rogier, G., Zobel, S. B., Rizzi, D., & Velotti, P. (2022). Post-Traumatic Stress Disorder and Alcohol Use Disorder During the COVID-19 Outbreak: Do Dissociation and Emotional Metacognitive Beliefs Mediate the Role of Emotion Dysregulation? *Psychiatry Investigation*, *19*(10), 803-813. https://doi.org/10.30773/pi.2022.0013

Sharma, V., Sagar, R., Kaloiya, G., & Mehta, M. (2022). The Scope of Metacognitive Therapy in the Treatment of Psychiatric Disorders. *Cureus*. https://doi.org/10.7759/cureus.23424

Uzar, M., Dmitrzak-Węglarz, M., & Słopień, A. (2023). Mentalizing in Adolescents With Borderline Personality Disorder. *Brain Sciences*, *13*(10), 1473. https://doi.org/10.3390/brainsci13101473

Voelter, J., Postin, D., Roheger, M., Schulz, A., Bekrater-Bodmann, R., Hurlemann, R., & Scheele, D. (2025). Selective Interoception Impairments and Treatment Effects in Borderline Personality Disorder. https://doi.org/10.1101/2025.11.04.25339393

Wiesepape, C. N., Smith, E. A., Hillis-Mascia, J. D., Soza, S. E. Q., Morris, M., James, A. V., & Stokes, A. (2024). Metacognition as a Transdiagnostic Determinant of Recovery in Schizotypy and Schizophrenia Spectrum Disorders. *Behavioral Sciences*, *14*(4), 336. https://doi.org/10.3390/bs14040336

Wiesepape, C. N., Smith, E. A., Muth, A. J., & Faith, L. A. (2025). Personal Narratives in Trauma-Related Disorders: Contributions From a Metacognitive Approach and Treatment Considerations. *Behavioral Sciences*, *15*(2), 150. https://doi.org/10.3390/bs15020150

Yakeley, J. (2021). The Search for Tailored Treatments: Discussion of Five Interventions for Perpetrators of Intimate Partner Violence. *Journal of Clinical Psychology*, *78*(1), 80-98. https://doi.org/10.1002/jclp.23291

Zhang, B., Pan, B., Chen, J., Wang, J., Zhu, Z., Lajunen, T., & Wang, W. (2023). Hypnotizability and Disordered Personality

E-ISSN: 2980-9681

Styles in Cluster a Personality Disorders. *Brain Sciences*, *13*(2), 182. https://doi.org/10.3390/brainsci13020182

E-ISSN: 2980-9681