https://doi.org/10.36315/2026inpact113
Psychological Applications and Trends 2026

THE MEDIATING ROLE OF POST-TRAUMATIC STRESS DISORDER IN THE RELATIONSHIP BETWEEN ADVERSE CHILDHOOD EXPERIENCES AND DISSOCIATIVE SYMPTOMS IN JUVENILE OFFENDERS

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Abstract

This study examined whether post-traumatic stress disorder (PTSD) mediates the relationship between adverse childhood experiences (ACEs) and dissociative symptoms among justice-involved youth. The sample included 120 adolescents aged 13–20 (60 under judicial supervision and 60 matched controls). Participants completed standardized measures of ACEs, PTSD symptoms (PCL-5), and dissociation (DES). Mediation analyses revealed that, within the PJJ group, ACEs were indirectly associated with dissociation through PTSD symptoms, while the direct effect was non-significant. These findings suggest that early adversity increases vulnerability to PTSD, which in turn contributes to dissociative manifestations. Addressing PTSD symptoms may therefore be essential in interventions targeting dissociation in juvenile offenders.

Keywords: *Adverse childhood experiences, post-traumatic stress disorder, dissociation, juvenile offenders.*

1. Introduction

Recent research on the mental health of juvenile offenders reveals a high exposure to traumatic events occurring during childhood or adolescence (Biglavio, 2014; Guarnaccia et al., 2022). These experiences, referred to as Adverse Childhood Experiences (ACEs), include various forms of physical, emotional, or sexual abuse, neglect, family dysfunction, or witnessing violence or substance use within the household (Felitti et al., 1998). Their accumulation is associated with an increased risk of psychiatric disorders such as depression, anxiety, suicidal ideation, and notably post-traumatic stress disorder (PTSD) (Bielas et al., 2016; Fox et al., 2015).

The DSM-5-TR (2022) describes PTSD as a lasting response to one or more traumatic events, characterized by symptoms of intrusion, avoidance, negative alterations in cognition and mood, and hyperarousal. Post-traumatic stress disorder is significantly more prevalent among youth involved in the justice system than in the general population, with rates ranging from 10% to 30% depending on the context (Abram et al., 2004; Dierkhising et al., 2013). Several studies have indeed highlighted a strong association between the presence of mental disorders and delinquency in minors who have experienced abuse or neglect (Espinosa, 2013; Visser et al., 2025). Traumatic events, which are widespread in this population (Baglivio et al., 2014), therefore carry a high risk of leading to the development of PTSD (Moore et al., 2013).

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In parallel, the literature points to a close link between PTSD and dissociative symptoms (Lyssenko et al., 2018). Dissociation, defined as a temporary disconnection from reality or the self, is a protective response to intense environmental threats (Farina & Liotti, 2013; Di Cori, 2024). While adaptive in the short term, dissociation impairs the cognitive integration of trauma (Thompson-Hollands et al., 2017) and can become persistent, representing a central feature of PTSD (Sartor et al., 2023). This dynamic is particularly present among juvenile offenders, who are highly exposed to traumatic experiences (Ford et al., 2018).

Thus, the main hypothesis of this study is that PTSD mediates the relationship between ACEs and dissociative symptoms, offering an explanatory model for the link between early trauma and psychological disturbances among youth in conflict with the law.

2. Method

This study was approved by the local Research Ethics Committee, including the Ethics and Research Committees of the Universities of Tours and Poitiers, CESREES, and the French National Commission for Data Protection and Privacy (CNIL).

2.1. Sample and procedure

Participants were 120 adolescents and young adults aged 13 to 20, divided into two groups.

Group 1 consisted of 60 youth under judicial supervision, recruited from 20 facilities of the French Juvenile Protection Service (PJJ), including diversified and collective accommodation units, as well as reinforced educational centers.

Group 2 was a control group of 60 individuals without criminal records, matched on age and gender, recruited from public schools in the Centre-Val de Loire region.

Participation was voluntary and based on informed consent, with legal guardian approval for minors. Data were collected from December 2023 to April 2025 by three clinical psychologists in confidential settings. Instructions were adapted when needed to ensure full understanding. Each participant was assigned a unique alphanumeric ID to guarantee anonymity and data confidentiality.

2.2. Instruments

2.2.1. Sociodemographic data. Basic biographical information (age, gender, education, health status) was collected via a semi-structured interview lasting approximately 10 minutes. No specific offense details were collected due to CNIL restrictions.

2.2.2. Adverse Childhood Experiences. ACEs were measured using the Adverse Childhood Experiences Questionnaire (Felitti et al., 1998), a 10-item standardized tool assessing abuse, neglect, and household dysfunction. Responses were binary ("yes"/"no"), with a total score ranging from 0 to 10. The scale showed good internal consistency in this study (GLB = 0.866). Average administration time was 5 minutes.

2.2.3. Post-Traumatic Stress Symptoms. PTSD symptoms were assessed with the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013), validated in French (Shields & Guay, 2013). It includes 20 items aligned with DSM-5 criteria, scored from 0 ("not at all") to 4 ("extremely"). The total score (0–80) reflects symptom severity. Internal consistency was high (McDonald's ω = .723–.844; Guttman's $\lambda 6$ = 0.935). Completion time averaged 7 minutes.

2.2.4. Dissociative symptoms. Dissociative experiences were assessed using the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986). The scale includes 28 items scored from 0% to 100% and measures three dimensions: amnesia, depersonalization/derealization, and absorption. A two-factor model was used: defensive dissociation (F1) and "auto-pilot" functioning (F2) (Laroi et al., 2013). Internal consistency was excellent (Guttman's $\lambda 6$ = 0.959). Administration lasted around 10 minutes.

2.3. Data analyses

Descriptive and correlational analyses were conducted using JASP 0.18.3. Group comparisons were performed using Chi-square tests for categorical variables and Mann–Whitney U tests for continuous variables when normality assumptions were not met. A mediation analysis was carried out in JASP to examine whether PTSD symptoms mediate the relationship between ACEs and dissociative symptoms, using a bootstrap procedure with 5,000 resamples ($p < .05$).

3. Results

As shown in Table 1, adolescents under judicial supervision reported significantly higher levels of adverse childhood experiences, PTSD symptoms, and dissociative experiences compared to the control group.

Table 1. Mean scores and standard deviations for post-traumatic symptomatology and dissociative experiences in both groups, including group effects.

Variables	Group 1	Group 2	Group effect	p-value
ACE	*n = 59*	*n = 60*	*z (117) =*	*p =*
Score total [0 - 10]	*3.92 (2.43)*	*1.23 (1.56)*	***5.99******	***<.001***
PCL-5	*n = 58*	*n = 50*	*z (106) =*	*p =*
Score total [0 - 80]	*30.10 (17.77)*	*17.78 (13.94)*	***3.52*****	***<.001***
B-Intrusion symptoms	*6.69 (5.35)*	*4.26 (3.69)*	***2.14****	***.032***
C-Avoidance symptoms	*3.53 (2.49)*	*2.48 (2.23)*	***2.08****	***.037***
D-Mod in cognition and mood	*9.52 (6.01)*	*6.22 (5.98)*	***2.92****	***.004***
E-Hyperarousal symptoms	*10.36 (7.11)*	*4.82 (4.57)*	***4.10*****	***<.001***
DES	*n = 59*	*n = 56*	*z (113) =*	*p =*
Score total [0% - 100%]	*28.03 (16.18)*	*19.61 (15.22)*	***3.04****	***.002***

z coefficient from the Mann–Whitney U test comparing mean ranks between the two groups.
Group 1: Juvenile delinquent adolescents; Group 2: General population adolescents; ACE: Adverse Childhood Experiences; PCL-5: Post-Traumatic Stress Disorder Checklist DSM-5 version; *Mod.: Modification; DES: Dissociative Experiences Scale; * p < .05; ** p < .01; *** p < .001.*

As shown in Table 2, significant positive correlations were observed between ACEs, PCL-5, and DES in both groups.

Table 2. Spearman correlations between ACE, PCL-5, and DES scores for each group.

Variables		PCL-5 Total	PCL- 5 Criterion B	PCL- 5 Criterion C	PCL- 5 Criterion D	PCL- 5 Criterion E
Group 1	*ACE*	***0.32****	***0.44****	***0.28****	*0.26*	*0.18*
	DES	***0.64****	***0.57****	***0.30****	***0.55****	***0.56****
Group 2	*ACE*	***0.52****	***0.47****	***0.32****	***0.43****	***0.45****
	DES	***0.57****	***0.47****	***0.47****	***0.46****	***0.50****

Spearman correlation coefficient ρ.
Group 1: Juvenile delinquent adolescents; Group 2: General population adolescents; ACE: Adverse Childhood Experiences; PCL-5: Post-Traumatic Stress Disorder Checklist DSM-5 version; Criterion B: Intrusion symptoms; Criterion C: Avoidance symptoms; Criterion D: Negative alterations in cognition and mood; Criterion E: Hyperarousal symptoms; DES: Dissociative Experiences Scale.* *p < .05.*

As shown in Table 3, consistent with our hypothesis proposing that PTSD mediates the relationship between ACEs and DES, PTSD symptoms significantly mediated this association in both groups, thus confirming our mediation hypothesis. In contrast, the direct effect of ACEs on dissociation was non-significant.

Table 3. Mediating Effect of PCL-5 Score on the Relationship Between ACE and DES.

Outcomes	Effect (ACE; PCL-5)	Estimate	Z	95% CI	p value
Group 1	Indirect	1.419*	2.510*	0.311; 2.527	.012
	Direct	- 0.508	- 0.686	-1.958; 0.943	.493
Group 2	Indirect	1.898*	2.507*	0.414; 3.382	.012
	Direct	2.104	1.202	-0.252; 4.459	.080

Group 1: Juvenile delinquent adolescents; Group 2: General population adolescents; ACE: Adverse Childhood Experiences; PCL-5: Post-Traumatic Stress Disorder Checklist DSM-5 version; * $p < .05$.

4. Discussion

The findings observed in adolescents from the PJJ group suggest that adverse childhood experiences are not directly associated with dissociation; rather, they appear to increase vulnerability to the development of post-traumatic stress disorder symptoms, which constitute a proximal mechanism in the emergence of dissociative manifestations. This pattern is consistent with the seminal work of Felitti et al. (1998), demonstrating that cumulative exposure to childhood adversity significantly elevates the risk of later psychopathological outcomes. Moreover, several studies have shown that dissociation is strongly associated with the severity of PTSD symptoms, and that these symptoms largely account for the relationship between early trauma and dissociative phenomena (Dalenberg et al., 2012; Vonderlin et al., 2018). Research on the dissociative subtype of PTSD further supports the notion that dissociative manifestations are closely linked to the neurobiological and psychophysiological mechanisms underlying the trauma response (Lanius et al., 2010). Thus, within the PJJ group, ACEs may be conceptualized as a distal risk factor, whereas PTSD symptomatology represents a more proximal intermediate mechanism directly implicated in the clinical expression of dissociation.

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