




The Mediating Role of Emotion Regulation and Basic Psychological Needs: Association Between Childhood Trauma and Young Adults' Psychological Functioning from a Self-Determination Theory Perspective

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ABSTRACT

Numerous studies have shown the detrimental effects of childhood trauma on individuals' psychological functioning. This study examined the relation from childhood traumatic experiences to dissociation, life satisfaction, and attitude toward seeking psychological help while additionally shedding light on the possible mediating role of emotion regulation and basic psychological needs based on the framework of Self-Determination Theory (SDT). Using a cross-sectional design, data were collected from 489 Italian young adults ($M_{age} = 23.63$, $SD_{age} = 3.53$, 68.7% female) through an online survey. Findings indicated positive associations between childhood trauma and emotion dysregulation, suppression, need frustration, and dissociation. In contrast, negative associations were found with emotion integration, need satisfaction, life satisfaction, and attitude toward seeking psychological help. Structural equation modeling analysis supported the hypothesized indirect associations, suggesting that childhood trauma is indirectly associated with 1) higher levels of dissociation through increased emotion dysregulation, emotion suppression, and need frustration; 2) lower life satisfaction via higher emotion dysregulation and need frustration, as well as diminished need satisfaction and emotion integration; and 3) less positive attitude toward seeking psychological help by elevated emotion suppression and reduced emotion integration. These findings validate SDT as a potent framework for understanding the nuanced pathways from childhood trauma to adult psychological functioning, providing the groundwork for intervention development and a pathway for further exploration with clinical populations.

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Childhood trauma (CT) represents a pervasive issue affecting a substantial number of individuals worldwide. Approximately 64% of children in Asia, 56% in Northern America, 50% in Africa, 34% in Latin America, and 12% in

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Europe are estimated to have endured extreme forms of violence in the past year (Hillis et al., 2016; Moody et al., 2018). CT significantly impacts individuals' psychological growth, emotional regulation capacities, overall life satisfaction, and susceptibility to developing psychological disorders (Beilharz et al., 2020; Mosley-Johnson et al., 2019). Extensive research underscores the prevalence of CT and its association with diverse psychopathologies, including depression, post-traumatic stress disorder (PTSD), personality disorders, and psychological distress (McKay et al., 2021; Patock-Peckham et al., 2020; VanMeter et al., 2021). This study integrates the domain of CT with the theoretical framework of Self-Determination Theory (SDT; Ryan, 2023), thereby examining emotion regulation and the basic psychological needs as mechanisms in the relation between CT and psychological functioning in young adults.

SDT, a broad theory of human motivation and personality, and specifically its mini-theory called the basic psychological needs theory posits that satisfaction of three basic needs (i.e., autonomy, competence, and relatedness) fosters motivation and well-being, whereas thwarting these needs engenders ill-being and psychopathology. CT can be conceptualized in SDT's framework as a contextual need-thwarting experience resulting in increased need frustration and maladaptive emotion processing. Although compelling evidence exists for the link between CT and maladaptive psychological functioning in adults (Watters et al., 2023), less is known about possible mechanisms in this relation. Given that SDT has been found to be a useful theoretical framework for explaining both well-being and ill-being (including psychopathology; Ryan, 2023) across diverse contexts. It is valuable to explore the potential integration of SDT in the association between CT and dissociation, life satisfaction, and attitude to seek psychological help.

Detrimental effects of childhood trauma

Danese and Baldwin (2017) have termed CT as a “hidden wound” that continues to affect survivors for many decades. CT, an event marked by fear and often characterized by violence, danger, or life-threatening circumstances, manifests in various forms; physical abuse, sexual abuse, emotional abuse, and the experience of emotional neglect or physical neglect (Beilharz et al., 2020). In the United States, around 588,229 children experienced abuse or neglect in 2021 (U.S. Department of Health & Human Services, 2023). Out of these cases, 76.0% involved neglect, 16.0% entailed physical abuse, 10.1% involved sexual abuse, and 0.2% were associated with sex trafficking (U.S. Department of Health & Human Services, 2023). Similarly, in the Italian context about 91,000 minors under the care of Social Services report abuse, unveiling that 47% were victims of neglect, 19% witnessed violence, 14% experienced psychological mistreatment, 9%

of care pathology (neglect, carelessness, and over-care), 7% underwent physical abuse and 4% experienced sexual abuse (superTDH,2021). Researchers have acknowledged childhood maltreatment as a risk factor for somatic illnesses, psychotic experiences, and psychopathological outcomes (Hughes et al., 2017). Additionally, lower levels of life satisfaction and clinical levels of dissociation are commonly observed in individuals reporting a history of childhood abuse (Lightsey et al., 2013), with dissociation being prevalent among those who experienced emotional neglect and sexual abuse (Kate et al., 2021).

Dissociation was introduced by Janet (1907) to describe the disconnection of memory or awareness during intense stress. It is considered a coping mechanism to separate oneself from thoughts, emotions, and memories by exhibiting features such as memory loss, depersonalization, derealization, identity confusion, and identity alteration when confronted with stress or trauma (Steinberg & Schnall, 2010). Extensive research highlights its prevalence in children and adolescents subjected to severe stress and sexual, physical, or psychological abuse and provides evidence that traumatic experiences are closely associated with dissociation (Fung et al., 2019; Ródenas-Perea et al., 2023; Tschoeke et al., 2021). While there is evidence supporting the traumatogenic model (Dalenberg et al., 2012), which poses that dissociation is the product of CT, the precise psychological mechanisms that mediate this association remain insufficiently explored. Specifically, how CT translates into adult dissociative experiences remains a subject requiring further investigation.

Satisfaction with life (SWL) is a key metric within the domain of mental health assessment and predicts longevity (Lightsey et al., 2013). Life satisfaction represents an individual's comprehensive evaluation of their own life experience (Diener et al., 2013). Studies have unveiled a compelling link between CT and a decline in life satisfaction, accompanied by reduced psychological and social well-being (Buccioli & Zarri, 2020). Although Xiang and colleagues (Xiang et al., 2021) explored the intermediate pathways with emotional intelligence and positive-negative affect through which childhood maltreatment influences life satisfaction, there remains not much known about the potential mediators within this association.

Childhood traumatic experiences may also play a role in developing an individual's attitude towards seeking psychological help. CT may lead to a negative attitude toward seeking psychological help due to mistrust or fear of re-traumatization. Adults who experienced childhood abuse and neglect are more likely to hold negative attitudes toward seeking psychological help (Schomerus et al., 2021). Gulliver and colleagues (2010) reported that adults with a history of childhood abuse were less inclined to seek help for mental health issues and exhibited more negative attitudes toward therapy. These negative attitudes toward psychological help among CT survivors are

unfortunate, as help-seeking behaviors are positively associated with mental well-being (Gorczynski et al., 2020).

Emotion regulation as mechanism

ER refers to various adaptive and maladaptive processes through which individuals attempt to control and manage their flow of emotions to accomplish their needs and goals (Gross, 2013). SDT classifies three styles of ER. The first is integrative ER, which involves both an awareness and openness to one's emotions and the capacity to manage these emotional experiences volitionally. This integrative style is considered an adaptive form of ER within the SDT and is related to improved mental health (2019). In contrast, SDT classifies two other ER strategies (i.e., suppression and dysregulation) as maladaptive. Emotion suppression involves minimizing or avoiding negative emotions, whereas emotion dysregulation refers to the inability to control one's emotions (Brenning et al., 2022). Gruhn and Compas (2020) revealed that child maltreatment is related to difficulties in the effective management of emotions through increased emotion suppression and expression of negative emotions in response to stress. Similarly, maladaptive interpersonal ER strategies (i.e., dysregulation and suppression) mediated the association between exposure to multiple types of CT and PTSD (Doba et al., 2022). A clear connection also exists between emotion suppression and reduced mental and social well-being (Chervonsky & Hunt, 2019). According to a systematic review and a meta analysis childhood adversity is positively associated with difficulties in regulating emotions. These difficulties, in turn, are positively associated with psychopathology (Miu et al., 2022; Villalta, L. et al., 2018).

Basic psychological needs as mechanism

The basic psychological needs theory consists of the three core psychological needs: autonomy, relatedness, and competence. These needs are considered essential for human thriving, and when frustrated, can lead to maladjustment and even psychopathology (Deci & Ryan, 2000; Van der Kaap-Deeder, J., 2023). Autonomy satisfaction refers to feeling a sense of choice, whereas frustration of this need is characterized by feelings of pressure. Relatedness satisfaction involves warmth and connection with others, with frustration referring to experiencing social exclusion and rejection. Competence satisfaction pertains to a sense of effectiveness, with competence frustration being characterized by feelings of failure (Ryan & Deci, 2017). In line with SDT, CT could represent need-thwarting experiences that promote ill-being. Individuals who grow up in stable and nurturing environments where these basic needs are met may cultivate increased life satisfaction, a positive attitude to seek psychological help and adaptive coping strategies. Conversely, those

facing challenges in satisfying these fundamental needs may be more vulnerable to the detrimental impact of CT on their psychological well-being. Thus, it is proposed that basic psychological needs provide an additional explanatory factor besides ER in developing psychopathological features after experiencing CT (van der Kaap-Deeder et al., 2021). However, research on the exploratory role of basic psychological needs in the effects of CT is scarce, and no study has thus far examined the basic psychological needs as possible mechanisms in the relation between CT and adult psychological functioning.

Emotion regulation and basic psychological needs

Based on SDT, the relationship between ER and basic psychological needs is bidirectional. The use of integrative ER is expected to lead to need satisfaction by enabling individuals to navigate emotionally challenging situations while staying true to their sense of self (autonomy), to understand and use their emotional responses constructively (competence), and to openly share their emotions (relatedness). Conversely, maladaptive ER strategies (suppression and dysregulation) are expected to lead to greater need frustration by declining the individuals' sense of autonomy and questioning their ability to manage emotions effectively (incompetence). It also impedes open communication (suppression) and heightened emotional responses (dysregulation), both of which can frustrate the need for relatedness. Thus, different strategies lead to varying levels of need fulfillment, highlighting the complex interplay between ER, psychological needs, and mental health outcomes (Brenning et al., 2022).

Research has demonstrated a link between ER and need-based experiences, which subsequently influence psychological functioning. For instance, high levels of emotion suppression and dysregulation are associated with greater internalizing and externalizing problems and borderline personality features through need frustration, in both non-clinical and clinically referred adolescents (Brenning et al., 2022; Van der Kaap-Deeder et al., 2021). Moreover, Benita and colleagues (2020) found that need satisfaction and frustration acted, respectively, as mediators in the positive link between integrative ER and well-being and emotion suppression and decreased well-being. These findings suggest that ER strategies and satisfaction or frustration of basic psychological needs are interconnected.

The present study

The findings reported above support the notion that CT is associated with more ill-being (e.g., dissociation), less well-being (e.g., life satisfaction), and a more negative attitude towards seeking psychological help. However, less is known regarding the possible mechanisms in these relations. Besides the link with CT, examining dissociation, life satisfaction, and individuals' attitude

towards seeking psychological help as outcomes are crucial as maladaptive ER and need frustration have been positively linked to dissociation (Cavicchioli et al., 2021), while need satisfaction and adaptive ER are associated with greater life satisfaction (Shouket, 2020), and emotional expressiveness has been positively associated with attitude to seek psychological help (Chan et al., 2019). Additionally, although SDT has been applied across many contexts, a thorough examination of its usefulness in explaining the effects of CT is missing. Given the importance of the psychological needs for individuals' psychological functioning and the previously established link between CT and ER, this study aimed to integrate the literature on CT and SDT by examining two mechanisms: the basic psychological needs and ER. Such an examination is crucial to determine both the unique and shared predictive value of these possible underlying paths in the relation between CT and psychological functioning, which can inform the development of interventions for CT survivors. In line with SDT, we hypothesized that

- (1) CT would relate positively to maladaptive ER (i.e., dysregulation and suppression) and need frustration while relating negatively to integrative ER and need satisfaction.
- (2) Maladaptive ER and need frustration would relate positively to dissociation and negatively to life satisfaction and attitude toward seeking psychological help, with integrative ER and need satisfaction showing an opposite pattern of relations.
- (3) CT would have direct and indirect associations through ER and basic psychological needs with dissociation, life satisfaction, and attitude to seek psychological help.

Method

Participants

Participants consisted of 489 young adults (30.1% male; 68.7% female; 1.2% non-binary) from Italy aged between 18 and 30 years ($M_{age} = 23.65$; $SD = 3.53$). Of these, 80.0% of participants were living with their parents, 12.7% alone, 5.7% with a partner, and 1.6% with a partner and children. Regarding the highest obtained education level, 5.6% had completed their elementary school, 45.6% had a middle school diploma, 33.1% completed a high school diploma, 13.1% held master's, and 2.5% held a doctorate degree.

Procedure

The study employed a cross-sectional design, facilitated through an online survey format. Data collection was achieved through convenience sampling by

recruiting young adults from Italy as participants. Recruitment efforts included on-campus outreach and dissemination through social media platforms, with a primary focus on Instagram, where young adults were provided with detailed information regarding the study's aims and significance. Google Forms was used as a primary tool for data collection. When following the link to the study, participants accessed a welcome page. On this page, respondents were briefed about the survey, thereby emphasizing that participation was voluntary and anonymous and that they could stop filling out the survey at any point. At the end of the welcome page, informed consent was obtained before they proceeded to complete the questionnaire. Ethical approval was granted by the Ethics Committee of the University of Campania Luigi Vanvitelli 23/2022.

Measures

Childhood trauma

CT was assessed using the Childhood Trauma Questionnaire – Short Form (CTQ-SF; Bernstein et al., 1994; Sacchi et al., 2018). The CTQ-SF is a 28-item self-report questionnaire that assesses sexual, physical, and emotional abuse and physical and emotional neglect as experienced during childhood. Items (e.g., “I had to wear dirty clothes”) were rated on a five-point Likert scale ranging from 1 (*Never True*) to 5 (*Very Often True*). All items were averaged to generate a total score of CT. The current study's CTQ-SF total score displayed good internal consistency with a Cronbach's alpha of .84.

Emotion regulation

The Emotion Regulation Inventory (ERI; Roth et al., 2019) was used to assess three ER strategies: Emotion integration (e.g., “I carefully examine my negative emotions to understand their origins;” 7 items), emotion suppression (e.g., “I almost always try not to express my negative emotions;” 7 items), and emotion dysregulation (e.g., “My ability to function and do things decreases greatly when I feel negative emotions;” 6 items). Items were rated on a five-point Likert scale ranging from 1 (*Completely Disagree*) to 5 (*Completely Agree*). All three subscales were found to be reliable, with Cronbach's alpha coefficients for dysregulation at .88, suppression at .91, and integration at .94.

Basic psychological need satisfaction and frustration

The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015; Costa et al., 2018) was administered to assess participants' satisfaction and frustration of the basic psychological needs. The BPNSFS consists of 24 items (8 items per need), with 12 items tapping into need

satisfaction (e.g., “I feel a sense of choice and freedom in the things I undertake;” autonomy satisfaction), and 12 items tapping into need frustration (e.g., “I have serious doubts about whether I can do things well;” competence frustration). Items were rated on a five-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) and averaged separately for need satisfaction and frustration. In the current study, Cronbach’s alpha coefficients for need satisfaction and frustration were .92 and .88, respectively.

Dissociation

The Brief Dissociative Experiences Scale (DES-B; Dalenberg et al., 2012) was used to measure the phenomena of dissociative experiences, which do not necessarily reflect pathological dissociation. The DES-B consists of eight items (e.g., “I find myself staring into space and thinking of nothing”) which were rated on a five-point Likert scale: 0 (*Not at all*); 1 (*Once or twice per week*); 2 (*Almost every day*); 3 (*About once a day*); 4 (*More than once a day*). Cronbach’s alpha of the Brief Dissociative Experiences Scale was .88.

Life satisfaction

The Satisfaction with Life Scale (SWLS; Diener et al., 1985, 2013) was used to measure life satisfaction as a whole on a subjective cognitive-judgmental level. It is a five-item scale (e.g., “In many ways my life is close to my ideal”) with items rated on a seven-point scale ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The scale exhibited a good Cronbach’s alpha coefficient of .91.

Attitudes toward seeking professional help

The 10-item Attitudes Toward Seeking Professional Help – Short Form (ATSPPH-SF; Fischer & Farina, 1995) was used to measure general attitudes toward seeking professional help for mental health issues. Items (e.g., “Personal and emotional troubles, like many things, tend to work out by themselves;” reversed scored) were rated on a four-point Likert scale ranging from 0 (*Disagree*) to 3 (*Agree*). Cronbach’s alpha was .79.

Plan of analyses

Descriptive statistics, correlations, and preliminary analyses were conducted with the statistical software IBM SPSS. To examine the effects of the background variables (i.e., age, gender, and level of education), a multivariate covariance (MANCOVA) analysis was conducted with all the study variables as dependent variables. The open-source software R (R Core Team, n.d.) with

the implementation of the Lavaan package (Rosseel, 2012) was used to test the hypothesized model with the integration of the bootstrapping approach to test the indirect associations.

Results

Descriptive and preliminary analyses

To shed light on the associations between the study variables, Pearson correlation coefficients displayed in Table 1 showed that CT related positively to emotion dysregulation, emotion suppression, need frustration, and dissociation, while being negatively associated with emotion integration, need satisfaction, life satisfaction, and attitude towards seeking psychological help. Furthermore, emotion dysregulation showed a positive correlation with emotion suppression, frustration, and dissociation, but related negatively to need satisfaction and life satisfaction. Emotion suppression was positively associated with frustration and dissociation while relating negatively to emotion integration, need satisfaction, life satisfaction, and attitude toward psychological help. Emotion integration was positively correlated with need satisfaction, life satisfaction, and attitude to seek psychological help, whereas it revealed a negative correlation with need frustration and dissociation. Moreover, need satisfaction was positively associated with life satisfaction and attitude to seek psychological help, whereas it related negatively to basic need frustration and dissociation. Finally, there was a positive association of need frustration with dissociation and a negative relation with life satisfaction and attitude toward psychological help.

Preliminary analyses

Preliminary analyses were performed to examine the relation between the background characteristics and the study variables. Specifically, a MANCOVA was conducted with gender as a fixed factor, age and education as covariates, and CT, psychological basic needs, emotion dysregulation, emotion suppression, emotion integration, dissociation, life satisfaction, and attitude to seek psychological help as outcomes. Results showed that age (Wilks' $\Lambda = 0.96$, $F(9, 471) = 1.87$, $p < .05$, $\eta^2 = .035$), gender (Wilks' $\Lambda = .90$ ($F(9, 471) = .89$, $p < .001$, $\eta^2 = .106$), and education (Wilks' $\Lambda = .96$ ($F(9, 471) = 2.45$, $p < .01$, $\eta^2 = .045$) were significantly related to the outcomes. Specifically, age was related positively to CT ($p = .03$), dissociation ($p < .01$), and attitude to seek psychological help ($p = .04$), whereas educational level was positively related to emotion dysregulation ($p = .002$), emotion suppression ($p = .01$), attitude toward seeking psychological help ($p = .02$), need satisfaction ($p = .01$), need frustration ($p = .01$) and dissociation ($p = .001$). Further, men

Table 1. Descriptives of and correlations between the study variables.

	M	SD	Min	Max	Skew	Kurt	1	2	3	4	5	6	7	8
(1) Childhood trauma	1.73	0.41	1	4	2.20	6.75	-							
(2) Emotion dysregulation	3.58	1.47	1	7	0.35	-0.66	.31**	-						
(3) Emotion suppression	3.67	1.56	1	7	0.22	-0.95	.15**	.18**	-					
(4) Emotion integration	5.27	1.49	1	7	-0.68	-0.48	-.14**	-.07	-.21**	-				
(5) Basic need satisfaction	3.84	0.76	1	5	-0.88	0.80	-.45**	-.31**	-.16**	.47**	-			
(6) Basic need frustration	2.27	0.79	1	5	0.64	0.06	.43**	.46**	.33**	-.27**	-.63**	-		
(7) Dissociation	1.30	0.77	0	4	0.63	0.15	.34**	.37**	.34**	-.15**	-.32**	.43**	-	
(8) Life satisfaction	3.70	1.49	1	7	0.04	-0.82	-.38**	-.34**	-.15**	.36**	.64**	-.51**	-.32**	-
(9) Attitude toward psychological help	2.24	0.53	0	3	-1.17	1.06	-.12**	-.06	-.26**	.34**	.22**	-.17**	-.17**	.18**

N = 489; M = Mean; SD = Standard deviation; Min = minimum; Max = Maximum; Skew = Skewness; Kurt = Kurtosis.

**p < .01.

($M = 4.18$) reported higher levels of emotion suppression ($p < .01$) than women ($M = 3.45$), whereas women ($M = 2.32$) scored higher on attitude to seek psychological help ($p < .01$) than men ($M = 2.03$). Based on these analyses, we controlled participants' gender, age, and level of education in the main analyses.

As 80.0% of the participants lived with their parents and parents often play an important role in their child's CT (Flaherty, 2006), a supplementary analysis was conducted to assess the differences in participants' responses to the study variable based on their family structure (i.e., living with or without parents). Furthermore, we examined whether the frequencies of the different types of CT, as found in this study, were comparable to previous studies in the Italian context. Results of both analyses can be found in the Supplementary Materials.

Primary analyses

Mediation analyses were conducted to examine the relations from CT to dissociation, life satisfaction, and attitudes toward seeking psychological help through ER strategies, need satisfaction and frustration. A saturated model was tested (Figure 1; see direct associations in Table 2), and results showed CT to be positively associated with emotion dysregulation, emotion suppression, and need frustration while relating negatively to emotion integration and need satisfaction. Additionally, CT, emotion dysregulation, emotion suppression, and need frustration were related to higher levels of dissociation. Regarding life satisfaction, emotion dysregulation and need frustration were found to be

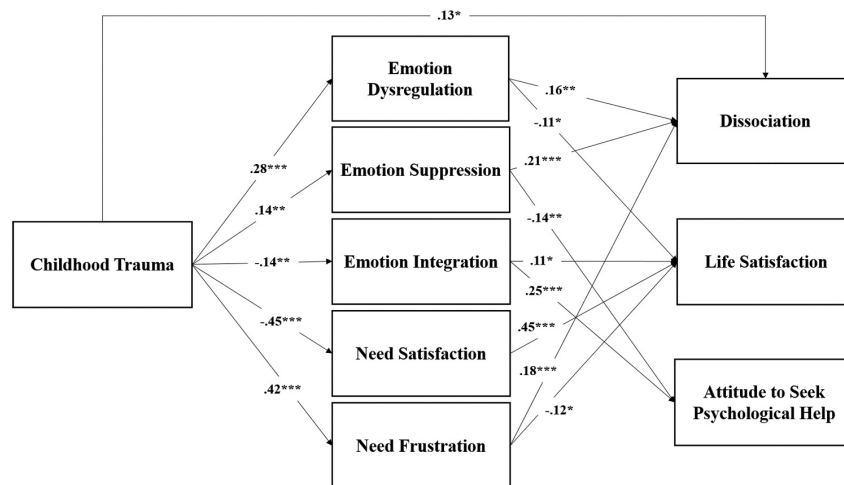


Figure 1. Standardized regression coefficients of the relations between childhood trauma and psychological functioning through emotion regulation strategies and basic psychological needs. For reasons of clarity, only significant coefficients are reported. The paths from age, gender and education are not reported. Covariances between variables are not reported. Standardized values are reported. *** $p < .001$, ** $p < .01$, * $p < .05$.

Table 2. Coefficients of the direct effects of the hypothesized model.

Direct Effect	<i>b</i>	<i>p</i>	95%CI		β
			LL	UL	
<i>Emotion dysregulation</i>					
Childhood trauma	.99	<.001	.69	1.32	.28***
Education	-.21	.012	-.38	-.05	-.13*
Age	-.03	.167	-.07	.01	-.07
Gender	.08	.544	-.17	.33	.03
<i>Emotion suppression</i>					
Childhood trauma	.52	.001	.20	.83	.14**
Education	-.22	.026	-.42	-.03	-.12*
Age	-.02	.325	-.07	.02	-.05
Gender	-.72	<.001	-1.01	-.42	-.22***
<i>Emotion integration</i>					
Childhood trauma	-.52	.003	-.88	-.18	-.14**
Education	.03	.764	-.15	.20	.02
Age	.02	.299	-.02	.06	.05
Gender	.38	.006	.10	.65	.12**
<i>Need satisfaction</i>					
Childhood trauma	-.83	<.001	-1.06	-.62	-.45***
Education	.07	.126	-.02	.15	.08
Age	.00	.956	-.02	.02	.00
Gender	.15	.025	.01	.28	.09*
<i>Need frustration</i>					
Childhood trauma	.81	<.001	.61	1.03	.42***
Education	-.10	.021	-.18	-.02	-.11*
Age	.00	.867	-.02	.02	-.01
Gender	-.13	.058	-.26	.01	-.08
<i>Dissociation</i>					
Emotion dysregulation	.08	.001	.04	.14	.16**
Emotion suppression	.10	<.001	.06	.15	.21***
Emotion integration	.00	.954	-.05	.04	-.00
Need satisfaction	-.04	.553	-.16	.08	-.04
Need frustration	.18	.002	.06	.29	.18**
Childhood trauma	.25	.013	.06	.46	.13*
Education	-.09	.037	-.17	-.01	-.10*
Age	-.02	.032	-.04	.00	-.10*
Gender	.10	.121	-.03	.21	.06
<i>Life satisfaction</i>					
Emotion dysregulation	-.11	.011	-.20	-.03	-.11*
Emotion suppression	.01	.718	-.06	.08	.01
Emotion integration	.11	.010	.03	.19	.11*
Need satisfaction	.87	<.001	.67	1.06	.45***
Need frustration	-.24	.020	-.43	-.04	-.12*
Childhood trauma	-.25	.068	-.52	.01	-.07
Education	.02	.794	-.12	.15	.01
Age	.01	.620	-.03	.05	.02
Gender	-.17	.120	-.38	.05	-.06
<i>Attitude to seek psychological help</i>					
Emotion dysregulation	.01	.575	-.03	.04	.03
Emotion suppression	-.05	.002	-.08	-.02	-.14**
Emotion integration	.09	<.001	.06	.12	.25***
Need satisfaction	.03	.419	-.05	.12	.05
Need frustration	.01	.756	-.07	.10	.02
Childhood trauma	-.07	.310	-.19	.06	-.05
Education	.06	.103	-.01	.13	.09
Age	.01	.123	.00	.03	.08
Gender	.21	<.001	.12	.31	.19***

b = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; β = standardized regression coefficient.
 ****p* < .001; ***p* < .01; **p* < .05.

Table 3. Coefficients of the indirect effects of the hypothesized model.

Indirect Effect of Childhood Trauma (CT)	<i>b</i>	<i>p</i>	95%CI		β
			<i>LL</i>	<i>UL</i>	
<i>Indirect effect VIA Emotion dysregulation</i>					
CT → Dissociation	.08	.004	.03	.15	.04**
CT → Life satisfaction	-.11	.022	-.22	-.02	-.03*
CT → Attitude to seek psychological help	.01	.586	-.03	.05	.01
<i>Indirect effect VIA Emotion suppression</i>					
CT → Dissociation	.05	.006	.02	.10	.03**
CT → Life satisfaction	.01	.730	-.03	.05	.00
CT → Attitude to seek psychological help	-.02	.027	-.05	-.01	-.02*
<i>Indirect effect VIA Emotion Integration</i>					
CT → Dissociation	.00	.957	-.03	.03	.00
CT → Life satisfaction	-.06	.064	-.13	-.01	-.02
CT → Attitude to seek psychological help	-.05	.010	-.09	-.02	-.04*
<i>Indirect effect VIA Need satisfaction</i>					
CT → Dissociation	.03	.559	-.07	.14	.02
CT → Life satisfaction	-.72	<.001	-1.00	-.48	-.20***
CT → Attitude to seek psychological help	-.03	.437	-.11	.04	-.02
<i>Indirect effect VIA Need frustration</i>					
CT → Dissociation	.15	.005	.05	.25	.08**
CT → Life satisfaction	-.19	.030	-.38	-.03	-.05*
CT → Attitude to seek psychological help	.01	.761	-.06	.09	.01
<i>Total effect</i>					
CT → Dissociation	.56	<.001	.39	.75	.30***
CT → Life satisfaction	-.24	.131	-.54	.06	-.02
CT → Attitude to seek psychological help	.05	.576	-.12	.22	-.01

CT = Childhood Trauma; *b* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; β = standardized regression coefficient.
 ****p* < .001; ***p* < .01; **p* < .05.

negatively related, whereas emotion integration and need satisfaction were positive predictors. Finally, emotion integration was positively and emotion suppression was negatively related to attitude toward seeking psychological help.

An examination of the indirect associations (Table 3) showed that CT was associated with dissociation, life satisfaction, and attitude to seek psychological help through ER and basic psychological needs. Specifically, results revealed that CT was associated with more dissociation through emotion dysregulation, emotional suppression, and need frustration. CT is indirectly related to less life satisfaction through emotion dysregulation, emotion integration, need frustration, and need satisfaction. Furthermore, CT is also indirectly related to attitude toward seeking psychological help through emotion suppression and emotion integration.

Discussion

This study focused on identifying mechanisms in the association between CT and young adults’ psychological functioning by utilizing the SDT as

a theoretical framework. Only a few studies have investigated the pathways connected to the well-documented negative effects of CT on psychological health, with no previous study focusing on basic psychological needs. Therefore, our objective was to examine the relations from CT to dissociation, life satisfaction, and attitude toward seeking psychological help, in a nonclinical population, by emphasizing the potential mediating role of ER and psychological needs. Consistent with our proposed hypotheses, the results of structural equation modeling indicated indirect pathways from CT to the outcomes through ER strategies and basic psychological needs.

In line with our first hypothesis, CT was found to be related to higher levels of emotion dysregulation, emotion suppression, and need frustration, and lower levels of emotion integration and need satisfaction. This is consistent with earlier findings on the detrimental effects of CT on ER, such as increased emotion dysregulation, emotion suppression, and overall ER difficulties (Miu et al., 2022). In contrast to earlier research, this study employed the SDT taxonomy for ER strategies with a unique focus on emotion integration. We found a negative relation between CT and emotion integration, indicating that individuals who have experienced traumatic events as a child are less aware of and open to their emotions and have difficulties choosing a strategy to regulate such emotions volitionally. Exposure to CT could reduce reflective and exploratory attitudes toward one's emotional world, which may impede the acceptance or validation of emotional experiences and hinder the development of emotion integration (Roth et al., 2019). Moreover, the findings showed that CT had a negative and positive association with basic need satisfaction and basic need frustration, respectively (Li et al., 2016). This is also a key finding for applying the SDT framework in the context of CT (Ryan & Deci, 2017). This result supports the notion that CT can be conceptualized as a need-thwarting experience that not only fosters need frustration, emotion dysregulation, and suppression but also impedes the fulfillment of basic needs and the integration of emotions.

Consistent with the second hypothesis, our findings showed that maladaptive ER and need frustration were positively related to dissociation and negatively associated with life satisfaction and attitude toward seeking psychological help. Conversely, integrative ER was positively associated with life satisfaction and attitudes toward seeking help, and need satisfaction was positively associated with life satisfaction only. The links between maladaptive ER and the outcome variables are in line with previous studies and support the validity of the taxonomy proposed by SDT, showing that individuals who are overwhelmed by their emotional experiences or suppress them tend to use dissociation as a compensatory response (Cavicchioli et al., 2021), experience reduced well-being (Gross & John, 2003) and could develop difficulties in seeking help (Limowski et al., 2023). Similarly, the negative and positive association of, respectively, need frustration and need satisfaction with life

satisfaction is coherent with SDT's literature that considers these processes important for personal well-being (Benita et al., 2020). In addition, this study identified for the first time a positive association between integrative ER and the attitude toward seeking help, which aligned with the notion that higher emotional awareness makes it easier to grasp the signs of personal discomfort, facilitating the tendency to ask for help (Ward-Ciesielski et al., 2019). Finally, we found that need frustration and need satisfaction were associated with higher and lower levels of dissociation, respectively. According to SDT, dissociation could be considered a compensatory behavior characterized by releasing self-control, which is generally present in conditions of need frustration (Vansteenkiste & Ryan, 2013).

Lastly, regarding the third hypothesis, we found that CT is indirectly related to higher levels of dissociation through high emotion dysregulation, emotion suppression, and need frustration. This indirect association aligns with earlier findings (Nester et al., 2022), highlighting how both maladaptive ER strategies and the frustration of basic needs mediate the link between need-thwarting experiences and psychopathology. This is pertinent, as dissociation is recognized as a transdiagnostic symptom of psychopathology (Ellickson-Larew et al., 2020), and also reinforces the trauma-based model (Dalenberg et al., 2012) by offering a new perspective on how ER and basic needs could be involved in the association between trauma and dissociation. Freyd's betrayal trauma theory provides a compelling theoretical framework to elucidate our findings. Freyd's (1996) betrayal trauma theory suggests that individuals use dissociation as a coping mechanism to forget distressing details related to trauma and remain close to the abusive caregiver. It offered a strong link between trauma, emotional numbing, and dissociation (Freyd, 1994). This theoretical perspective aligns with the significant direct link observed between CT and dissociation and the significant indirect associations mediated by emotion suppression and dysregulation.

Regarding the mediational role of the needs, CT may result in the development of a sense of oppression (autonomy frustration), inadequacy (competence frustration), and isolation (relatedness frustration). However, it might also lead to the development of an overwhelming and unmanageable dysregulated emotional state. All these processes could activate a defensive response in the form of dissociation. However, they could also reduce life satisfaction as revealed by the indirect associations of CT with less life satisfaction through higher emotion dysregulation, higher need frustration, and lower need satisfaction. Additionally, emotion integration mediated the relationship between CT and lower life satisfaction. CT was also indirectly related to a less positive attitude toward seeking psychological help through higher emotion suppression and less emotion integration, which is also in line with previous findings (e.g., Ward-Ciesielski et al., 2019). These results suggest that experiencing CT could result in poorer emotional health. Trauma may create a context where

individuals feel compelled to suppress their emotions in response to intense distress, potentially resulting in dissociation and a reluctance to seek help from others. Additionally, this can hinder an individual's capacity to comprehend and feel their own emotions, negatively affecting their well-being and reducing their likelihood of seeking help. Finally, the only significant direct association we found was between CT and dissociation, with further research needed to further explore (possible mechanisms of) this relation.

Limitations and suggestions for future research

An important limitation of this study was the use of convenience sampling, primarily involving healthy university young adults from Italy. This could lead to self-selection bias that restricts our findings' generalizability, especially in the clinical context. However, in our study, the mean score of CT trauma on various subscales was comparable to the general Italian population (Sacchi et al., 2018). Nonetheless, our results primarily aligned with previous research on clinical samples (Bertule et al., 2021; Kate et al., 2021), although those studies did not examine the psychological needs. Therefore, replication of the findings in the clinical or non-clinical population with random sampling would be desirable.

Another limitation of the study is the gender-imbalanced sample, which limits our ability to explore gender differences. Epidemiological research indicates the varying rates of abuse and trauma experiences between genders (Fortson et al., 2016). Given that SDT assumes the concept of "universality without uniformity" (Bülow et al., 2022), future research could be focused on exploring possible gender differences in the relation between CT and psychological well-being.

Additionally, the study's cross-sectional and correlational design limits our understanding of the long-term associations of and the causality between the variables. Thus, future longitudinal and experimental studies will be necessary for a more comprehensive investigation of the magnitude and temporal dynamics of adverse effects resulting from CT (Abajobir et al., 2017).

Furthermore, a longitudinal study investigating the interaction between ER strategies and basic psychological needs, aimed to clarify their sequence of influence, could provide a more nuanced understanding of outcomes associated with CT.

A final limitation of this study is the use of retrospective self-reports concerning CT, where deficits in memory and social desirability could influence participants' responses about their past experiences. Combining self-reported data with other forms of data collection, such as clinical interviews or third-party reports, could provide a more comprehensive and accurate picture of the participants' experiences across time.

Implications

This study points out the relevance of applying SDT in understanding the impacts of CT, highlighting the further exploration of the basic needs and ER strategies in the development of maladaptive psychological functioning among young adults. Future studies could delve into investigating sub-types of CT and their differential impact on the level of dissociation, life satisfaction, and attitudes toward seeking help through identified potential mediators.

Although our results stem from a non-clinical sample, the established link between CT and dissociation in psychiatric pathology underscores the significance of our results. The potential role of ER and basic needs in this study suggests that therapeutic interventions that promote adaptive ER and basic need satisfaction could benefit individuals with dissociative experiences with a history of CT. This study provides valuable insights for developing targeted interventions that could reduce dissociation, increase life satisfaction, and encourage a more positive attitude toward seeking psychological help (Silberg, 2021). It also suggests the potential for developing preventive and educational programs based on SDT to alleviate the long-term effects of need-thwarting experiences and support mental health, in general populations. However, considering that our findings are derived from a non-clinical sample, the application of these interventions, especially in clinical settings, should be approached cautiously and validated further.

Conclusion

Our findings show for the first time that both ER and basic psychological needs could be mechanisms in the relation between CT and poor psychological functioning, specifically heightened dissociation, reduced life satisfaction, and negative attitude toward seeking psychological help. The findings reinforce the importance of integrating SDT into our understanding of trauma's aftermath, particularly in how unmet basic needs and maladaptive ER can lead to profound psychological consequences. Future research, both longitudinal and clinical samples, is needed to establish the dynamic interplay between these constructs and the generalizability of the current findings.

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Data availability statement

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

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