



# Longitudinal Association Between Childhood Psychological Maltreatment, Optimism, Positive Self-Beliefs, and Psychological Symptoms

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## Abstract

Extensive empirical evidence has demonstrated the detrimental impact of childhood psychological maltreatment on psychological functioning in later life. Nevertheless, the protective factors that may mediate these adverse effects over time remain insufficiently explored. A comprehensive understanding of such mechanisms is critical for informing the development of targeted prevention and intervention strategies aimed at mitigating the negative outcomes associated with early maltreatment. This longitudinal study examined the mediating role of optimism and positive self-beliefs in the relationship between childhood psychological maltreatment and psychological symptoms in young adults. The sample comprised 343 Turkish young adults (64% female), aged between 17 and 46 years ( $M=21.24$ ,  $SD=4.61$ ), who completed online surveys at two time points approximately seven months apart. Structural equation modeling indicated that optimism and positive self-beliefs fully mediated the association between childhood psychological maltreatment and psychological symptoms. Initially, childhood psychological maltreatment was positively associated with psychological symptoms; however, this direct effect became non-significant upon inclusion of the mediators in the model. These findings underscore the critical role of optimism and positive self-beliefs as protective psychological resources that may reduce the long-term adverse effects of childhood psychological maltreatment among young adults.

**Keywords** Psychological maltreatment · Optimism · Positive self-beliefs · Psychological symptoms · Longitudinal study

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Depression, anxiety, and stress are considered serious public health problems that impose significant economic and social burdens at both individual and societal levels [1–4]. These conditions are generally conceptualized as psychological symptoms [5]. Depression is defined as a psychological disorder that negatively affects daily functioning and manifests through symptoms such as unhappiness, discontentment, intense sadness, pessimism, and hopelessness [6]. It is characterized by impairments in cognitive and social functioning and by reduced performance in both professional and social life [7]. Anxiety is a multidimensional experience involving behavioral, physiological, and cognitive responses. It is marked by symptoms such as panic and heightened sensitivity to uncertain threats [8]. While anxiety is characterized by physiological hyperarousal, depression is associated with a decrease in positive affect [9]. Stress is a broad concept encompassing various types of exposure and can be experienced either acutely or chronically [10].

Depression, anxiety, and stress are prominent psychological symptoms associated with emotional disturbances, mental exhaustion, and diminished well-being [11]. These conditions can lead to serious individual and societal consequences, including increased suicidal tendencies, relationship difficulties, burnout [12], poor sleep quality [13], and higher rates of smoking and alcohol consumption [14].

### Psychological Maltreatment

Given the wide-ranging biopsychosocial impact, identifying the factors that contribute to depression, anxiety, and stress has become a critical area of research. Numerous studies have examined variables associated with these symptoms. For example, one study found a significant positive association between high levels of psychological symptoms and impulsivity [15]. Research also shows that exposure to various types of disasters leads to increased levels of depression, anxiety, and stress [16, 17]. In addition, there is evidence that body image problems may play a role in the development of depression, anxiety, and stress [18, 19]. Moreover, exposure to negative life events, such as childhood maltreatment was associated with an increased risk of developing depressive symptoms over time [20].

Psychological maltreatment is recognized as one of the most prevalent forms of child abuse and neglect, representing a significant adverse childhood experience [21]. It encompasses a broad spectrum of harmful behaviors, including emotional abuse, emotional neglect, mental violence, and various other forms of emotional maltreatment [22]. A growing body of literature highlights the association between psychological maltreatment in childhood and long-term mental health problems [23], including enduring alterations in behavioral, cognitive, and psychological functioning [24].

Given the nature of psychological symptoms, psychological maltreatment is hypothesized to increase vulnerability to symptomatology [25]. Empirical findings support this assertion; for instance, emotional abuse, a subdimension of psychological maltreatment, has been shown to significantly predict elevated levels of depressive symptoms, along with social, physical, and generalized anxiety symptoms [26]. Furthermore, in the etiology of stress-related outcomes, genetic predisposition and maladaptive family environments—

mediated through disrupted social interaction processes—are considered significant contributors [27]. Individuals exposed to childhood maltreatment may experience heightened stress sensitivity and reduced coping capacity [28], potentially exacerbating negative emotional responses and contributing to adverse psychological outcomes [29].

Although substantial evidence links childhood psychological maltreatment to increased risk for depression and other psychological symptoms, the underlying mechanisms remain insufficiently understood. Therefore, elucidating the pathways through which early maltreatment exerts its long-term effects—particularly through longitudinal research—remains a critical direction for future investigation.

## **Optimism**

Optimism is defined as a cognitive orientation in which individuals expect positive developments to occur in their lives [30]. Optimistic individuals tend to perceive positivity in various aspects of life, approach the future with confidence, and sustain hope even in the face of adversity [31]. In optimistic explanatory styles, negative events are typically attributed to temporary, external, or situational factors that are limited in scope and unlikely to affect other areas of life [32]. Although the lives of optimists are not free from challenges, they tend to resolve negative events more quickly and effectively compared to their less optimistic counterparts [33]. This effective coping ability may contribute to their greater psychological well-being, particularly under conditions of stress or threat [34].

Optimism exerts a direct influence on emotional responses to adversity, shaping the spectrum of emotions individuals experience—from euphoria to anger and depression [35]. The expectation of positive outcomes, a hallmark of optimism, has been shown to reduce stress and anxiety [36]. Prior research has consistently demonstrated inverse associations between optimism and various psychological symptoms, including depression, anxiety, and stress [37–39]. Furthermore, earlier findings suggest that optimism plays a protective role when the psychological consequences of maltreatment are particularly severe [40]. The results of a recent study have shown that lower levels of optimism in adulthood are associated with negative childhood experiences [41].

Grounded in these findings, the present study examines the mediating role of optimism in the relationship between childhood psychological maltreatment and psychological symptoms. Specifically, we hypothesize—consistent with prior literature—that optimism may buffer the adverse effects of psychological maltreatment on mental health outcomes.

## **Positive Self-Beliefs**

Self-concept, self-esteem, and self-efficacy beliefs are interrelated components of self-perception that reflect individuals' evaluations of their own qualities and competencies [42]. Collectively, self-beliefs constitute a multidimensional construct encompassing perceived self-worth, beliefs about one's abilities, expectations for success, and self-directed behaviors [43]. Throughout life, individuals accumulate both positive and negative information about themselves. While positive self-beliefs are relatively easier to adopt, negative self-beliefs often prove more persistent and challenging to modify [44].

Positive self-beliefs may serve as an adaptive psychological resource that enables individuals to cope more effectively with life's challenges by helping them to focus on favor-

able aspects of daily experiences [45]. Empirical evidence supports their protective role in mental health. For instance, positive self-beliefs have been associated with lower levels of psychological distress [46]. Similarly, research has demonstrated that positive self-schemas are linked to reduced depressive symptoms and may buffer the impact of emotional maltreatment on depression by acting as a psychological protective factor [47].

Conversely, negative self-beliefs have been identified as a transdiagnostic feature across the course of depression and may be maintained by distinct cognitive and learning mechanisms [48]. Such maladaptive self-perceptions can contribute to the chronicity of depressive symptoms [49]. It has been proposed that depression may arise when negative self-beliefs impair an individual's ability to regulate emotional responses to adverse life events [50]. Supporting this view, recent evidence indicates a significant positive relationship between negative self-evaluation and emotional maltreatment [51].

Building on this body of research, the present study posits that positive self-beliefs may mediate the relationship between childhood psychological maltreatment and psychological symptoms. Specifically, it is hypothesized that individuals with more positive self-beliefs will demonstrate fewer adverse psychological outcomes in the context of early maltreatment.

## Present Study

Childhood experiences of maltreatment significantly increase the likelihood of developing serious mental health problems emerging later in life [52]. For instance, early-life maltreatment can create enduring vulnerabilities that may predispose individuals to various forms of psychopathology [53, 54]. Moreover, certain cognitive vulnerabilities may increase the risk of psychological symptoms through their effects on the processing or evaluation of personally relevant life experiences [55]. However, not all individuals exposed to childhood psychological maltreatment exhibit the same psychosocial outcomes [56]. Given this variability, further research is warranted to identify potential mediating variables that explain the association between childhood psychological maltreatment and psychological symptoms [57].

The activation of certain negative cognitions following adverse life events may contribute to the emergence psychological symptoms such as depression [58]. From this perspective, individuals who experienced challenging circumstances in childhood—such as domestic violence or poverty—may be more vulnerable to developing psychological symptoms when confronted with the demands and pressures of adulthood [59]. Consistent with previous findings, individuals who have had negative experiences with their parents in early life may also encounter difficulties in repairing or maintaining this relationship later on [60].

According to the broaden-and-build model, positive emotions and the expansive cognitive patterns they generate mutually reinforce one another, thereby enhancing emotional well-being [61]. In line with this framework, positive emotions have been shown to increase resilience and enable individuals to cope more effectively with psychological symptoms [62, 63]. From this theoretical perspective, cultivating positive personality traits such as optimism in adulthood may protect individuals who have experienced childhood psychological maltreatment from developing psychological symptoms such as depression [64]. Given the beneficial influence of positive self-beliefs on mental health [65], it may also be suggested that such beliefs function as an additional protective factor [66].

Within the framework of the relevant literature, the present study aimed to investigate the mediating roles of optimism and positive self-beliefs in the longitudinal relationship between childhood psychological maltreatment and psychological symptoms. Drawing upon theoretical frameworks and empirical evidence highlighting the protective functions of optimism and positive self-beliefs, this study sought to explore whether these constructs buffer the adverse psychological outcomes associated with early psychological maltreatment. Specifically, we examined whether optimism and positive self-beliefs mediate the impact of childhood psychological maltreatment on symptoms of depression, anxiety, and stress over time.

Based on the literature, the following hypotheses were proposed:

H1: Childhood psychological maltreatment at Time 1 (T1) will longitudinally predict lower levels of optimism at Time 2 (T2).

H2: Childhood psychological maltreatment at T1 will longitudinally predict lower levels of positive self-beliefs at T2.

H3: Optimism at T2 will be negatively associated with depression, anxiety, and stress at T2.

H4: Positive self-beliefs at T2 will be negatively associated with depression, anxiety, and stress at T2.

H5: Optimism and positive self-beliefs at T2 will mediate the longitudinal relationship between childhood psychological maltreatment at T1 and psychological symptoms (i.e., depression, anxiety, and stress) at T2.

## Method

### Participants

Data were collected through a web-based questionnaire administered at two distinct time points: Time 1 (T1) and Time 2 (T2), approximately seven months apart. At T1, 599 adults participated, and at T2, 506 adults responded. Following the data-matching process across both waves, the final sample consisted of 343 Turkish young adults from various regions of Türkiye who had completed both assessments. Of these, 272 (79.3%) were female and 71 (20.7%) were male. Participants ranged in age from 17 to 46 years ( $M=21.24$ ,  $SD=4.61$ ). Participants self-reported their socioeconomic status (SES) as low (12.8%), moderate (84.8%), or high (2.3%).

To facilitate longitudinal matching, participants were asked to provide memorable but anonymous identifiers, such as their primary school student number, the name of a primary school teacher, or a personal nickname. Despite these efforts, it was not possible to match all participant responses across both time points due to factors such as missing or inconsistent identifying information, changes in contact details, or incomplete survey responses.

The survey link was distributed via the authors' social media platforms (e.g. WhatsApp, Instagram, Facebook) to reach young adults from diverse regions of Türkiye. Before participation, all individuals received detailed information about the study's purpose and procedures and provided informed consent electronically. Participation was entirely voluntary,

with no incentives offered. The online survey software was programmed to require responses to all essential items prior to submission. As a result, the dataset contained no missing values, eliminating the need for listwise deletion or imputation procedures. Completion of the survey took approximately 15 min.

Ethical Approval for this study was obtained from the Social and Human Sciences Ethics Committee of Malatya Turgut Özal University. The study was conducted in accordance with the ethical standards set forth in the 1964 Declaration of Helsinki and its later amendments. All procedures adhered to recognized professional ethical guidelines throughout the research process.

## Measures

**Psychological Maltreatment Questionnaire–Short Form (PMQ).** The PMQ assesses parental behaviors related to childhood psychological maltreatment among Turkish adolescents and adults [67]. This 12-item self-report scale includes items such as: “My parent would threaten me with hurting someone or something I love.” Responses are rated on a 4-point Likert scale ranging from almost never (1) to almost always (4). Previous research has demonstrated strong internal reliability of the PMQ among Turkish adults [68]. In the present sample, the Cronbach’s alpha coefficient was 0.90, indicating excellent internal consistency.

**The Optimism and Pessimism Measure (OPM).** OPM was developed to assess optimism and pessimism among Turkish youth and adults. This 12-item, two-dimensional self-assessment scale evaluates both optimism and pessimism [69]. An example item is: “I hope many things will be better in the future.” Items are rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Previous studies have demonstrated strong internal reliability for both optimism and pessimism among Turkish adults [69]. In the present study, only the optimism subscale was utilized. The Cronbach’s alpha coefficient for this subscale in the current sample was 0.89, indicating strong internal consistency.

**Oxford Positive Self Scale (OxPos).** The OxPos is designed to assess positive self-related cognitions in adults [70]. The scale is an 8-item self-report measure, with items rated on a scale from 0 (do not believe) to 4 (completely believe). An example item is: “I am helpful.” Previous research has demonstrated strong internal reliability of the scale among Turkish adults [71]. In the present study, the Cronbach’s alpha coefficient was 0.92, indicating excellent internal consistency.

**Depression Anxiety Stress Scale-21 (DASS-21).** The DASS-21 is used to assess psychological symptoms by measuring depression, anxiety, and stress levels in adults [72]. The scale consists of 21 items, rated on a 4-point scale from 0 (never) to 3 (always). An example item is: “I found it difficult to relax.” Previous studies have demonstrated strong internal reliability of the scale among Turkish adults [73]. In the present sample, Cronbach’s alpha coefficients were 0.89 for the depression subscale, 0.84 for anxiety, and 0.88 for stress, indicating good internal consistency.

## Data Analysis

In this study, a structural model was tested to examine the mediating roles of optimism and positive self-beliefs in the relationship between childhood psychological maltreatment and

psychological symptoms. Specifically, the model examined the effects of childhood psychological maltreatment (Time 1) on optimism (Time 2) and positive self-beliefs (Time 2), as well as the effects of these variables on depression, anxiety, and stress (all measured at Time 2). The model was tested using longitudinal data, and directional relationships among the variables were analyzed accordingly.

Prior to testing the structural model, preliminary analyses were conducted to assess the normality assumption, the distribution characteristics of the scales, and the relationships among the variables. Normality was evaluated using skewness and kurtosis coefficients, with values below  $|1|$  considered indicative of an acceptable normal distribution [74, 75]. Based on these criteria, the distribution of all variables met the assumption of normality. Subsequently, Pearson correlation analyses were performed to examine the bivariate relationships among the study variables.

Following the preliminary analyses, structural equation modeling (SEM) was conducted to test the mediation model. Model fit was evaluated using the Tucker–Lewis Index (TLI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). TLI and CFI values between 0.90 and 0.95 were considered indicative of good fit, while an RMSEA value below 0.08 was interpreted as acceptable [76, 77]. The significance of indirect effects was determined by examining whether the value of zero was included in the 95% confidence interval, calculated using the bootstrap method with 5,000 samples. All analyses were performed using IBM SPSS and AMOS version 24.

## Results

### Preliminary Analyses

Preliminary analyses indicated that skewness values ranged from  $-0.76$  to  $0.70$ , and kurtosis values ranged from  $-0.56$  to  $0.08$ . These results suggest that all variables were normally distributed, as both skewness and kurtosis fell within the acceptable range of  $|1|$  [74, 75]. Additionally, the scales demonstrated adequate to strong internal consistency. As presented in Table 1, Cronbach's alpha coefficients ranged from 0.84 to 0.92.

**Table 1** Descriptive statistics and correlation results

Scale	1	2	3	4	5	6
1. CPM (T1)	–	–0.26**	–0.32**	0.29**	0.26**	0.22**
2. Optimism (T2)		–	0.56**	–0.48**	–0.38**	–0.39**
3. Positive self-beliefs (T2)			–	–0.43**	–0.37**	–0.38**
4. Depression (T2)				–	0.69**	0.77*
5. Anxiety (T2)					–	0.77**
6. Stress (T2)						–
Range	12–48	8–30	7–32	0–21	0–19	0–21
Mean	20.81	21.46	25.36	8.15	6.89	9.19
Standard deviation	6.92	4.92	5.90	5.09	4.55	4.82
Skewness	0.70	–0.15	–0.76	0.47	0.46	0.20
Kurtosis	0.08	–0.56	–0.07	–0.35	–0.41	–0.37
Internal reliability	0.90	0.89	0.92	0.89	0.84	0.88

CPM childhood psychological maltreatment. \*\* $p < .001$

To examine the relationships between childhood psychological maltreatment measured at Time 1 and the variables measured at Time 2, bivariate Pearson correlation analyses were conducted. Results indicated that childhood psychological maltreatment (T1) was significantly negatively correlated with optimism (T2;  $r=-.26, p<.001$ ) and positive self-beliefs (T2;  $r=-.32, p<.001$ ). In contrast, it was significantly positively correlated with depression (T2;  $r=.29, p<.001$ ), anxiety (T2;  $r=.26, p<.001$ ), and stress (T2;  $r=.22, p<.001$ ).

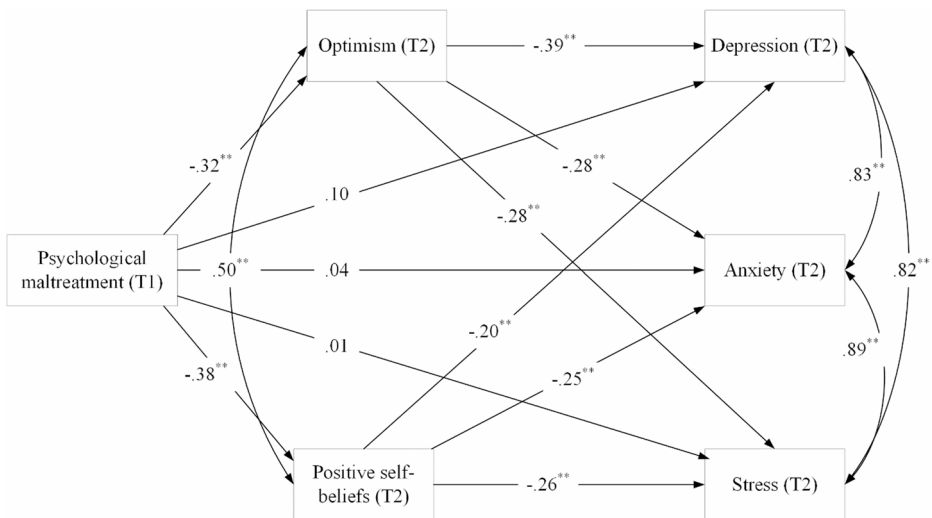
Optimism (T2) was positively correlated with positive self-beliefs (T2;  $r=.56, p<.001$ ) and negatively correlated with depression (T2;  $r=-.48, p<.001$ ), anxiety (T2;  $r=-.38, p<.001$ ), and stress (T2;  $r=-.39, p<.001$ ). Similarly, positive self-beliefs (T2) were negatively associated with depression (T2;  $r=-.43, p<.001$ ), anxiety (T2;  $r=-.37, p<.001$ ), and stress (T2;  $r=-.38, p<.001$ ).

Finally, at Time 2, strong positive correlations were observed between depression and anxiety ( $r=.69, p<.001$ ), depression and stress ( $r=.77, p<.001$ ), as well as anxiety and stress ( $r=.77, p<.001$ ). Descriptive statistics and correlation results are presented in Table 1.

### Structural Equation Modeling

Structural equation modeling (SEM) was conducted to evaluate the fit of the proposed longitudinal model and to examine the directional relationships among the variables. Specifically, the model assessed the effects of childhood psychological maltreatment (T1) on optimism (T2) and positive self-beliefs (T2), both measured approximately seven months later. It also examined the influence of optimism and positive self-beliefs on depression, anxiety, and stress at Time 2. A schematic representation of the tested structural model is presented in Fig. 1.

The model demonstrated an acceptable level of fit:  $\chi^2(480)=1016.46, p<.001$ ;  $\chi^2/df=2.12$ ; RMSEA=0.06 [90% CI=0.05–0.06]; CFI=0.91; TLI=0.90. These values indi-



**Fig. 1** The mediation model. Note.  $^{**}p<.001$ . Latent structures for psychological maltreatment and positive self-beliefs were identified based on their respective measure subscales. In contrast, latent variables for optimism, depression, stress, and anxiety were derived using their scale items

**Table 2** Standardized direct effects

Predictor	Outcome	$\beta$	SE	t	p
CPM (T1)	Optimism (T2)	-0.32	0.089	-3.59	<0.001
CPM (T1)	Positive self-beliefs (T2)	-0.38	0.098	-3.90	<0.001
CPM (T1)	Depression (T2)	0.10	0.062	1.62	>0.05
CPM (T1)	Anxiety (T2)	0.04	0.063	1.62	>0.05
CPM (T1)	Stress (T2)	0.01	0.089	0.16	>0.05
Optimism (T2)	Depression (T2)	-0.39	0.075	-5.19	<0.001
Optimism (T2)	Anxiety (T2)	-0.29	0.084	-3.45	<0.001
Optimism (T2)	Stress (T2)	-0.28	0.077	-3.62	<0.001
Positive self-beliefs (T2)	Depression (T2)	-0.20	0.074	-2.68	<0.01
Positive self-beliefs (T2)	Anxiety (T2)	-0.25	0.081	-3.05	<0.01
Positive self-beliefs (T2)	Stress (T2)	-0.26	0.079	-3.30	<0.001

CPM childhood psychological maltreatment

cate that the proposed model fits the data adequately. According to the standardized path coefficients, childhood psychological maltreatment at Time 1 had a significant negative effect on optimism at Time 2 ( $\beta = -0.32, t = -3.59, p < .001$ ), as well as on positive self-beliefs at Time 2 ( $\beta = -0.38, t = -3.90, p < .001$ ).

Optimism (T2) was found to significantly and negatively predict depression (T2;  $\beta = -0.39, t = -5.19, p < .001$ ), anxiety (T2;  $\beta = -0.29, t = -3.45, p < .001$ ), and stress (T2;  $\beta = -0.28, t = -3.62, p < .001$ ). Similarly, positive self-beliefs (T2) also had significant negative effects on depression (T2;  $\beta = -0.20, t = -2.68, p < .01$ ), anxiety (T2;  $\beta = -0.25, t = -3.05, p < .01$ ), and stress (T2;  $\beta = -0.26, t = -3.30, p < .001$ ). On the other hand, the direct effects of childhood psychological maltreatment (T1) on depression, anxiety, and stress at Time 2 were not statistically significant (depression:  $\beta = 0.10, t = 1.62, p > .05$ ; anxiety:  $\beta = 0.04, t = 0.62, p > .05$ ; stress:  $\beta = 0.01, t = 0.16, p > .05$ ). Detailed results are presented in Table 2.

The total effects (see Table 3) of childhood psychological maltreatment (T1) on depression, anxiety, and stress (T2) were significant before the inclusion of the mediating variables in the model (depression:  $\beta = 0.29$ ; anxiety:  $\beta = 0.22$ ; stress:  $\beta = 0.20$ ). However, after introducing optimism and positive self-beliefs as mediators, the direct effects of childhood psychological maltreatment on these psychological outcomes became non-significant. This suggests that the influence of childhood psychological maltreatment on these mental health symptoms operates indirectly, through its impact on optimism and positive self-beliefs. Accordingly, optimism and positive self-beliefs were found to fully mediate the relationships between childhood psychological maltreatment and depression, anxiety, and stress.

**Table 3** Standardized total effects

Predictor	Outcome	Total effect ( $\beta$ )
CPM (T1)	Depression (T2)	0.29
CPM (T1)	Anxiety (T2)	0.22
CPM (T1)	Stress (T2)	0.20

CPM childhood psychological maltreatment

**Table 4** Standardized indirect effects with bootstrap 95% confidence intervals

Pathway	Indirect Effect ( $\beta$ )	Lower	Upper
CPM (T1) $\rightarrow$ Depression (T2)	0.20	0.12	0.29
CPM (T1) $\rightarrow$ Anxiety (T2)	0.19	0.11	0.28
CPM (T1) $\rightarrow$ Stress (T2)	0.19	0.11	0.28

CPM childhood psychological maltreatment. Indirect effects were tested using bootstrapping with 5,000 resamples. Bias-corrected and accelerated confidence intervals (95% CI) are reported. All effects are statistically significant

Indirect effect analyses conducted using the bootstrapping method further supported these findings. The indirect effects of childhood psychological maltreatment on depression ( $\beta=0.20$ , %95 CI [0.12, 0.28]), anxiety ( $\beta=0.19$ , 95% CI [0.08, 0.25]), and stress ( $\beta=0.19$ , 95% CI [0.09, 0.26]) were all significant ( $p<.001$  for all paths) (see Table 4).

## Discussion

The present study investigated the longitudinal relationship between childhood psychological maltreatment and later psychological symptoms, with particular attention to the mediating roles of optimism and positive self-beliefs. Consistent with both previous and recent research, childhood psychological maltreatment was associated with enduring adverse mental health outcomes [20, 24, 51, 56]. However, not all individuals who experience psychological maltreatment in childhood go on to develop significant psychological symptoms in adulthood [40]. This variability suggests the potential presence of individual protective factors that may buffer against the long-term negative impact of such experiences.

By employing a longitudinal mediation design, the current study extends theoretical understanding beyond previous cross-sectional research by identifying optimism and positive self-beliefs as temporal mediators linking early maltreatment to later psychological well-being. This approach advances the literature by demonstrating that the consequences of childhood maltreatment are not static but evolve dynamically through cognitive-emotional mechanisms over time. Individuals with higher levels of optimism and positive self-beliefs exhibited fewer symptoms of depression, anxiety, and stress, highlighting the protective role of these internal psychological resources in promoting adjustment despite early adversity.

Furthermore, situating these findings within the Turkish sociocultural context provides additional theoretical insight. Turkish society places a strong emphasis on family cohesion, respect for elders, and interdependence [78]. In such collectivist contexts, certain parental behaviors—such as criticism, emotional control, or overprotection—may be interpreted as expressions of care or as culturally normative rather than psychologically detrimental. This cultural nuance may influence both the perception of maltreatment and the development of optimism and self-beliefs. For example, optimism in collectivist cultures often reflects trust in family and social support networks, while self-beliefs are closely tied to relational harmony and a sense of belonging. Thus, the present findings contribute a culturally grounded understanding of resilience, enriching predominantly Western conceptualizations in the existing literature.

## Mediation Analysis Findings

The results of the mediation model supported the fifth hypothesis, confirming that optimism and positive self-beliefs mediate the longitudinal relationship between childhood psychological maltreatment and psychological symptoms. These findings indicate that early adverse experiences do not inevitably lead to poor mental health outcomes and that internal psychological resources can significantly influence long-term adjustment [22, 24, 57]. This fully mediated pattern challenges deterministic interpretations of early trauma and highlights the significant role of cognitive factors in psychological adaptation.

The mediating role of optimism is consistent with a substantial body of literature indicating that optimistic individuals cope more effectively with stressful life events [34, 35]. Optimists tend to interpret negative experiences as temporary and manageable [31, 36], and they are more likely to employ adaptive coping strategies [79], which contributes to reduced symptoms of depression, anxiety, and stress [37, 38]. Arslan [40] emphasized the role of optimism as a resilience factor in the face of psychological trauma, including psychological maltreatment.

Importantly, the present study extends the literature by providing longitudinal evidence that optimism not only moderates immediate distress but also mediates the enduring impact of early psychological maltreatment over time. This finding underscores the dynamic and enduring role of optimism as a protective psychological resource rather than a static personality trait. It suggests that optimism can evolve as individuals reinterpret their early adverse experiences, thereby maintaining emotional balance across time. Moreover, within collectivist cultural contexts such as Türkiye, optimism may be grounded in confidence in familial and community support. This form of interdependent optimism represents a culturally embedded manifestation of resilience, wherein positive expectations for the future are sustained through social connectedness and shared coping processes.

Similarly, the mediating role of positive self-beliefs is consistent with previous research highlighting their protective function in psychological well-being. Positive self-beliefs contribute to individuals' perceived competence, self-worth, and sense of control [45, 46], which are critical in coping with life stressors. Lumley and McArthur [47] found that positive self-schemas not only reduce depressive symptoms but also buffer the psychological impact of emotional maltreatment. In line with this, the present findings suggest that positive self-beliefs reduce the intensity of psychological symptoms linked to childhood psychological maltreatment. This reinforces the notion that how individuals perceive themselves plays a significant role in shaping their psychological responses to early-life trauma.

Recent studies [53, 54] have extended this understanding by demonstrating that self-related cognitions such as self-compassion and self-forgiveness mediate the emotional consequences of early trauma. Consistent with this, the present study reveals that positive self-beliefs function as a cognitive shield, enabling individuals to reinterpret early negative experiences in more adaptive ways and to maintain emotional stability over time. In collectivist contexts such as Türkiye, where the self-concept is closely intertwined with family ties and social harmony, positive self-beliefs may encompass not only personal confidence but also perceived acceptance and relational security. This culturally embedded perspective positions self-beliefs as a central component of cognitive resilience, offering a nuanced understanding of how individuals preserve psychological well-being despite early maltreatment.

## Theoretical Implications

The present study provides several important theoretical and practical implications regarding the long-term impact of childhood psychological maltreatment and the mediating roles of optimism and positive self-beliefs. First, the findings confirmed the initial hypothesis that childhood psychological maltreatment negatively predicts long-term optimism. Specifically, psychological maltreatment experienced during childhood was found to significantly and adversely predict levels of optimism assessed seven months after the initial measurement. This result underscores the enduring influence of early emotional abuse on individuals' cognitive orientation toward the future. Consistent with previous research, these findings suggest that adverse childhood experiences may diminish individuals' capacity to maintain a hopeful and positive outlook [26, 40].

Recent evidence [51, 56] supports this notion by demonstrating that early psychological adversity disrupts the development of adaptive future expectations and fosters pessimistic cognitive biases that persist into adulthood. The present study extends this body of work by showing that these effects unfold longitudinally and remain stable over time, thereby challenging static models of early adversity that assume fixed psychological outcomes. Moreover, previous studies have emphasized that psychological maltreatment undermines the development of psychological resources essential for mental well-being [80–82]. Together, these findings reinforce the conceptualization of optimism as a dynamic cognitive resilience factor that mitigate the long-term impact of childhood emotional adversity. Unlike cross-sectional findings that merely identify associations, the current longitudinal evidence elucidates the temporal mechanisms through which optimism facilitates adaptive adjustment. Accordingly, psychological maltreatment should be recognized as a significant risk factor that undermines resilience and compromises the capacity to cope effectively with future stressors.

Second, the study supported the hypothesis that childhood psychological maltreatment negatively influences positive self-beliefs. This is consistent with earlier research showing that maltreatment can erode self-efficacy and self-worth [24, 83]. Such experiences disrupt the development of a coherent and adaptive self-concept, leading to diminished psychological resilience [47, 84].

Building on these findings, recent research [53, 54] emphasizes that positive self-related cognitions—such as self-compassion, self-forgiveness, and perceived self-efficacy—mediate the relationship between early adversity and subsequent psychological health. Extending this perspective, the present study identifies positive self-beliefs as a longitudinal mediator, thereby elucidating the enduring cognitive mechanisms that link early relational trauma to adult psychological symptoms.

Additionally, the formation of maladaptive cognitive schemas—often rooted in early maltreatment—has been linked to the onset and maintenance of psychological symptoms in adulthood [49, 50]. By integrating these theoretical frameworks, the current findings move beyond descriptive associations to offer a mechanistic explanation of how early maltreatment influences long-term mental health. These findings emphasize the significance of positive self-beliefs as a protective factor and a potential target for therapeutic intervention.

Third, the results confirmed that both optimism and positive self-beliefs significantly and negatively predicted symptoms of depression, anxiety, and stress. This highlights their roles as key psychological resources that support mental health. The findings align with a robust

literature indicating that optimism enhances coping, fosters psychological resilience, and buffers individuals from the effects of stress [36, 37].

In recent years, longitudinal and cross-cultural evidence [41, 51] has identified optimism and positive self-beliefs as modifiable factors that promote sustained psychological adjustment across diverse populations. Extending these insights, the current findings offer converging longitudinal evidence that these cognitive resources function as central mediators, rather than peripheral correlates of resilience. Likewise, positive self-beliefs contribute to emotional stability by reinforcing perceptions of competence and personal agency [45, 46]. Together, these constructs form part of a broader psychological framework that promotes well-being and mitigates vulnerability to psychopathology.

Most notably, the study revealed that the association between childhood psychological maltreatment and psychological symptoms (i.e., depression, anxiety, and stress) was fully mediated by optimism and positive self-beliefs. The direct paths between psychological maltreatment and these outcomes were statistically insignificant, indicating that the effects of early maltreatment on later psychological distress occur entirely through individual-level cognitive resources.

This finding holds theoretical significance, as it challenges deterministic models of trauma that presume uniformly negative outcomes. Rather, it aligns with a cognitive-developmental framework in which resilience emerges through modifiable internal processes. The demonstration of full mediation offers a novel contribution to resilience research by empirically validating the cognitive mechanisms that underlie long-term adjustment following early adversity.

Hence, the present study not only replicates previous findings but also elucidates the mechanisms through which cognitive factors influence mental health trajectories over time. This finding suggests that the adverse effects of psychological abuse are not inevitable. Rather, enhancing optimism and positive self-beliefs may serve as a meaningful buffer against long-term psychological harm [29, 40]. Accordingly, these results carry important implications for the development of preventive and therapeutic interventions aimed at strengthening internal psychological resources among individuals exposed to early maltreatment.

## **Practical Implications**

From an applied perspective, the findings offer valuable insights for mental health practice, prevention, and education. Given that both optimism and positive self-beliefs serve as key cognitive resources mediating the impact of childhood psychological maltreatment, interventions should focus not only on symptom reduction but also on strengthening these protective factors [51, 56].

From a therapeutic perspective, incorporating optimism training and self-belief restructuring into cognitive-behavioral and trauma-focused therapies may foster long-term recovery. Interventions that promote future-oriented goal setting, positive reinterpretation, and self-compassion have been shown to reinforce adaptive cognitive schemas and restore self-efficacy [53, 82, 85]. Additionally, group-based psychoeducational programs combining emotional education and peer support can further improve emotion regulation and interpersonal functioning [52, 56].

From a preventive standpoint, school- and university-based programs represent effective platforms for fostering optimism and positive self-beliefs among young adults. Within Türkiye's collectivist cultural context, family- and community-oriented psychoeducational initiatives are particularly pertinent, as relational support plays a key role in emotional development and resilience. Family-based interventions can help caregivers distinguish between appropriate discipline and psychological control, encouraging nurturing environments that prevent the formation of maladaptive self-beliefs.

Furthermore, training programs for mental health professionals should emphasize strategies that enhance self-efficacy, promote future-oriented thinking, and address internalized negative schemas. Policymakers might also consider incorporating resilience-focused content into national mental health initiatives. Collectively, these efforts can promote enduring psychological well-being among individuals exposed to early psychological maltreatment.

### Limitations and Future Directions

Despite the valuable contributions of the present study, several limitations warrant consideration. First, childhood psychological maltreatment was assessed through retrospective self-reports, which may be vulnerable to recall bias and subjective interpretation. Variability in how participants reconstruct and evaluate their past experiences may lead to inconsistencies in reporting, particularly with regard to the severity and duration of the maltreatment. Second, the study utilized a longitudinal design with a seven-month interval between Time 1 and Time 2, which may be insufficient for observing substantial developmental changes in deeply rooted cognitive and emotional constructs. Third, although the sample comprises young adults from various geographical regions of Türkiye, it may primarily represent individuals from socio-economically similar backgrounds concentrated in regional centers. Fourth, the sample demonstrated a marked gender imbalance, with females comprising 79% of participants. The absence of gender-specific analyses limits the generalizability of the findings and precludes examination of potential moderating effects of gender. Moreover, the reliance on self-report measures introduces potential sources of bias, including the influence of social desirability, which may result in measurement issues.

Future studies examining the associations between childhood psychological maltreatment and psychological symptoms should utilize larger, geographically and socio-demographically more diverse samples. This will enhance the generalizability of the findings and enable more robust cross-cultural comparisons to better understand universal and culture-specific mechanisms. Future longitudinal research should also extend the observation interval significantly beyond seven months. Additionally, the adoption of multi-informant data collection strategies such as clinical evaluations or third-party reports rather than sole reliance on subjective self-reports, is recommended to enhance the validity of findings. Also, gender-balanced samples should be recruited to allow for comprehensive gender-based analyses. Finally, future research could build upon the current findings through experimental or quasi-experimental designs that assess the effectiveness of interventions aimed at enhancing optimism and positive self-beliefs. Such studies would provide valuable evidence to inform the development of empirically grounded programs that promote long-term psychological well-being among individuals exposed to childhood psychological maltreatment.

## Conclusions

In conclusion, this study makes a significant contribution to the literature by explaining the mediating roles of optimism and positive self-beliefs in the relationship between childhood psychological maltreatment and long-term psychological symptoms. The findings indicate that psychological maltreatment in early life can exacerbate psychological symptoms such as depression, anxiety, and stress in later life, whereas optimism and positive self-beliefs serve a protective function in mitigating these adverse effects. These findings contribute to explaining why some individuals with a history of psychological maltreatment exhibit fewer psychological symptoms under certain conditions.

Furthermore, the findings emphasize the potential of interventions aimed at enhancing optimism and positive self-beliefs to safeguard mental health over the long term. Within Türkiye's cultural context—characterized by close family bonds and collectivist values that shape emotional development and coping processes—strengthening these cognitive resources may benefit from approaches that integrate relational and community-based support systems. Implementing such culturally sensitive strategies could increase the effectiveness of both preventive and therapeutic initiatives. Overall, the present study provides valuable insights to guide the development of interventions and mental health policies that promote psychological well-being from both theoretical and applied perspectives.

**Author contributions** G.A. designed the model and the computational framework. G.A. also analyzed the data, and G.A and E.T. reported the data. E.T., S.A., and U.B.B. collected the data. E.T. wrote the introduction, and U.B.B. wrote the discussion. All authors contributed to and approved the final manuscript

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**Data Availability** The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

## Declarations

**Ethical Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed Consent** Consent was obtained from all participants included in the study.

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