



Research Paper

Childhood maltreatment and alexithymia: The role of immature defence styles

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ABSTRACT

Alexithymia involves difficulties in identifying, describing, and symbolically processing emotional states. Previous research has shown that childhood maltreatment is associated with alexithymia, but the psychological processes underlying this relationship remain only partially understood. The present study explores the mediating role of defence styles in the association between childhood maltreatment and alexithymia. The study was carried out on 402 Italian participants ($M_{age} = 36.56$, $SD = 12.89$, age range 19–78 years; 309 females), who completed the Childhood Trauma Questionnaire–Short Form, the Toronto Alexithymia Scale, and the Defence Style Questionnaire-40. Results indicated that childhood maltreatment was positively associated with the immature defence styles, which, in turn, was positively associated with alexithymia. The total indirect effect was significant, and the specific indirect effect through immature defence styles was significant. Conversely, mature and neurotic defence styles did not show significant indirect effects. The direct association between childhood maltreatment and alexithymia was not significant. The study provides evidence on the role of defence styles in alexithymia among individuals reporting childhood maltreatment. Limitations and future research directions are also discussed.

Introduction

The term alexithymia has its roots in the fields of emotional psychology and psychosomatics (Larsen, 2003). It was first introduced by the psychiatrist Peter E. Sifneos to describe difficulties in identifying and verbalising emotions (Sifneos, 1973, 1977). Individuals with alexithymia tend to show difficulties identifying and describing emotions, limited imagination, externally oriented thinking, and reduced reflective awareness of their internal emotional states (De Gucht, 2003; Larsen, 2003; Aaron, 2026). Furthermore, alexithymia has been linked to poor emotional regulation and difficulties in social functioning (Lumley et al., 2007), as well as altered neural activation in areas

associated with emotional processing (Goerlich, 2018).

Although alexithymia is not classified as a psychiatric disorder in the DSM-5-TR (American Psychiatric Association, 2022), it is widely recognised as a clinically relevant transdiagnostic construct associated with several psychological and medical conditions (American Psychiatric Association, 2022). Research has shown that clinically significant alexithymia is found in approximately 10% of the general population (Preece, 2024). In clinical populations, prevalence rates are considerably higher, ranging from approximately 30 to 60% depending on the specific condition examined (Preece, 2024; Zhong, 2026). These findings suggest that alexithymia is not only a descriptive feature of emotional functioning, but also a relevant clinical dimension that may

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contribute to psychological vulnerability and maladaptive affect regulation.

From a psychodynamic perspective, alexithymia is often conceptualised as a deficit in symbolic emotional processing, characterised by difficulties in recognising, mentalising, and verbalising affective states (McDougall, 1982). Within this framework, alexithymia has been interpreted as a defensive adaptation aimed at limiting overwhelming emotional experiences that cannot be adequately processed at a symbolic or reflective level (Bressi, 2017). Psychodynamic literature also suggests that alexithymia may originate within early object relations, emphasising the key role of early caregiving relationships in the development of emotional awareness and symbolic capacities (McDougall, 1982; Bressi, 2017). Specifically, Winnicott's concept of the "holding environment" highlights how attuned caregiving facilitates the child's ability to recognise, contain, and symbolise emotional experiences (Von Rad, 1984; Winnicott, 1989; Khademi, 2019). In contrast, when the primary caregiver is emotionally unavailable, cold, or unable to reflect the emotions communicated by the child symbolically, the development of emotional regulation and mentalisation capacities may be compromised (Winnicott, 1986). Consequently, inadequate emotional mirroring during development may impair the individual's ability to recognise, differentiate, and verbalise emotions, potentially contributing to the emergence of alexithymia (Von Rad, 1984; Sonnby-Borgström, 2009; Khademi, 2019).

This perspective is consistent with the view that alexithymia can represent a disturbance involving affective symbolisation, attachment-related emotion regulation, and mentalisation in the context of traumatic development (Schimmenti & Caretti, 2018). In particular, the difficulty in symbolising and verbalising affective states appears particularly relevant when considering the relationship between childhood maltreatment and alexithymia.

Childhood maltreatment may represent a developmental context in which emotional experiences exceed the individual's capacity to integrate and mentally elaborate affective and relational contents. Previous research has suggested that alexithymia may be associated with unresolved adverse childhood experiences, which can leave emotions unprocessed, poorly differentiated, insufficiently symbolised, and difficult to translate into words (Franzoni et al., 2013). Consistently, evidence has indicated that alexithymia is associated with severe symptoms of post-traumatic stress disorder, such as emotional numbness and hyperarousal, and, consequently, difficulty of identifying, regulating, and symbolically elaborating intense affective states (Zorzella, 2020).

In addition, meta-analytic research has demonstrated that alexithymia frequently co-occurs with traumatic experiences (Couette et al., 2026). These findings support the idea that traumatic experiences may not only generate emotional distress but may also compromise the individual's capacity to recognise and communicate internal affective states (Couette et al., 2026).

Furthermore, evidence has suggested that traumatic experiences may impair emotional integration processes, leading individuals to rely on more primitive affective functioning characterised by difficulties in emotional awareness and symbolic elaboration (Zlotnick, 2001). Individuals with a history of trauma, particularly during childhood, are more likely to exhibit difficulties in emotional processing and expression, potentially due to maladaptive affect regulation mechanisms (Lyons & Bastian, 2019). When the relationship between trauma and alexithymia is examined from a psychodynamic perspective, alexithymia may be understood as a defensive response aimed at coping with the overwhelming and unbearable nature of traumatic experiences (McDougall, 1982). In this sense, alexithymia may protect the individual from direct contact with painful affects, but at the cost of reducing emotional awareness, symbolic elaboration, and verbal expression. Overall, the evidence suggests that early adverse experiences may increase vulnerability to alexithymia (Kench & Irwin, 2000; Müller et al., 2015).

Despite the evidence supporting the association between childhood

maltreatment and alexithymia, the psychological mechanisms underlying this relationship remain only partially understood. In this regard, defence styles may play a central role. Defence styles are automatic psychological processes that protect individuals from distressing emotions and thoughts (Andrews et al., 1993). They are commonly categorised into three main categories: mature, neurotic, and immature defence styles (San Martini et al., 2004; Bontempo et al., 2026).

Mature defence styles allow individuals to adapt to stressful situations while preserving psychological integration and promoting well-being. They include sublimation, humour, anticipation, and suppression, and they enable individuals to cognitively understand their own and others' mental states. Neurotic defence styles include pseudo-altruism, idealisation, undoing, and reaction formation. Their function is to partially exclude emotional and cognitive material from awareness, allowing temporary containment of distress while preserving reality verification (Bontempo et al., 2026). Immature defences include projection, passive-aggression, acting out, isolation, devaluation, autistic fantasy, denial, displacement, dissociation, splitting, rationalisation, and somatisation. They are characterised by a marked distortion of internal and external reality, limited symbolic processing of affect, and a predominance of action-oriented or perceptual strategies over reflective processing (Bontempo et al., 2026). Specifically, processes such as projection, acting out, autistic fantasy, displacement, and somatisation may distort reality to alleviate internal tension, although often at the cost of impaired psychosocial functioning (Fang et al., 2020).

The defensive strategies associated with childhood maltreatment may vary considerably across individuals depending on emotional functioning and personality organisation (Jun et al., 2015). However, when traumatic experiences are overwhelming and cannot be adequately mentalised, individuals may rely on defensive responses aimed at inhibiting distressing emotions and preventing the formation of coherent and enduring mental representations of the traumatic experience (Helmes et al., 2008; Horowitz, 1986; Meganck et al., 2013). Within this framework, alexithymia may represent a defensive response aimed at reducing conscious access to overwhelming emotional experiences (Fang et al., 2020).

Recent studies highlight the role of defensive functioning in the psychological correlates of childhood maltreatment. Cavallo et al. (2026) linked maltreatment, mentalising failures, and defence styles to paranoid thinking, while Tracchegiani et al. (2025) identified profiles combining maltreatment and maladaptive defences associated with poorer self- and interpersonal functioning. According to the developmental perspective, childhood maltreatment may be associated with alexithymia through maladaptive defensive functioning and immature defence styles may be especially involved. Indeed, immature defence styles are characterised by lower symbolic elaboration and may allow for managing distress through avoidance, distortion, somatisation, or action rather than through reflection and verbalisation. Therefore, immature defence styles may be relevant for understanding the association between childhood maltreatment and difficulties in emotional processing.

Previous research has shown that defence styles and alexithymia are relevant to trauma-related psychological distress (Fang et al., 2020). However, in this study, alexithymia was considered within a broader pathway leading to distress, whereas the present study focuses on alexithymia as the primary outcome. Therefore, this study adds specificity to previous literature by examining whether, among mature, neurotic, and immature defence styles, immature defence styles specifically account for the indirect association between childhood maltreatment and alexithymia.

According to previous evidence (McDougall, 1982; Fang et al., 2020; Tracchegiani et al. 2025; Cavallo et al., 2026), the present study hypothesised that immature defence styles would account for the indirect association between childhood maltreatment and alexithymia.

2. Method

2.1. Participants and procedure

Four hundred and seventeen participants completed the online survey. Missing data were scrutinised and discarded from the dataset ($n = 15$). Moreover, univariate outliers were detected, and no outliers were found considering the ± 4 z-score as a threshold for samples larger than ≥ 100 (Giancola et al., 2024a; Mertler et al., 2025). The final sample consisted of 402 participants ($M_{age} = 36.56$, $SD_{age} = 12.89$, age range 19–78 years; 309 females). All participants signed an informed consent form, completed the self-assessment questionnaires and a brief socio-demographic questionnaire through Google Forms. The survey was disseminated via advertisement on social media and word of mouth. All participants were volunteers and none received any rewards for taking part in the research. Participants completed the survey in approximately 10 min. The Institutional Ethics Committee approved this research in accordance with the Declaration of Helsinki. Table 1 reports the main socio-demographic features of the sample.

2.2. Measures

A brief questionnaire has been used to evaluate sociodemographic variables, including age, sex, and educational level.

The Childhood Trauma Questionnaire Short Form (CTQ-SF; Sacchi et al., 2018) is a commonly used self-report instrument designed to assess retrospective experiences of childhood trauma in adolescents and adults. The scale consists of 28 items (e.g., “Members of my family said offensive or humiliating things to me”) rated on a five-point Likert scale ranging from 1 (never true) to 5 (very often true). The internal consistency was Cronbach’s $\alpha = .91$.

The Toronto Alexithymia Scale (TAS-20; Bressi et al., 1996) is one of the most widely used instruments for assessing alexithymia, conceptualised as difficulty in recognising and expressing emotions. The scale consists of 20 items (e.g., “I have difficulty identifying my feelings”) rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The internal consistency was Cronbach’s $\alpha = .81$.

The Defence Styles Questionnaire (DSQ-40; San Martini et al., 2004) is a self-report instrument designed to assess self-reported defence styles. The version used in this study consists of 40 items (e.g., “I act impulsively when something annoys me”) derived from the original 88-item instrument. The items are rated on a nine-point Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). The questionnaire allows for assessing three defence styles: immature, neurotic and mature defences. The internal consistency for the subscales was: mature defence styles (Cronbach’s $\alpha = .82$), neurotic defence styles (Cronbach’s $\alpha = .84$), and immature defence styles (Cronbach’s $\alpha = .79$).

Table 1
Socio-demographic features of the sample.

	Frequency (%)	<i>M</i> (<i>SD</i>)	Min-Max
Age		36.56 (12.89)	19–78
Sex			
Male	93 (23.1)		
Female	309 (76.9)		
Education (years)		16.34 (3.43)	8–21
Residence			
North Italy	34 (8.5)		
Central Italy	254 (63.2)		
South Italy	106 (26.4)		
Not declared	8 (2.0)		

Note. $N = 402$.

2.3. Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics. Preliminary data screening was conducted before the main analyses. Descriptive statistics (means, standard deviations, frequencies, and ranges) were computed, while internal consistency reliability was assessed using Cronbach’s α coefficients. To assess the assumption of normal distribution, the Shapiro–Wilk test was conducted, while Harman’s single-factor test (Harman, 1967) was performed to examine the potential presence of Common Method Bias (CMB) with a test-critical threshold $\geq 50\%$ (Podsakoff et al., 2024). Multicollinearity was assessed using tolerance and variance inflation factor (VIF) values, with tolerance values below .10 and VIF values above 10 considered indicative of serious multicollinearity (O’Brien, 2007).

To test the indirect effect of defence styles in the association between childhood maltreatment and alexithymia, a parallel mediation analysis was conducted using the PROCESS macro for SPSS, version 3.5, Model 4 (Hayes, 2017). Childhood maltreatment was entered as the independent variable, alexithymia as the dependent variable, and mature, neurotic, and immature defence styles as parallel mediators. Sex, age, and education were included as covariates. The indirect effects were estimated using a non-parametric bootstrapping procedure with 5000 resamples and 95% confidence intervals. Indirect effects were considered statistically significant when the bootstrapped confidence interval did not include zero. Unstandardised regression coefficients (b), standard errors, t values, p values, and 95% confidence intervals were reported for all regression paths. The level of statistical significance was set at $p < .05$.

3. Results

Data distribution test revealed that all variables were normally distributed except for childhood maltreatment and alexithymia (Table 2). Harman’s single-factor test indicated that the variance explained by a single-factor exploratory model was 25.35%, showing no CMB problems. Descriptive statistics and preliminary partial correlations are reported in Table 3. mature, neurotic, and immature defence styles.

VIF test showed values ranged from 1.056 to 1.307, below the conventional threshold of 10, indicating no problematic multicollinearity among the predictors.

The mediation analysis was performed entering childhood maltreatment as the independent variable; mature, neurotic, and immature defence styles as the mediators; and age, sex and education as covariates.

Results indicated that childhood maltreatment significantly predicted immature defence styles ($b = 0.501$, $SE = 0.111$, $t = 4.50$, $p < .001$, 95% CI [0.282, 0.720]), but did not significantly predict mature defence styles ($b = 0.121$, $SE = 0.133$, $t = 0.91$, $p = .364$, 95% CI [−0.141, 0.382]) and neurotic defence styles ($b = 0.106$, $SE = 0.137$, $t = 0.77$, $p = .440$, 95% CI [−0.163, 0.375]). Moreover, immature defence styles was positively associated with alexithymia ($b = 0.358$, $SE = 0.022$, $t = 16.33$, $p < .001$, 95% CI [0.315, 0.402]), whereas mature defence styles was negatively associated with alexithymia ($b = -0.055$, $SE = 0.018$, $t = -3.15$, $p = .002$, 95% CI [−0.090, −0.021]). Neurotic defence styles were not significantly associated with alexithymia ($b = -0.019$, $SE = 0.018$, $t = -1.00$, $p = .316$, 95% CI [−0.055, 0.018]).

Table 2
Normality distribution test (Shapiro–Wilk test).

Variable	W
Childhood maltreatment	.90***
Alexithymia	.98***
Mature defence styles	.99
Neurotic defence styles	.99
Immature defence styles	.92

Table 3

Descriptive statistics, internal consistency reliability, and partial correlations (controlling for sex) among study variables.

Variable	<i>M</i>	<i>SD</i>	α	1.	2.	3.	4.	5.	6.	7.
1. Age	36.56	12.89		–						
2. Education	16.34	3.43		-.12**	–					
3. Childhood maltreatment	1.59	.46	.91	-.07	.09	–				
4. Mature defence styles	5.58	1.25	.82	.22***	-.06	.03	–			
5. Neurotic defence styles	4.76	1.25	.84	.09	-.06	.03	.28***	–		
6. Immature defence styles	3.90	1.06	.79	-.02	-.22***	.20***	.12*	.39***	–	
7. Alexithymia	2.37	.56	.81	-.09	-.21***	.15**	-.06	.19***	.67***	–

Note. *N* = 402. **p* ≤ .05. ***p* ≤ .01. ****p* ≤ .001.

The total indirect effect was significant (*b* = 0.171, BootSE = 0.041, 95% CI [0.094, 0.254]). In addition, among the specific indirect effects, results showed that the association between childhood maltreatment and alexithymia showed a significant specific indirect effect through immature defence styles (*b* = 0.180, BootSE = 0.042, 95% CI [0.101, 0.265]). In contrast, the indirect effects through mature defence styles (*b* = −0.007, BootSE = 0.009, 95% CI [−0.026, 0.009]) and neurotic defence styles (*b* = −0.002, BootSE = 0.004, 95% CI [−0.012, 0.005]), were not significant.

The direct effect of childhood maltreatment on alexithymia was not significant (*b* = 0.030, SE = 0.046, *t* = 0.65, *p* = .514, 95% CI [−0.060, 0.121]). The total effect on alexithymia (*b* = 0.201, SE = 0.059, *t* = 3.39, *p* = .001, 95% CI [0.085, 0.318]). The *R*² for the entire model was .480 (*F*(7, 394) = 51.93, *p* < .001). Table 4 and Table 5 report regression models for mediation analysis and total, direct, and indirect effects of childhood maltreatment on alexithymia, respectively.

Overall, these findings are consistent with a cross-sectional statistical

Table 5

Total, direct, and indirect effects of childhood maltreatment on alexithymia.

Effect	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	Boot <i>SE</i>	95% CI
Total effect, <i>c</i>	0.201	0.059	3.39	< .001	—	[0.085, 0.318]
Direct effect, <i>c'</i>	0.030	0.046	0.65	.514	—	[−0.060, 0.121]
Total indirect effect	0.171	—	—	—	0.040	[0.094, 0.252]
Indirect effect via mature defence styles	−0.007	—	—	—	0.009	[−0.026, 0.010]
Indirect effect via neurotic defence styles	−0.002	—	—	—	0.004	[−0.012, 0.006]
Indirect effect via immature defence styles	0.180	—	—	—	0.042	[0.099, 0.264]

indirect association between childhood maltreatment and alexithymia through immature defence styles, whereas the indirect effects through mature and neurotic defence styles were not significant.

4. Discussion

The present study explored the role of defence styles in the relationship between childhood maltreatment and alexithymia. The results indicated a statistically significant indirect association through immature defence style, confirming the research hypothesis.

Contemporary models of emotion regulation suggest that childhood abuse and neglect may be associated with alexithymia through broader difficulties in identifying, regulating, and communicating emotional states (Krvavac & Jansson, 2021). Similarly, attachment and mentalisation models indicate that traumatic experiences may be linked to alexithymia through adult attachment insecurity and uncertain reflective functioning, highlighting relational and reflective processes that are partly distinct from defensive functioning (Sideli et al., 2026). Dissociation may also represent a relevant complementary process, as developmental trauma has been associated with disruptions in the integration of affective experience, autobiographical memory, and self-representation (Schimmenti & Caretti, 2018). However, dissociation and alexithymia should be considered related but distinct constructs: dissociation mainly concerns disruptions in integration, whereas alexithymia concerns difficulties in identifying, symbolising, and verbalising emotional states. Finally, from a general perspective of psychopathology, the association between childhood maltreatment and alexithymia may partly reflect broader transdiagnostic vulnerability or general psychological distress, rather than a process specific to immature defence styles alone (Kick et al., 2024).

These findings contribute to the existing literature by framing alexithymia within a developmental perspective in which childhood maltreatment, attachment-related emotion regulation, mentalisation processes, and defensive functioning may be closely interconnected (Schimmenti & Caretti, 2018; Cavallo et al., 2026; Tracchegiani et al.,

Table 4

Regression models for mediation analysis.

Outcome	Predictor	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Mature defence styles	Childhood maltreatment	0.121	0.133	0.91	.364	[−0.141, 0.382]
	Sex	0.176	0.147	1.20	.233	[−0.113, 0.465]
	Age	0.021	0.005	4.46	< .001	[0.012, 0.031]
	Education	−0.014	0.018	−0.78	.438	[−0.049, 0.021]
Neurotic defence styles	Childhood maltreatment	0.106	0.137	0.77	.440	[−0.163, 0.375]
	Sex	−0.035	0.152	−0.23	.817	[−0.333, 0.263]
	Age	0.009	0.005	1.74	.083	[−0.001, 0.018]
	Education	−0.019	0.019	−1.01	.311	[−0.055, 0.018]
Immature defence styles	Childhood maltreatment	0.501	0.111	4.50	< .001	[0.282, 0.720]
	Sex	0.095	0.123	0.77	.441	[−0.147, 0.338]
	Age	−0.003	0.004	−0.63	.526	[−0.010, 0.005]
	Education	−0.075	0.015	−4.93	< .001	[−0.104, −0.045]
Alexithymia	Childhood maltreatment	0.030	0.046	0.65	.514	[−0.060, 0.121]
	Mature defence styles	−0.055	0.018	−3.15	.002	[−0.090, −0.021]
	Neurotic defence styles	−0.019	0.018	−1.00	.316	[−0.055, 0.018]
	Immature defence styles	0.358	0.022	16.33	< .001	[0.315, 0.402]
	Sex	−0.035	0.050	−0.70	.482	[−0.133, 0.063]
	Age	−0.002	0.002	−1.40	.161	[−0.006, 0.001]
	Education	−0.013	0.006	−2.14	.033	[−0.026, −0.001]

2025).

From a conceptual standpoint, experiences of childhood maltreatment may hinder the development of symbolic and reflective abilities, rendering emotional states more difficult to recognise, mentalise, and express verbally. After highly distressing developmental experiences, individuals may struggle to translate their affective and relational experiences into coherent thoughts and language (McGovern, 2026).

From a psychodynamic perspective, early traumatic experiences may be associated with primitive defensive responses aimed at limiting contact with overwhelming affective states, consistent with Winnicott's notion of "primitive agonies", Kohut's concept of disintegration anxiety, and Kalsched's theory of the archetypal self-care system (Winnicott, 2017; Kohut, 2009; Kalsched, 2014). In this sense, childhood maltreatment may be theoretically linked to alexithymia through difficulties in the symbolic elaboration and verbalisation of emotional experience.

Within this framework, immature defence styles may be understood as a defensive mode characterised by limited symbolic elaboration and a greater reliance on avoidance, distortion, somatisation, or action-oriented responses. Self-reported immature defence styles tendencies, including projection, somatisation, acting out, dissociation, and displacement, may allow painful affects to be diverted or expressed indirectly, rather than transformed into reflective thought and verbal communication (de Francisco Carvalho et al., 2019). This interpretation is consistent with the present findings, which showed that immature defence style statistically accounted for the indirect association between childhood maltreatment and alexithymia. However, given the cross-sectional design, these results should be interpreted as a statistical indirect association rather than as evidence that childhood maltreatment activates immature defences or produces alexithymia.

The non-significant indirect effects through mature and neurotic defence styles should be interpreted cautiously. Results indicated that only the limited symbolic elaboration typically associated with immature defences styles is implicated in the association between childhood maltreatment and alexithymia in identifying and verbalising emotional states.

The present findings may have tentative clinical implications, but they should be interpreted with caution. The sample was community-based, predominantly female, recruited online, and not clinically assessed. Therefore, the results cannot be directly generalised to clinical populations or used to draw firm conclusions about psychotherapy processes or outcomes.

From a theoretical and clinical perspective, the findings are consistent with the view that alexithymia as a construct involving difficulties in affective symbolisation, attachment-related emotion regulation, and mentalisation in the context of traumatic development (Schimmenti & Caretti, 2018). Within this framework, immature defence styles may be considered a relevant dimension to assess when working with individuals who report childhood maltreatment and alexithymia. However, the present data only support a cross-sectional statistical association and do not demonstrate that interventions targeting defensive functioning would reduce alexithymia.

Therefore, these findings may inform future clinical research rather than provide direct treatment recommendations. Longitudinal and clinically assessed studies are needed to examine whether defensive functioning, mentalisation, and affective symbolisation play a role in therapeutic change among individuals with histories of childhood maltreatment.

This study has several limitations that open new avenues for future research. First, the cross-sectional design precludes establishing the temporal or causal ordering of childhood maltreatment, defence styles, and alexithymia. Second, the DSQ-40 assesses self-reported defence styles rather than unconscious defensive functioning as directly observed in clinical assessment. Therefore, the findings should be interpreted as referring to participants' reported defensive tendencies, and not as direct evidence of individual unconscious defence styles. Third, childhood maltreatment was assessed retrospectively through

self-report. Participants' reports of childhood maltreatment may be influenced by memory distortions, their emotional state at the time of assessment, or their current psychological functioning. Finally, although the present study focused on the mediating role of defence styles, several psychological processes may contribute to the association between childhood maltreatment and alexithymia, such as cognitive styles activated under stressful situations, depression, anxiety, general psychological distress, dissociation, post-traumatic symptoms, adaptive and maladaptive personality traits, personality pathology, attachment insecurity, or emotion-regulation difficulties. These processes should be included in future research (Burtáverde et al., 2026; Giancola et al., 2021, 2024b; Stone et al., 2025; Zughbur et al., 2025). Moreover, future studies should test the present model in different cultural contexts, as psychosocial processes may vary across cultures (Perilli et al., 2021).

5. Conclusions

In conclusion, this study suggests that immature defence styles may help explain, at a statistical and cross-sectional level, the association between childhood maltreatment and alexithymia. This interpretation is consistent with the idea that immature defences are characterised by limited symbolic processing and reduced verbal elaboration of overwhelming emotional states.

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During the preparation of this work, the authors did not use any generative AI or AI-assisted technologies.

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Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics statement

The study was approved by the Institutional Review Board of the University of L'Aquila. The study was conducted in accordance with the Declaration of Helsinki. Informed consent was obtained from all participants involved in the study.

Informed consent

Informed consent was obtained from all participants involved in this study.

CRediT authorship contribution statement

Danilo Bontempo: Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Arianna Ercoli:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Conceptualization. **Marco Giancola:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Matteo Perazzini:** Writing – review & editing, Investigation, Conceptualization. **Ambra Cialfi:** Investigation. **Mariachiara Ceccarelli:** Investigation. **Luca De Vito:** Investigation. **Rebecca Eibenstein:** Investigation. **Sara Fatini:** Investigation. **Virginia Fontana:** Investigation. **Sepora Losole:** Investigation. **Francesca Lufino:** Investigation. **Laura Mancini:** Investigation.

Manuela Mirizzi: Investigation. **Ivana Moscano:** Investigation. **James Michael Perry:** Investigation. **Vanessa Proietti:** Investigation. **Gina Ragusa:** Investigation. **Desirée Rainò:** Investigation. **Donato Rinaldi:** Investigation. **Laura Salerno:** Investigation. **Matteo Villeggiante:** Investigation. **Elisa Mori:** Writing – review & editing, Investigation. **Stefano Crispino:** Writing – review & editing, Investigation. **Enrico Perilli:** Writing – review & editing, Supervision, Investigation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

- Aaron, R. V., Ravyts, S. G., De La Rosa, J. S., Campbell, C. M., & Mun, C. J. (2026). Temporal pathways between alexithymia, psychological distress, and pain: An autoregressive mediation analysis. *Health Psychology*. <https://doi.org/10.1037/hea0001604>
- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed). American Psychiatric Association Publishing. <https://doi.org/10.1176/appi.books.9780890425787>. text rev.
- Andrews, G., Singh, M., & Bond, M. (1993). The defense style questionnaire. *Journal of Nervous and Mental Disease*, 181(4), 246–256. <https://doi.org/10.1097/00005053-199304000-00006>
- Bontempo, D., Giancola, M., Perazzini, M., D'Amico, S., & Perilli, E. (2026). Immature defences mediate the association between borderline personality and problematic social Media use in generation Z. *Frontiers in Child and Adolescent Psychiatry*, 5. <https://doi.org/10.3389/frcha.2026.1822113>
- Bressi, C., Fronza, S., Minacapelli, E., Nocito, E. P., Dipasquale, E., Magri, L., ... Barone, L. (2017). Short-term psychodynamic psychotherapy with mentalization-based techniques in major depressive disorder patients: Relationship among alexithymia, reflective functioning, and outcome variables—a pilot study. *Psychology and Psychotherapy: Theory, Research and Practice*, 90(3), 299–313. <https://doi.org/10.1111/papt.12110>
- Bressi, C., Taylor, G., Parker, J., Bressi, S., Brambilla, V., Aguglia, E., ... Invernizzi, G. (1996). Cross validation of the factor structure of the 20-item Toronto alexithymia scale: An Italian multicenter study. *Journal of Psychosomatic Research*, 41(6), 551–559. [https://doi.org/10.1016/S0022-3999\(96\)00228-0](https://doi.org/10.1016/S0022-3999(96)00228-0)
- Burtăverde, V., Jonason, P. K., Minulescu, A., Oprea, B., Zanfirescu, S. A., Ionescu, S. C., & Gheorghe, A. M. (2026). Childhood trauma and life history strategies: The moderating role of childhood socio-economic status and the dark triad traits. *Personality and Individual Differences*, 248, Article 113467. <https://doi.org/10.1016/j.paid.2025.113467>
- Cavallo, J., Di Caro, A. V., Marchese, E. V., Melita, A., Costanzo, A., & Schimmenti, A. (2026). Unraveling the roots of paranoid thinking: The role of childhood maltreatment, failures in mentalizing, and defense mechanisms. *Psychoanalytic Psychology*, 43(1), 12–22.
- Couette, M., Cagnone, V., Turc, G., Johnson, S., Mouchabac, S., & Ferreri, F. (2026). Alexithymia in patients with posttraumatic stress disorder: A meta-analysis. *L'Encéphale*, 52, 303–317. <https://doi.org/10.1016/j.encep.2025.11.002>
- de Francisco Carvalho, L., Reis, A. M., & Pianowski, G. (2019). Investigating correlations between defence mechanisms and pathological personality characteristics. *Revista Colombiana de Psiquiatria (English Edition)*, 48(4), 232–243. <https://doi.org/10.1016/j.rcpeng.2018.01.004>
- De Gucht, V., & Heiser, W. (2003). Alexithymia and somatisation: A quantitative review of the literature. *Journal of Psychosomatic Research*, 54(5), 425–434. [https://doi.org/10.1016/S0022-3999\(02\)00467-1](https://doi.org/10.1016/S0022-3999(02)00467-1)
- Fang, S., Chung, M. C., & Wang, Y. (2020). The impact of past trauma on psychological distress: The roles of defense mechanisms and alexithymia. *Frontiers in Psychology*, 11, 992. <https://doi.org/10.3389/fpsyg.2020.00992>
- Franzoni, E., Gualandi, S., Caretti, V., Schimmenti, A., Di Pietro, E., Pellegrini, G., ... Pellicciari, A. (2013). The relationship between alexithymia, shame, trauma, and body image disorders: Investigation over a large clinical sample. *Neuropsychiatric Disease and Treatment*, 185. <https://doi.org/10.2147/NDT.S34822>
- Giancola, M., Ferrandes, A., & D'Amico, S. (2024a). Mirror, mirror on the wall: The role of narcissism, muscle dysmorphia, and self-esteem in bodybuilders' muscularity-oriented disordered eating. *Current Psychology*, 43, 32697–32706. <https://doi.org/10.1007/s12144-024-06815-7>
- Giancola, M., Palmiero, M., & D'Amico, S. (2024b). Reappraise and be mindful! the key role of cognitive reappraisal and mindfulness in the association between openness to experience and divergent thinking. *Journal of Cognitive Psychology*, 36(7), 834–843. <https://doi.org/10.1080/20445911.2024.2399403>
- Giancola, M., Verde, P., Cacciapuotì, L., Angelino, G., Piccardi, L., Bocchi, A., ... Nori, R. (2021). Do advanced spatial strategies depend on the number of flight hours? The case of military pilots. *Brain Sciences*, 11(7), 851. <https://doi.org/10.3390/brainsci11070851>
- Goerlich, K. S. (2018). The multifaceted nature of alexithymia—A neurobiological perspective. *Frontiers in Psychology*, 9, 1614. <https://doi.org/10.3389/fpsyg.2018.01614>
- Harman, D. (1967). A single factor test of common method variance. *Journal of Psychology*, 35(1967), 359–378.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- Helmes, E., McNeill, P. D., Holden, R. R., & Jackson, C. (2008). The construct of alexithymia: Associations with defense mechanisms. *Journal of Clinical Psychology*, 64(3), 318–331. <https://doi.org/10.1002/jclp.20461>
- Horowitz, M. J. (1986). Stress-response syndromes: A review of posttraumatic and adjustment disorders. *Hosp. Commun. Psychiatry*, 37, 37241–37249. <https://doi.org/10.1176/ps.37.3.241>, 10.1037/pap0000563.
- Jun, J. Y., Lee, Y.-J. G., Lee, S.-H., Yoo, S. Y., Song, J., & Kim, S. J. (2015). Association between defense mechanisms and psychiatric symptoms in North Korean refugees. *Comprehensive Psychiatry*, 56, 56179–56187. <https://doi.org/10.1016/j.comppsy.2014.10.001>
- Kalsched, D. (2014). *The inner world of trauma: Archetypal defences of the personal spirit*. Routledge.
- Kench, S., & Irwin, H. J. (2000). Alexithymia and childhood family environment. *Journal of Clinical Psychology*, 56(6), 737–745. [https://doi.org/10.1002/\(SICI\)1097-4679\(200006\)56:6](https://doi.org/10.1002/(SICI)1097-4679(200006)56:6)
- Khademi, M., Hajiahmadi, M., & Faramarzi, M. (2019). The role of long-term psychodynamic psychotherapy in improving attachment patterns, defense styles, and alexithymia in patients with depressive/anxiety disorders. *Trends in Psychiatry and Psychotherapy*, 41, 43–50. <https://doi.org/10.1590/2237-6089-2017-0144>
- Kick, L., Schleicher, D., Ecker, A., Kandsperger, S., Brunner, R., & Jarvers, I. (2024). Alexithymia as a mediator between adverse childhood events and the development of psychopathology: A meta-analysis. *Frontiers in Psychiatry*, 15, Article 1412229. <https://doi.org/10.3389/fpsy.2024.1412229>
- Kohut, H. (2009). *The restoration of the self*. University of Chicago Press.
- Krjavac, S., & Jansson, B. (2021). The role of emotion dysregulation and alexithymia in the link between types of child abuse and neglect and psychopathology: A moderated mediation model. *European Journal of Trauma & Dissociation*, 5(3), Article 100213. <https://doi.org/10.1016/j.ejtd.2021.100213>
- Larsen, J. K., Brand, N., Bermond, B., & Hijman, R. (2003). Cognitive and emotional characteristics of alexithymia: A review of neurobiological studies. *Journal of Psychosomatic Research*, 54(6), 533–541. [https://doi.org/10.1016/S0022-3999\(02\)00466-X](https://doi.org/10.1016/S0022-3999(02)00466-X)
- Lumley, M. A., Neely, L. C., & Burger, A. J. (2007). The assessment of alexithymia in medical settings: Implications for understanding and treating health problems. *Journal of Personality Assessment*, 89(3), 230–246. <https://doi.org/10.1080/00223890701629698>
- Lyons, J., & Bastian, B. (2019). The role of trauma in the development of alexithymia: A review. *Journal of Traumatic Stress*, 32(5), 341–349. <https://doi.org/10.1002/jts.22405>
- McDougall, J. (1982). Alexithymia: A psychoanalytic viewpoint. *Psychotherapy and Psychosomatics*, 38(1–4), 81–90. <https://doi.org/10.1159/000287617>
- McGovern, P. (2026). From absence to presence: Symbolizing early object loss and symbolic failures in psychoanalytic trauma therapy. *British Journal of Psychotherapy*, 42(1), 17–34. <https://doi.org/10.1111/bjp.70002>
- Meganck, R., Vanheule, S., & Desmet, M. (2013). Affective processing and affect regulation: A clinical interview study. *J. Am. Psychoanal*, 61, NP12–NP16. <https://doi.org/10.1177/0003065113516365>. Assoc.61N12–N16.
- Mertler, C. A., Vannatta, R. A., & LaVenita, K. N. (2025). *Advanced and multivariate statistical methods: Practical application and interpretation*. Routledge.
- Müller, J., Bühner, M., & Ellgring, H. (2015). Is there a reliable factorial structure in the 20-item Toronto alexithymia scale? *Journal of Psychosomatic Research*, 55(6), 561–568. <https://doi.org/10.1016/j.jpsychores.2003.12.010>
- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, 41(5), 673–690. <https://doi.org/10.1007/s11135-006-9018-6>
- Perilli, E., Scosta, E., Perazzini, M., Di Giacomo, D., Ciuffini, R., Bontempo, D., ... Cobiainchi, S. (2021). Cross-cultural correlates of homophobia: Comparison of Italian and Spanish attitudes towards homosexuals. *Mediterranean Journal of Clinical Psychology*, 9(3). <https://doi.org/10.13129/2282-1619/mjcp-3063>
- Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Huang, C., & Yang, J. (2024). Common method bias: It's bad, it's complex, it's widespread, and it's not easy to fix. *Annual Review of Organizational Psychology and Organizational Behavior*, 11(1), 17–61. <https://doi.org/10.1146/annurev-orgpsych-110721-040030>
- Preece, D. A., Petrova, K., Mehta, A., Sikka, P., & Gross, J. J. (2024). Alexithymia or general psychological distress? Discriminant validity of the Toronto alexithymia scale and the Perth alexithymia Questionnaire. *Journal of Affective Disorders*, 352, 140–145. <https://doi.org/10.1016/j.jad.2024.01.271>
- Sacchi, C., Vieno, A., & Simonelli, A. (2018). Italian validation of the childhood trauma questionnaire—Short form on a college group. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(5), 563–571. <https://doi.org/10.1037/tra0000333>

- San Martini, P., Roma, P., Sarti, S., Lingiardi, V., & Bond, M. (2004). Italian version of the defense style questionnaire. *Comprehensive Psychiatry*, 45(6), 483–494. <https://doi.org/10.1016/j.comppsy.2004.07.012>
- Schimmenti, A., & Caretti, V. (2018). Attachment, trauma, and alexithymia. In O. Luminet, R. M. Bagby, & G. J. Taylor (Eds.), *Alexithymia: Advances in research, theory, and clinical practice* (pp. 127–141). Cambridge University Press. <https://doi.org/10.1017/9781108241595.010>
- Sideli, L., Rossi, A. A., Mannarini, S., Franceschini, C., Gori, A., Schimmenti, A., & Musetti, A. (2026). Adult attachment insecurity and uncertain reflective functioning as mediators between traumatic experiences and alexithymia in young adults: A structural equation modeling approach. *BMC Psychology*, 14, 840. <https://doi.org/10.1186/s40359-026-04411-x>
- Sifneos, P. E. (1973). The prevalence of alexithymic characteristics in psycho somatic patients. *Psychotherapy and Psychosomatics*, 22, 255–262. <https://doi.org/10.1159/000286529>
- Sifneos, P. E., Apfel-Savitz, R., & Frankel, F. H. (1977). Alexithymia observations in psychosomatic patients. *Psychotherapy and Psychosomatics*, 28, 47–57.
- Stone, S. N., Newcomb, K. M., & Yalch, M. M. (2025). Influence of childhood maltreatment on schizoid personality pathology. *Journal of Trauma & Dissociation*, 26(3), 347–356. <https://doi.org/10.1080/15299732.2025.2481034>
- Sonnby-Borgström, M. (2009). Alexithymia as related to facial imitation, mentalization, empathy, and internal working models-of-self and-others. *Neuropsychoanalysis*, 11(1), 111–128. <https://doi.org/10.1080/15294145.2009.10773602>
- Tracchegiani, J., Fontana, A., Benzi, I. M. A., Muzi, L., & Carone, N. (2025). Profiles of childhood maltreatment and defenses: Associations with personality functioning in emerging adulthood. *Journal of Child & Adolescent Trauma*, 18(3), 653–667. <https://doi.org/10.1007/s40653-025-00710-4>
- Von Rad, M. (1984). Alexithymia and symptom formation. *Psychotherapy and Psychosomatics*, 42(1–4), 80–89. <https://doi.org/10.1159/000287827>
- Winnicott, D. W. (2017). *Fear of breakdown. British psychoanalysis* (pp. 121–130). Routledge.
- Winnicott, D. W. (1989). *Holding and interpretation: Fragment of an analysis* (No. 115). Grove Press.
- Winnicott, D. W. (1986). The theory of the parent-infant relationship. *Essential Papers on Object Relations*, 5, 233–253.
- Zhong, Y., Chen, S., Zeng, Q., Ku, M., Zhang, Y., & Lyu, J. (2026). Prevalence of alexithymia in Chinese adolescents: A systematic review and meta-analysis. *BMC Psychiatry*, 26(1), 38. <https://doi.org/10.1186/s12888-025-07651-0>
- Zlotnick, C., Mattia, J. I., & Zimmerman, M. (2001). The relationship between posttraumatic stress disorder, childhood trauma and alexithymia in an outpatient sample. *Journal of Traumatic Stress*, 14(1), 177–188. <https://doi.org/10.1023/A:1007899918410>
- Zorzella, K. P., Muller, R. T., Cribbie, R. A., Bambrab, V., & Classen, C. C. (2020). The role of alexithymia in trauma therapy outcomes: Examining improvements in PTSD, dissociation, and interpersonal problems. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(1), 20–28. <https://doi.org/10.1037/tra0000433>
- Zughbur, M. R., Hamam, Y., Kagee, A., Hamam, M., Hijazi, Y. M., Hamam, M., ... Veronese, G. (2025). Prevalence and correlates of anxiety, depression, and symptoms of trauma among Palestinian adults in Gaza after a year of war: A cross-sectional study. *Conflict and Health*, 19(1), 43.